

UNIVERSIDAD PARA LA COOPERACION INTERNACIONAL  
(UCI)

PROJECT MANAGEMENT PLAN FOR THE IMPLEMENTATION OF A NEW  
PORT COMMUNITY SYSTEM IN THE PORT OF PARAMARIBO, SURINAME

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## **DEDICATION**

I dedicate this project to my mom, my siblings, and my late father, for carrying me through tough times and believing in me that in my darkest hour, I will come through, stronger than before.

## **ACKNOWLEDGMENTS**

The journey of earning the Master's degree In Project Management has been onerous, but has been made bearable with the love and support of my mom Roebinah, my brothers Edwin and Rodriquez, my sisters Marlène, Lunette and Marjatie.

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A special thanks for my late father, for instilling in me the belief that I can accomplish everything with the love and grace of the Almighty.

## **ABSTRACT**

The objective of this document is to create a comprehensive project management plan to successfully implement a new port community system at the Port of Paramaribo to improve the current processes at the port. The current system at the port does not allow for interconnectivity between the systems used by the several stakeholders, and requires mainly paper-based administration, causing lengthy handling processes at the Port. The Port needs an appropriate system to improve the processes of its services to the port stakeholders, qualitatively, effectively, and efficiently.

The final product of this project is a comprehensive project management plan in conformity with the standards of the Project Management Institute for the implementation of a new port community system at the Port of Paramaribo. The project management plan consists of the final deliverables, including the subsidiary plans for scope, schedule, cost, quality, resource, communication, risk, procurement, and stakeholders. The project management plan is created using the analytical method and the guide provided by the Project Management Institute.

The expected results of this project management plan should enable the Project Manager to better plan and manage project activities. The approved version of this project management plan should serve as the baseline to monitor and control processes in managing this project effectively by the Project Manager and his team.

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## **ABBREVIATIONS AND ACRONYMS**

FGP:	Final Graduation Project
GPM:	Green Project Management
HBS:	NV Havenbeheer Suriname
IDB:	Inter -American Development Bank
IMO:	International Maritime Organization
IPCSA:	International Port Community System Association
MAS:	Maritime Authority Suriname
MPW:	Ministry of Public Works
MTCT:	Ministry of Transport Communication and Tourism
PCS:	Port Community System
PMAC:	Port Management Association of the Caribbean
PMBOK:	Project Management Body of Knowledge
PMI:	Project Management Institute
PMU:	Project Management Unit
PSC:	Project Steering Committee
RBS:	Risk Breakdown Structure
UCI:	University for International Cooperation
WBS:	Work Breakdown Structure
WCO:	World Customs Organization
WTO:	World Trade Organization

## **EXECUTIVE SUMMARY**

As the digitization of ports, port activities and most maritime and port related processes increased and grew, ports needed to take steps to improve services to port operators and other port stakeholders. The Port of Paramaribo has mainly used paper-based processes as Landlord in the Port. A new port community system was needed because the previous port system did not allow network connectivity with other systems. The lack of a unified coordination system between various stakeholders has resulted in inefficient customs clearance processes, cumbersome paper-based documentation for compliance, and ultimately inefficiencies in port processes. Successful implementation of the new system required a clear and comprehensive project management plan, which had to be developed.

The general objective of the Final Graduation Project (FGP) was to develop a comprehensive project management plan, within the framework of the standards set by the Project Management Institute, to effectively and efficiently implement a new Port Community System in the Port of Paramaribo. The specific objectives were: 1. to create a project charter to formally approve the Port Community System project and authorize the Project Manager to use project resources efficiently; 2. to develop a project scope management plan to aide in the description of the scope of the new Port Community System in defining, developing, monitoring and controlling to meet stakeholders' requirements and avoid scope creep; 3. to create a schedule management plan to establish how the project schedule will be created, monitored and controlled for the implementation of the new Port Community System within an approved reasonable time; 4. to develop a cost management plan, to plan, structure, manage and control the costs to complete the new Port Community System project within the available budget; 5. to create a quality management plan to establish the guidelines, policies and procedures to be implemented to achieve the quality objectives of the Port of Paramaribo (client), within the triple constraints of time, scope and costs; 6. to create a resource management plan to establish how the resources will be categorized, allocated, managed and released to complete the new Port Community System project successfully; 7. to create a communication management plan to establish how information regarding the Port Community System project will be communicated to all stakeholders involved in a timely and appropriate manner to ensure that effective communication during the new Port Community System project is implemented; 8. to create a risk management plan to establish how risk management activities will be formulated and performed for the new Port Community System project; 9. to create a procurement management plan to define which approaches, processes and procedures, and appropriate goods and services will be acquired to ensure that the new Port Community System project is completed on time; 10. to create a stakeholders' management plan to define the strategies and actions to promote stakeholder engagement in the decision-making and execution of the new Port Community System project; 11. to assess whether the

implementation of the Port Community system is in compliance with regenerative development and the sustainable development goals.

The analytical, problem-solving method was used to develop the FGP, for which both the primary and secondary resources were identified. The primary resources consisted of interviews, documents and correspondence with the client, as well as the legal framework in Suriname. For secondary sources the PMBOK Guide (sixth edition) was mainly used together with books and other online related publications. To analyze the best practice applied for the FGP, several project management tools and techniques were utilized.

The presented Final Graduation Project shows the framework required for a successful delivery of the PCS Paramaribo project. Each knowledge area of the Project Management Body of Knowledge 6th edition has been highlighted and provides the knowledge, tools and techniques, and expected deliverable of each knowledge area. The presented Project Charter, Scope Management Plan, Schedule Management Plan, and Quality Management Plan provided the basis to establish the Cost Management Plan. The entwined processes of these knowledge tools are in establishing the Project Management Plan. The Final Graduation Project emphasizes comprehension of the ten knowledge areas and the ability to integrate all these areas into one unified plan for implementing projects effectively and successfully.

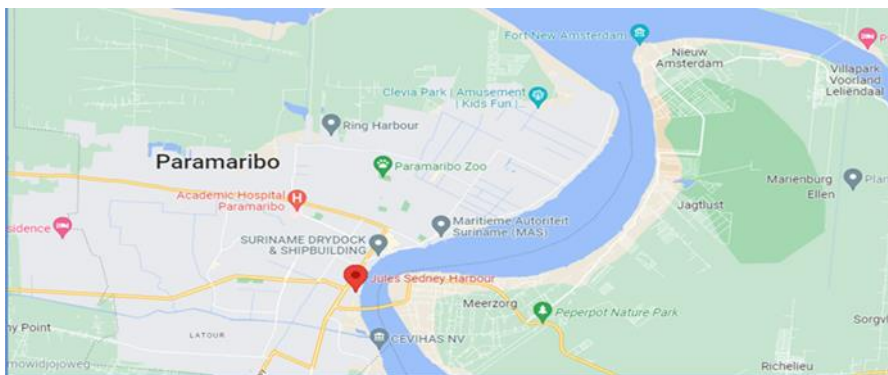
Considering the current situation, the scarcity of both human and physical resources, a longer implementation period is recommended than the 23 months provided. The PCS system entails a change management process requiring the involvement of both the direct and indirect stakeholders identified. Any change in a society causes resistance, and each stakeholder is required for the project to be successful and achieve its objective. No one is left behind in this process. This document can serve as a template for future projects where a Project Management Plan is absent.

## 1 INTRODUCTION

### 1.1. Background

Suriname is currently one of the few countries in the Caribbean that does not possess a deep-sea port. The Port of Paramaribo, which was established in 1971, is located on the left embankment, approximately 34km from the Atlantic Ocean of the Suriname river, which is one of the navigable rivers due to the depth of its fairway. Figure 1 illustrates the location of the port. The Port of Paramaribo, also known as the Jules Sedney Terminal, is responsible for handling 90% of Suriname's sea trade and is the only port to manage containerized cargo. The port is managed by N.V. Havenbeheer Suriname (Suriname Port Management Company) and it operates the port with two private Terminal Operators via a lease and rental agreement. There are several smaller and private ports in the country, but the Jules Sedney Terminal is the country's main port. N.V. Havenbeheer Suriname is also the Port Authority in Suriname, responsible for all government-owned ports, and is a member of the Caribbean Shipping Association.

**Figure 1 Location of the Jules Sedney Harbour, Port of Paramaribo.**



*Note:* Google Maps(n.d.) [Location of Jules Sedney Harbour]. Retrieved August 22,2022, from <https://www.google.com/maps/place/Jules+Sedney+Terminal/@> Permission not sought.

Digitization around the globe has also impacted the maritime industry, therefore requiring the maritime authorities, the ports, traders and the port stakeholders to evolve rapidly. Due to digitization, the efficiency at port facilities has improved, resulting in those ports becoming leaders in the port industry. An example of this is the Port of Rotterdam, which has now evolved as a smart port.

The Port of Paramaribo plays a pivotal role in the economy of the country, and with the growth of the economic activities and the perspective of the oil and gas industries, the port will be required to work more effectively and efficiently in handling the on- and offloading of cargo from the vessels as well as cargo entering and leaving the port facilities. With the various actors in the port and in trade, this requires that the logistics and information with respect thereto should be handled expeditiously and efficiently. Though some physical and administrative improvements were carried out to improve the access control to the port, these are still in development and more investments are required regarding equipment, IT development, and training to progress towards fully automating the port. Port operators have their own systems and are not connected to the current system of the port, causing non-connectiveness between systems, either due to compatibility issues or source. There is a lack of integration with other services, which is important for trade and maritime services, but which the current system has not aided. Whilst the Port of Paramaribo is improving its systems it should be noted that the World Trade Organization (WTO), the International Maritime Organization (IMO), and the World Customs Organization (WCO) also possess their own systems. These systems should be able to connect with the Port Community System, which the Port of Paramaribo is seeking to implement. Recent studies have shown that the current lodge time for the exchanges within the port facilities can be up to 5 hours from the arrival of the truck and clearance of cargo by Customs and the terminal operator. Processes rely greatly on the manual registration of trucks and cargo, as land transport logistics within and outside the port are complicated. This causes import processes to be lengthy, while



congestion of trucks at the main gate of the port affects traffic in the adjacent road network. The manual register and data collection and gathering are time-consuming and also depend on physical paperwork to be handled.

A Port Community System (PCS) is an electronic neutral platform that is secure and connects the several systems operated by a variety of organizations that constitute the community for a seaport, airport or inland port, according to the International Port Community System Association (IPCSA). With a new PCS, the port and logistic processes can be optimized and automated through a single submission of data and connecting transport and logistic chains. This should result in a shorter wait time of trucks for the import process to less than 2 hours. The FGP will concentrate on developing a Project Management Plan for the implementation of the new PCS at the Port of Paramaribo to improve the efficiency and effectiveness of processes at the port.

## **1.2. Statement of the problem**

Despite the efforts of NV Havenbeheer Suriname to improve the processes at the port through implementation of several port management and information systems, the situation has not improved . The current system used by the port does not allow for interconnectivity between the various systems used by the port stakeholders. Due to absence of a unified coordination system between the stakeholders (public and private) at the port and the Port Authority, an inefficient customs clearance process, and the absence of automated processes for documentation and compliance, there is an inefficiency in managing the import process at the port. Additionally, there is a need for a new port community system that allows interconnectivity between the different systems of the port stakeholders, the funding of which is secured through a loan with the IADB. There is currently no project management plan to execute the implementation of the new port community system project successfully. Through the creation of the Project Management Plan the objective of implementing a PCS at the

Port can successfully be achieved. Due to the project's complexity, the different stakeholders involved, and regulations with which to comply, it is important to have management tools and techniques available and in place for the Project Manager and his team to manage the project successfully. The created project management plan should therefore provide the necessary tools and techniques as applied by the Project Management Institute, which pertain to best practices to guarantee project success and meet the expectations of the beneficiary i.e., NV Havenbeheer Suriname. The impact of having a Project Management Plan in place is that it will serve as the criterion for execution, monitoring and controlling the processes, as well as measuring the project's performance in achieving the objective.

### **1.3. Purpose**

Boiser (2019) states that project failure can be mitigated if proper planning is in place. In addressing the hypothesis of the FGP whether a new Port Community System project at the Port of Paramaribo could be successfully implemented, proper planning and data gathering of what is currently present and what is intended to be achieved is a prerequisite. The purpose of the development of a Project Management Plan is to improve the success rate of the project through the creation of an integrated plan. The Project Management Plan will adhere to the guidelines created by the Project Management Institute (PMI), with sub-plans that will include the project charter, scope, schedule, cost, quality, resource, communication, risk, procurement and stakeholders' plan.

The FGP will investigate in sequence with the project charter, the scope and the stakeholders involved when implementing the PCS. The scope should be carefully defined to avoid scope creep, which can lead to the project not achieving the objective. Stakeholders' identification will also emphasize the critical actors and their impact on the scope (requirements), the scheduling, the cost, etc. of the project. The Project Management Plan will outline how the project will be executed, monitored, controlled, and eventually closed.

There are several benefits that can result from implementing this project, such as:

- The necessary guidance throughout the project life cycle to execute the project.
- Effective monitoring and control of the project's progress.
- Improving scope, schedule, and cost efficiency, so as to stay within the budget and avoid scope creep.
- Can serve as a template for future projects of a similar nature.
- Establishing effective communication among all stakeholders involved.

#### **1.4. General objective**

To develop a comprehensive project management plan within the framework of the standards set by the Project Management Institute, to effectively and efficiently implement a new Port Community System in the Port of Paramaribo.

#### **1.5. Specific objectives**

The specific objectives are:

1. To create a project charter to formally approve the new Port Community System project and authorize the project manager to use project resources efficiently.
2. To develop a project scope management plan to aid in the description of the scope of the new Port Community System in defining, developing, monitoring and controlling to meet stakeholder's requirements and avoid scope creep.
3. To create a schedule management plan to establish how the project schedule will be created, monitored and controlled for the implementation of the new Port Community System within an approved reasonable time.
4. To develop a cost management plan, to establish how the costs will be planned, structured, managed and controlled to complete the new Port Community System project within the available budget.

5. To create a quality management plan to establish the guidelines, policies and procedures to be implemented in achieving the quality objectives of the Port of Paramaribo (client), within the triple constraints of time, scope and costs.
6. To create a resource management plan to establish how the resources will be categorized, allocated, managed and released to complete the new Port Community System project successfully.
7. To create a communication management plan to establish how information regarding the new Port Community System project will be communicated to all stakeholders involved in a timely and appropriate manner to ensure that effective communication during the Port Community System project is implemented.
8. To create a risk management plan to establish how risk management activities will be formulated and performed for the Port Community System project.
9. To create a procurement management plan to define the approaches, processes and procedures to acquire appropriate goods and services to ensure that the Port Community System project is completed on time.
10. To create a stakeholder management plan to define the strategies and actions to promote stakeholder engagement in the decision-making and execution of the Port Community System project.
11. To assess whether the implementation of the Port Community System is in compliance with regenerative development and the sustainable development goals.

## **2 THEORETICAL FRAMEWORK**

This chapter captures the organization within which the Final Graduation Project will be implemented and the theoretical framework that will be applied for the development of the Final Graduation Project. The theoretical framework provides the foundation to support the theory of the Final Graduation Project, whilst understanding the application of the key concepts and the knowledge and how to apply these in the development of the Final Graduation Project.

### **2.1 Company/Enterprise framework**

#### **2.1.1 Company/Enterprise background**

The N.V. Havenbeheer Suriname (HBS) is a Surinamese parastatal company owned by the Surinamese Government and established in November 1971 with the following goals:

- i. The exploitation and management of sites, jetties and buildings, the construction, development and exploitation of port areas and other port facilities and facilities within the port areas on public waterways in Suriname, which are acquired by it under ownership, leasehold, lease concession, or in management.
- ii. Purchasing, acquiring the land lease, rent or concession for the benefit of port management and operations, as well as managing sites, buildings and storage facilities located outside the port areas.

The company falls under the responsibility of the Ministry of Transport, Communication, and Tourism (MTCT) in Suriname.

#### **2.1.2 Mission and vision statements**

Like most government-owned enterprises, the N.V. Havenbeheer Suriname has its own mission and vision statements as follows:

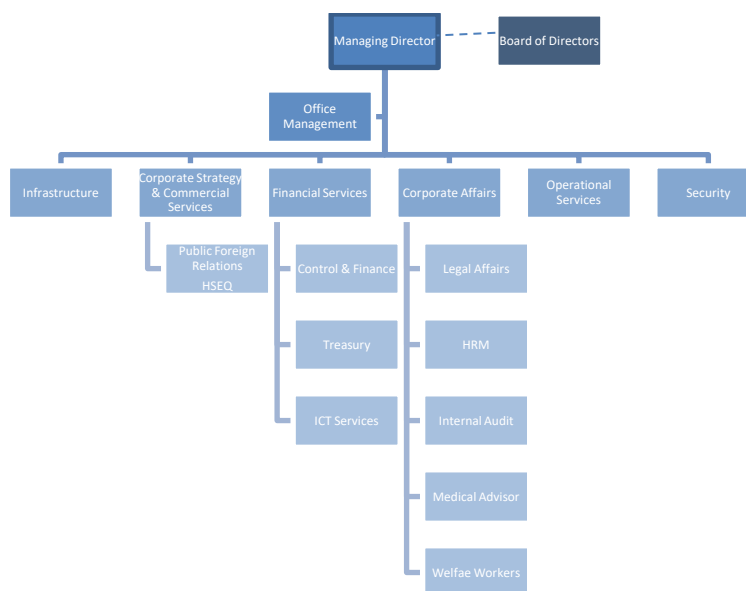
**Mission:** “To develop and provide reliable and efficient port services to support the Suriname economic development and to serve the nation’s overall distribution needs”.

**Vision:** “To be a strategic gateway and efficient service center with national and international transport systems”.

### 2.1.3 Organizational structure

N.V. Havenbeheer Suriname is led by a Managing Director, currently Mr. Talea, and supported by an Office Management. There are approximately 188 employees (133 men and 55 women) working in the organization, which is divided into 6 main departments each with their own managers. The company also outsources certain activities through an employment agency, such as cleaning services. The Board of Directors, appointed by the shareholder, in this case the government, supervises the entire management of company’s affairs. Figure 2 provides a representation of the company’s organizational structure.

**Figure 2 Organizational structure**



*Note:* Own Work

Within a larger project currently being executed by the Ministry of Public Works (MPW) and financed through a loan of the Inter-American Development Bank (IDB), the realization of the project to implement a port community system for HBS is embedded. The MPW has hired individuals outside the public service to manage the project. This Project Management Unit (PMU) consists of a Project Manager, Procurement Specialist, Financial Specialist, and a Construction Specialist. The Procurement Specialist, Financial Specialist and Construction Specialist all report to the Project Manager. The PMU operates independently in conformity with the policies and procedures of the loan agreement between the government and the IDB. The PM reports to the permanent secretary of the MPW. The MPW and HBS signed a Memorandum of Understanding (MOU) that the PMU is responsible for the management of the sub-activities (sub-projects) to be executed at the port.

The integrated project management plan currently being developed to manage the implementation of a port community system at the port of Paramaribo, would be valuable to the different project management units within the government, who are managing projects or programs.

#### **2.1.4 Products offered**

N.V. Havenbeheer Suriname offers the following services:

- i. Provides services and creates a business/entrepreneur-friendly climate within the port area.
- ii. Ensures maintenance of the construction and of port infrastructure.
- iii. Guarantees safe, flexible, and ecologically sound management of the logistics chain within the port area.

The port is a tidal port, requiring it to execute its services within one tide, thus necessitating a high level of efficiency of service and effective logistics.

The FGP should ultimately support the improvement of logistics within the port as well as efficiency and effective port operations in future.

## **2.2 Project management concepts**

### **2.2.1 Project**

#### **2.2.1.1 Project definitions**

A project as defined by the PMI (2017) is a “*temporary endeavor undertaken to create a unique product, service or results*” (p.4). It is of temporary nature, hence indicating a beginning and an end to the project work or a phase of the project work. According to Axelos (2022), “*a project is a temporary venture that exists to produce a defined outcome. Each project will have agreed and unique objectives with its own project plan, budget, timescale, and tasks*”. Both definitions imply that a project is unique and timebound, with a budget and tasks.

#### **2.2.1.2 Projects, programs and portfolios**

Projects as defined previously can stand alone or be part of a program or portfolio. A program according to PMI (2017) consists of a group of related projects, subsidiary programs and program activities, which are managed in a coordinated manner to achieve benefits not accessible from managing them individually. A portfolio according to PMI (2017) is a collection of projects, programs, subsidiary portfolios and operations, managed as a group to achieving strategic objectives. The FGP topic is a project, forming part of a program being executed by the Project Management Unit.

### **2.2.2 Project management**

#### **Project management definitions**

The PMBOK Guide defines project management as “the application of knowledge, skills, tools, and techniques to project activities to meet project requirements” (PMI, 2017, p.10). By proper application and integration of the identified project



management process, a project manager can attain project management. While the PMBOK 6<sup>th</sup> edition focuses on the process-based approach, the PMBOK 7<sup>th</sup> edition has shifted the focus to a principle-based approach for project management.

A project performance domain according to PMI (2021) is defined as a group of related activities that are critical for the effective delivery of project outcomes. These domains are interactive, interrelated, and interdependent areas of focus that work harmoniously to achieve the desired project outcomes. Each project performance domain consists of specific activities, which are defined by the organizational context, the project, deliverables, project team, stakeholders, and other factors. PMI has identified eight project performance domains:

- i. Stakeholders
- ii. Team
- iii. Development Approach and Life Cycle
- iv. Planning
- v. Project Work
- vi. Delivery
- vii. Measurement
- viii. Uncertainty.

Though for this project the process-based approach will be used, it is apparent that the project performance domains are intertwined in the FGP project and are addressed in the Project Management Plan. The stakeholders need to be informed throughout the project life cycle by the project team, which together with the client will develop the appropriate approach and life cycle.

### **Project management principles**

As PMI continues to evolve its standards and practices, a set of 12 principles were established in the PMBOK Guide 7<sup>th</sup> edition to guide the behavior of the people involved in the project for effective project management. These principles do not contradict the *PMI Code of Ethics and Professional Conduct*, but rather align with and complement the Code of Ethics. Whilst the *Code of Ethics* is aimed at the morals of an individual or profession, a principle can indicate morals, but does not necessarily do so.

The project management principles according to PMBOK Guide 7th edition are the following:

- i. Be a diligent, respectful, and caring steward.
- ii. Create a collaborative project team environment
- iii. Effectively engage with stakeholders
- iv. Focus on value
- v. Recognize, evaluate, and respond to system interactions
- vi. Demonstrate leadership behaviors
- vii. Tailor based on context
- viii. Build quality into processes and deliverables
- ix. Navigate complexity
- x. Optimize risk responses
- xi. Embrace adaptability and resiliency
- xii. Enable change to achieve the envisioned future state.

These principles will be cross-cutting throughout the FGP.

### 2.2.3 Project life cycle

#### **Project life cycle definitions**

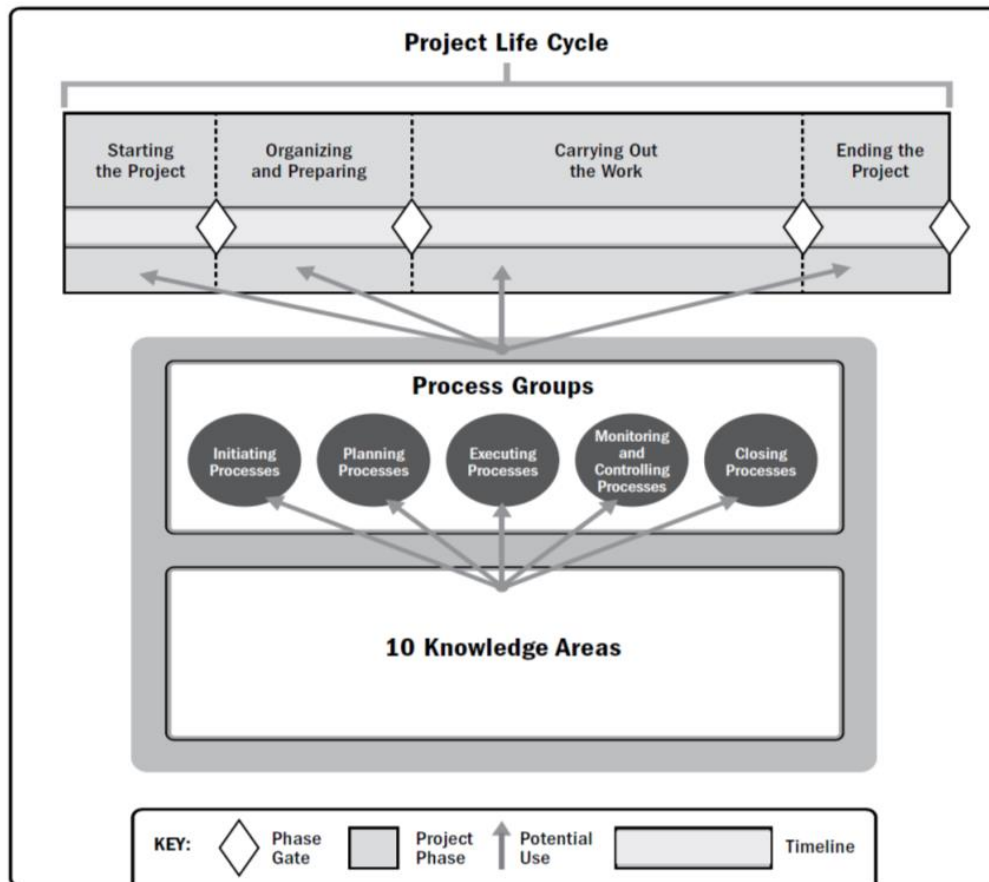
Merriam -Webster dictionary defines life cycle as a series of stages through which something (such as an individual, culture, or manufactured product) passes during its lifetime (<https://www.merriam-webster.com/dictionary/life%20cycle>).

Miller (2022) also states that a project life cycle refers to all the phases and the list of actions necessary to successfully fulfill all the project's goal and demands. He also underscores that this applies to projects of all sizes.

According to PMI (2017), a project life cycle can be defined as a series of phases that a project passes through from its start to its completion. It provides the basic framework for managing the project, which is applicable regardless of the specific project work involved. The project life cycle provides a structure for the project to be broken down in smaller phases making it easier for planning the activities, from initiation until closing of the project

A generic project life cycle consists of the following phases: initiation, planning, execution, monitoring & controlling and the closing phase, which is illustrated in Figure 3.

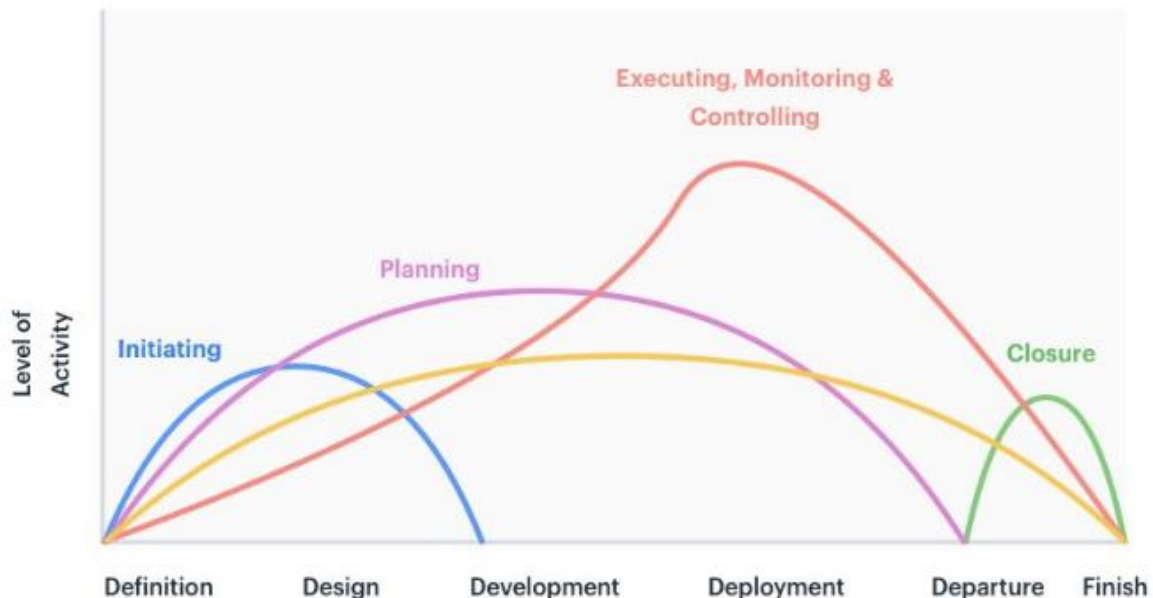
**Figure 3 Generic Project Life Cycle**



*Note.* From *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition* by Project Management Institute, Figure 1-5, p.18 Copyright 2017 by PMI Inc. Permission not sought.

The output of a process group serves as the input of another process, as such process groups may overlap. Process groups are not a life cycle; hence it is possible to conduct all process groups within a project phase. Figure 4 represents the overlapping of process groups.

**Figure 4 Project Management Life Cycle**



*Note.* From “*The Basics of Project Management*” by Kissflow (<https://kissflow.com/project/project-management-basics/>). Copyright 2022 by Kissflow Inc. Permission not Sought

### **Predictive, adaptive and hybrid project approach**

In a predictive project approach, which is the more traditional approach, a major part of the planning takes place at the beginning, then executing occurs in a single pass, following a sequential process. Alby (2022), opines that the predictive life cycle can be described as an approach where the scope of the project, including the time and scope, are determined at an early stage. The deliverables and products are defined from the start. The predictive project approach is characterized as being plan-driven, following a similar pattern for each iteration and where the efforts are focused at accomplishing the planned deliverables (fixed requirements).

An adaptive project approach is agile, iterative and incremental. The project scope is broken down into different sets of requirements, which will be executed

independently. The increment to produce is approved before the start of an iteration. During the iteration or so-called sprints, the requirements and uncertainties are minimized, ensuring that stakeholders' satisfaction is achieved. The adaptive approach is change-driven with a high degree of involvement of the stakeholders. This approach is suitable for high complexity and IT projects, where the needs of stakeholders can change.

According to PMI (2017) a hybrid life cycle is a combination of a predictive and an adaptive life cycle. The elements of the project that are certain or have fixed requirements will follow a predictive life cycle, and the elements that need to be evolved will follow an adaptive development life cycle.

For the FGP project a hybrid approach will be used, the predictive approach will be used in the initiation and planning as there are elements that are certain, whilst in the implementation and monitoring and controlling phase, an adaptive approach of the PCS requirements should be used.

## 2.2.4 Project management processes

### Definition

Merriam-Webster defines a process as a series of actions or operations conducting to an end. Meaning that there is a set of activities following a pattern to achieve the end.

Project management process groups interact with each other and are connected by the outputs they produce (PMI, 2017). The process groups are seldom either discrete or one-time events; they are overlapping activities that occur throughout the project. The output of one process becomes an input to another process or is a deliverable of the project, subproject, or project phase (PMI 2017, p. 51). The process groups are not project phases, but it is possible that all process groups could be conducted within one phase

The project management process group is clustered in 5 categories as illustrated in Figure 5.

**Figure 5 Process Groups**



*Note.* From *Project Management Processes.* by Knowledgehut (<https://www.knowledgehut.com/tutorials/project-management/project-management-processes>) Copyright 2022 by Knowledge Hut Solutions Private limited. Permission not Sought

## 2.2.5 Project management knowledge areas

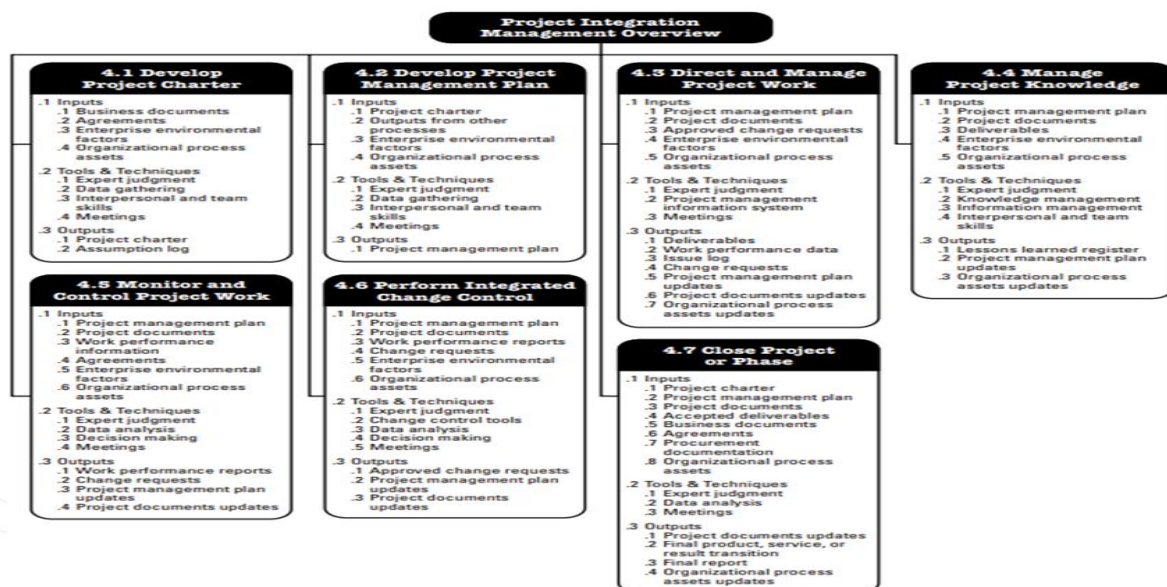
### Definitions

A knowledge area can be defined as a specific field or area of project management defined by its knowledge requirements and described in terms of its component processes, practices, inputs, outputs, tools, and techniques.

### Project integration management.

According to the PMI (2017) project integration management includes the processes and activities to identify, define, combine, unify, and coordinate the various processes and project management activities within the project management process groups (PMI 2017, p.69). The importance of this knowledge area is that it combines the outcomes from all the other knowledge areas. It is during project integration management that the project charter is developed. Figure 6 provides an overview of this knowledge area.

Figure 6 Project Integration Management



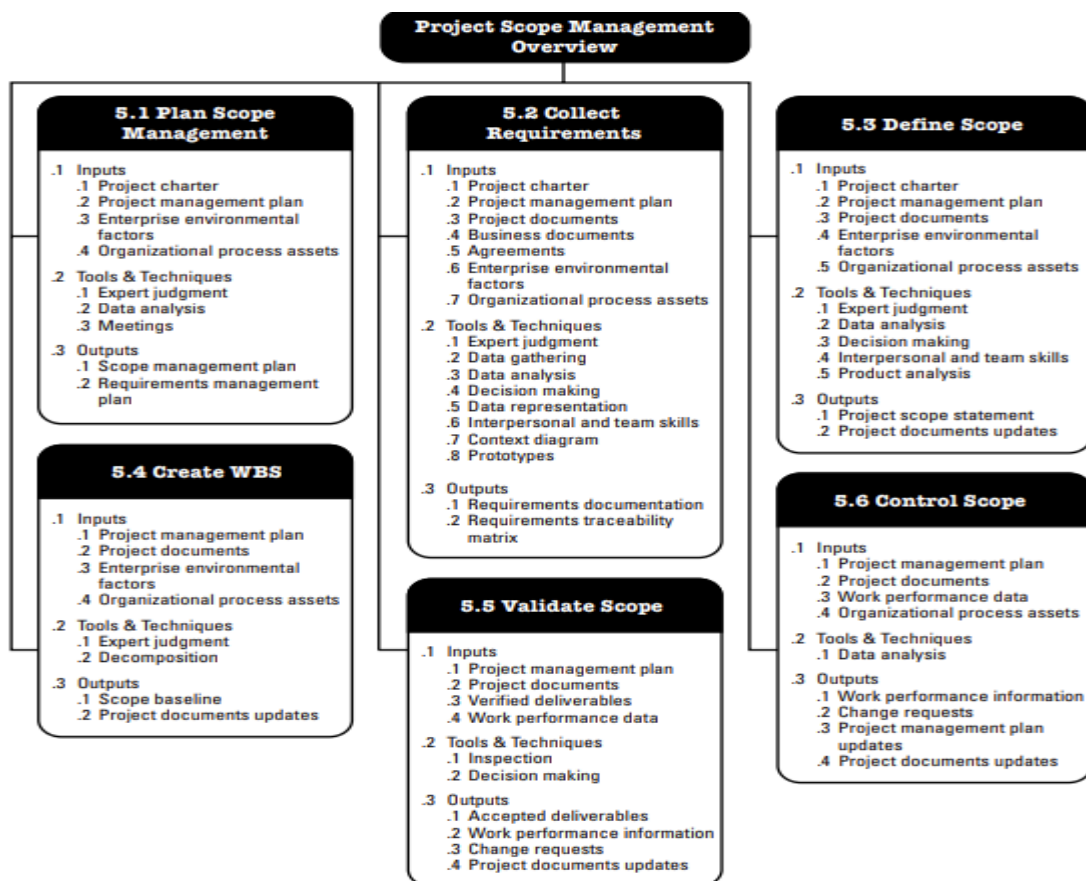
Note. From *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 4-1, p.71 Copyright 2017 by Project Management Institute Inc. Permission not sought



## Project scope management

Project scope management involves the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully (PMI, 2017). Managing project scope is primarily concerned with defining and controlling what is and is not included in the project. Key elements important to this knowledge area include plan scope requirement, collect requirements, define scope, create WBS, validate scope, and control scope. Figure 7 provides an overview.

**Figure 7 Project Scope Management overview**

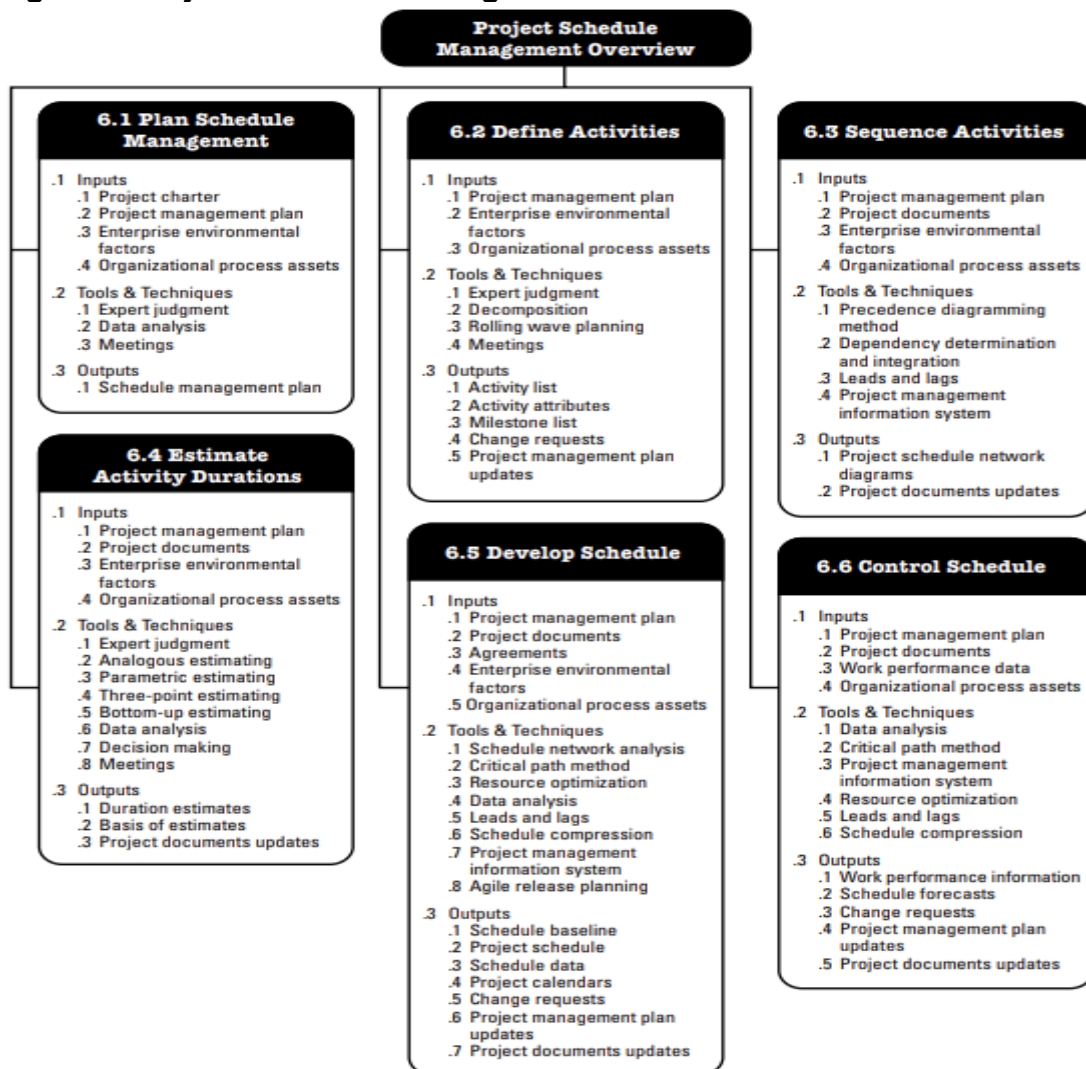


Note. From *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 5-1, p.130  
Copyright 2017 by PMI Inc. Permission not sought

## Project schedule management

Plan schedule management is the process of establishing the policies and documentation for planning, developing, managing, executing, and controlling the project schedule (PMI, 2017). This process provides guidance and direction on how the project schedule will be managed throughout the project; Figure 8 provides an overview of this area.

**Figure 8 Project Schedule Management overview**

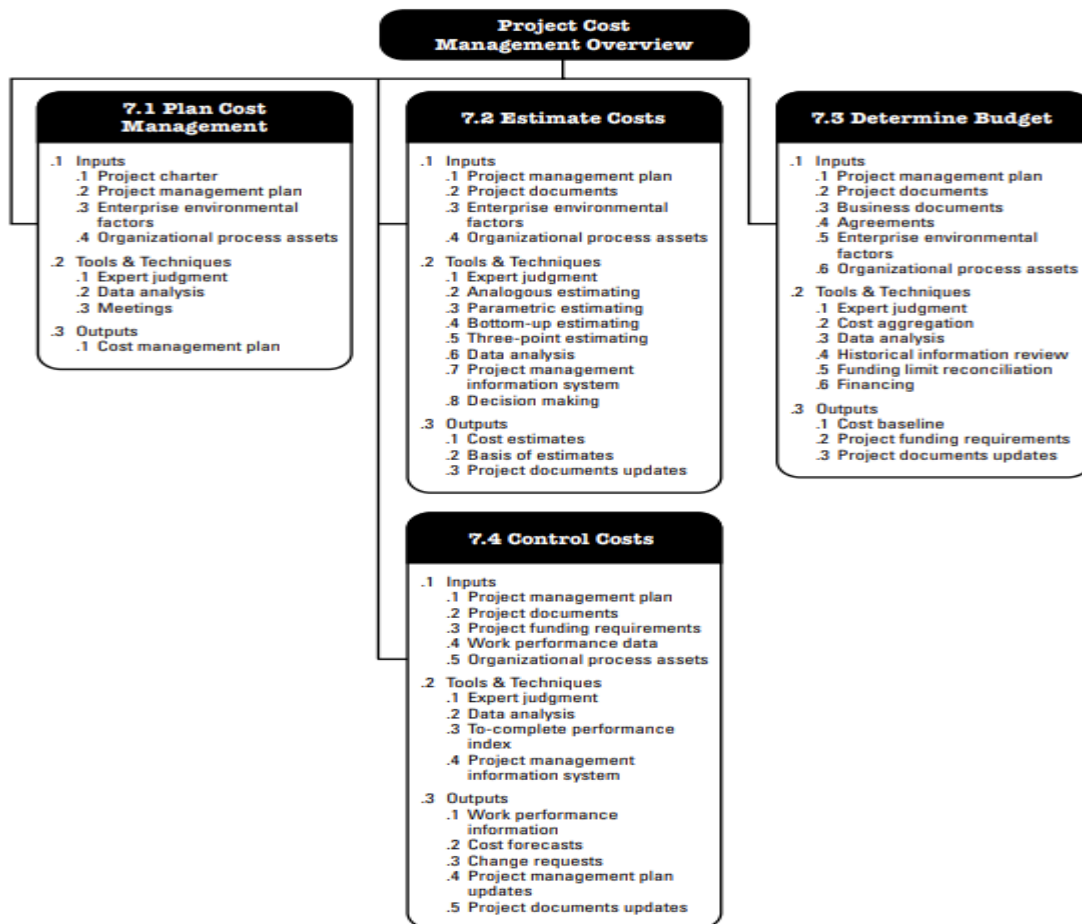


*Note.* From *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 6-1, p.174 Copyright 2017 by PMI Inc. Permission not sought.

## Project cost management

Project cost management includes the processes involved in planning, estimating, budgeting, financing, funding, managing, and controlling costs so that the project can be completed within the approved budget (PMI, 2017). Key elements are plan cost management, estimate costs, determine budget, and control costs. Figure 9 provides an overview of this knowledge area.

**Figure 9 Project Cost Management overview**

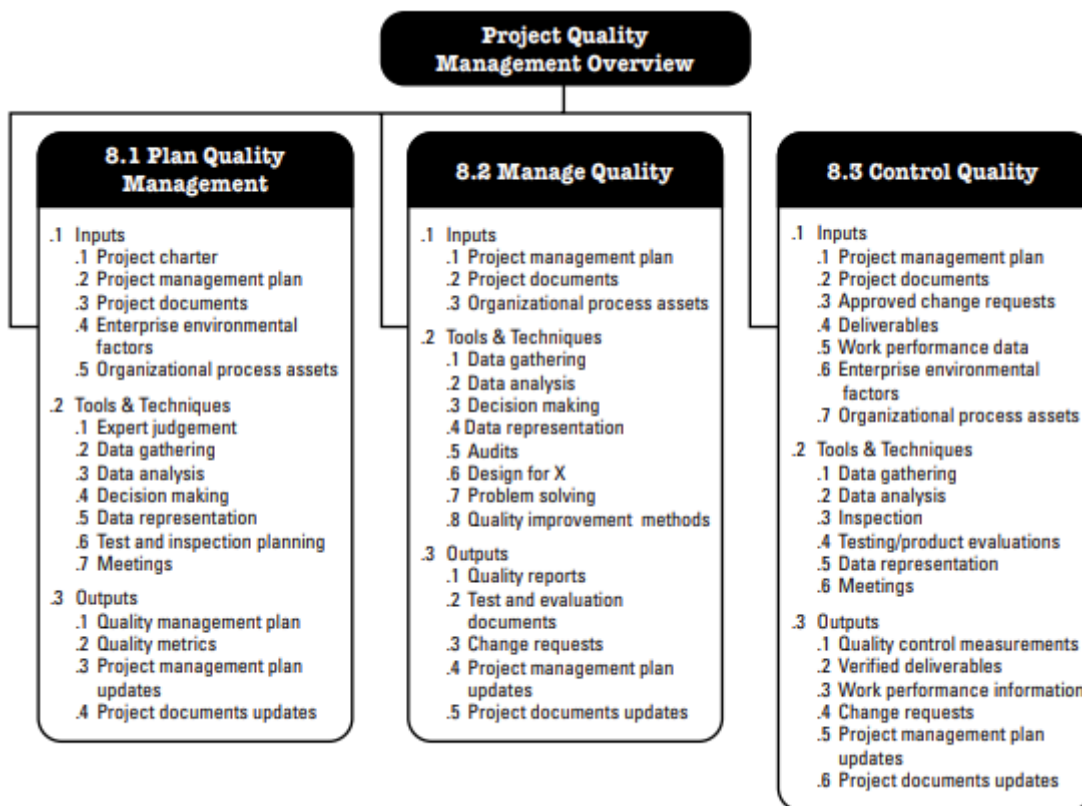


Note. From *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 7-1, p.232 Copyright 2017 by PMI Inc. Permission not sought.

## Project quality management

Project quality management includes the processes for incorporating the organization's quality policy regarding planning, managing, and controlling project and product quality in order to meet stakeholders' requirements or objectives (PMI, 2017). Figure 10 provides an overview of this knowledge area.

**Figure 10 Project Quality Management overview**

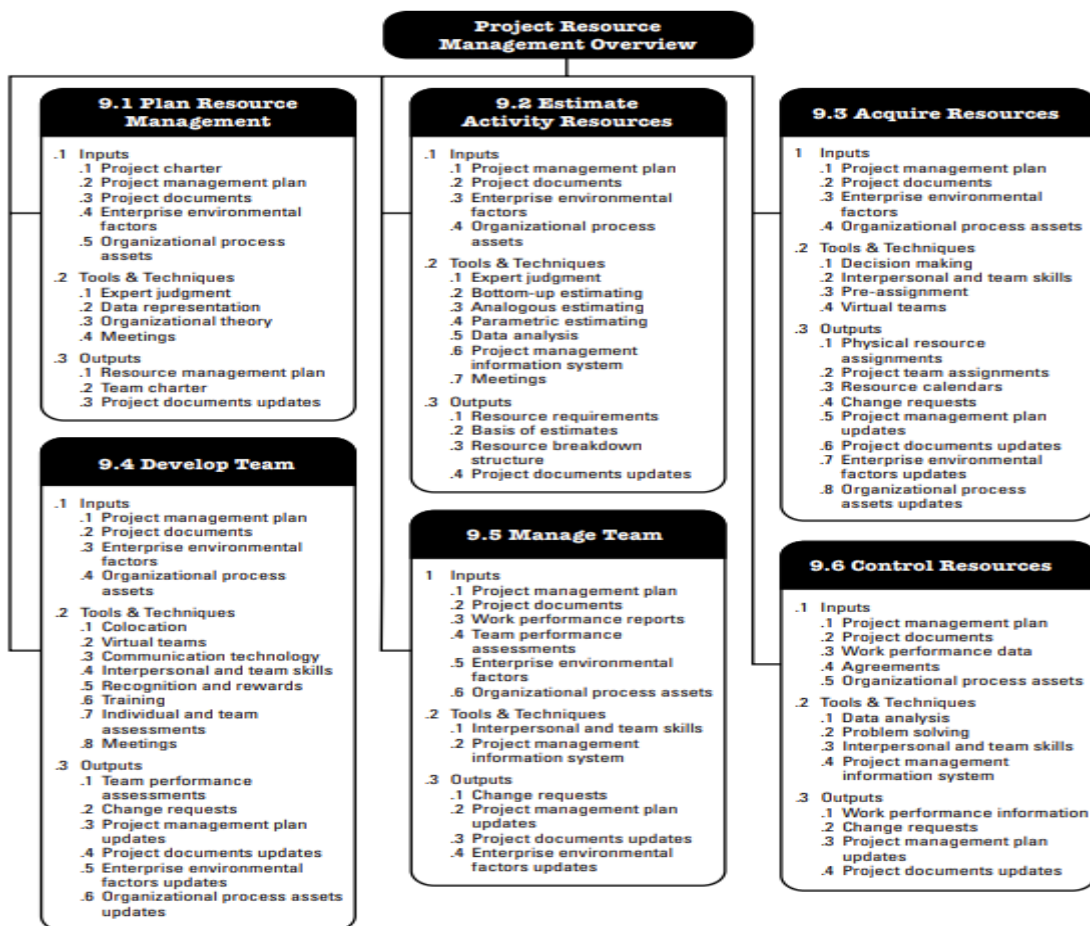


Note. From *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 8-1, p.272  
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## Project resource management

Project resource management involves the processes to identify, acquire, and manage the resources needed for the successful completion of the project (PMI, 2017). These processes help to ensure that the right resources will be available to the project manager and project team at the right time and place. It is noted that the financial resources for the implementation of the PCS will be financed through a loan and that resources from the beneficiary will not be considered. Figure 11 provides an overview of this knowledge area.

**Figure 11 Project Resource Management overview**

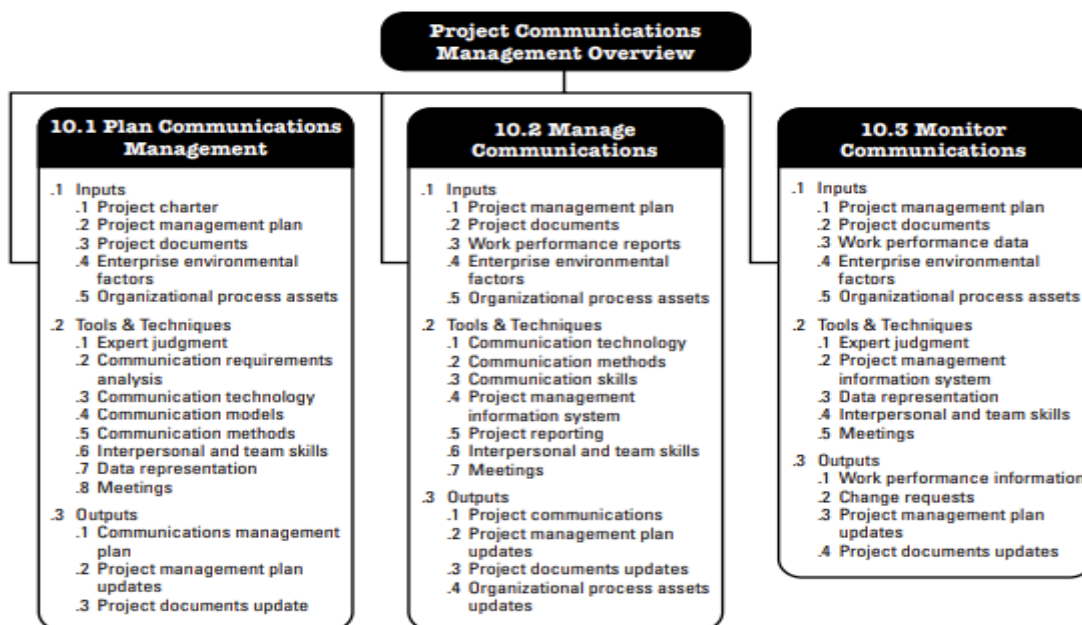


Note. Reprinted from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 9.1, p.308 Copyright 2017 by PMI Inc. Permission not sought

## Project communications management

Project communications management includes the processes necessary to ensure that the information needs of the project and its stakeholders are met through development of artifacts and implementation of activities designed to achieve effective information exchange. Figure 12 provides an overview of this knowledge area.

**Figure 12 Project Communications Management**

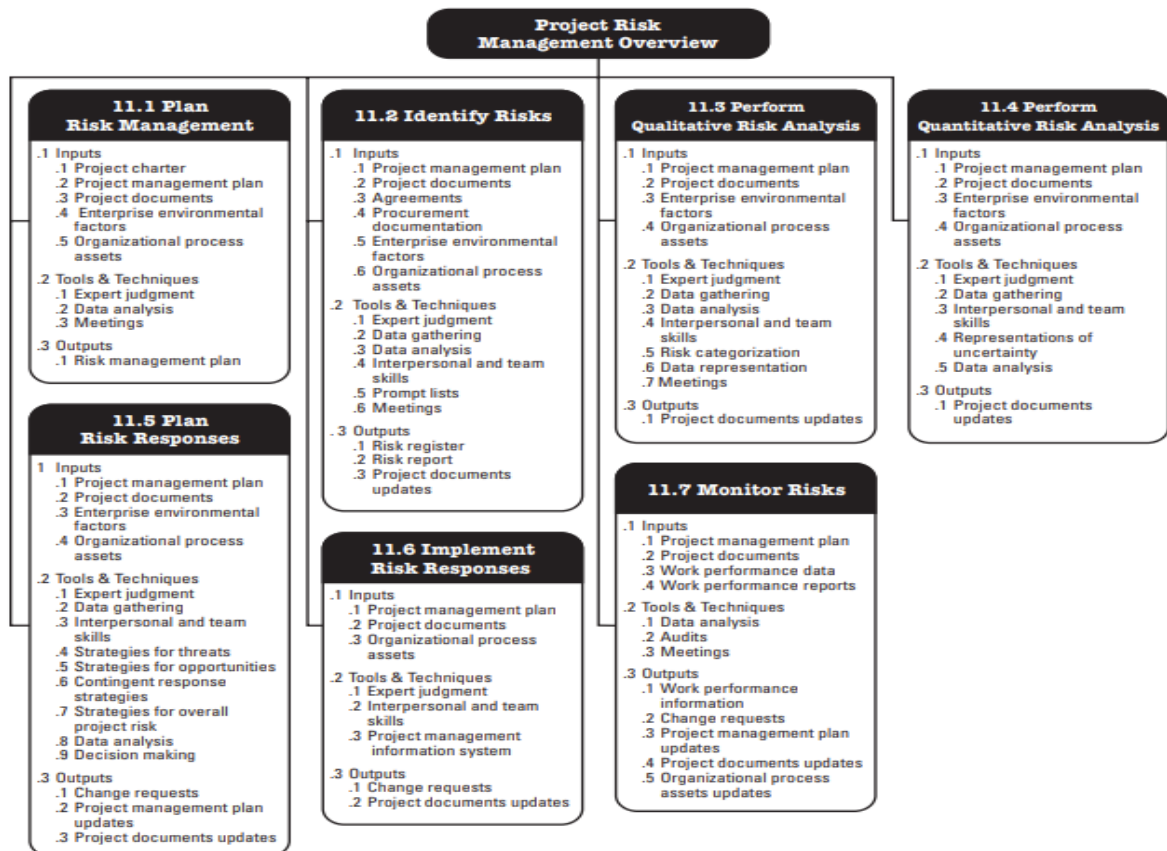


*Note.* From “A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition”. Project Management Institute, 2017 Figure 10-1, p.360 Copyright 2017 by PMI Inc. Permission not sought

## Project risk management

Project risk management includes processes of conducting risk management planning, identification, analysis, response planning, response implementation, and monitoring risk on a project. Figure 13 provides an overview of this knowledge area.

Figure 13 Project Risk Management overview

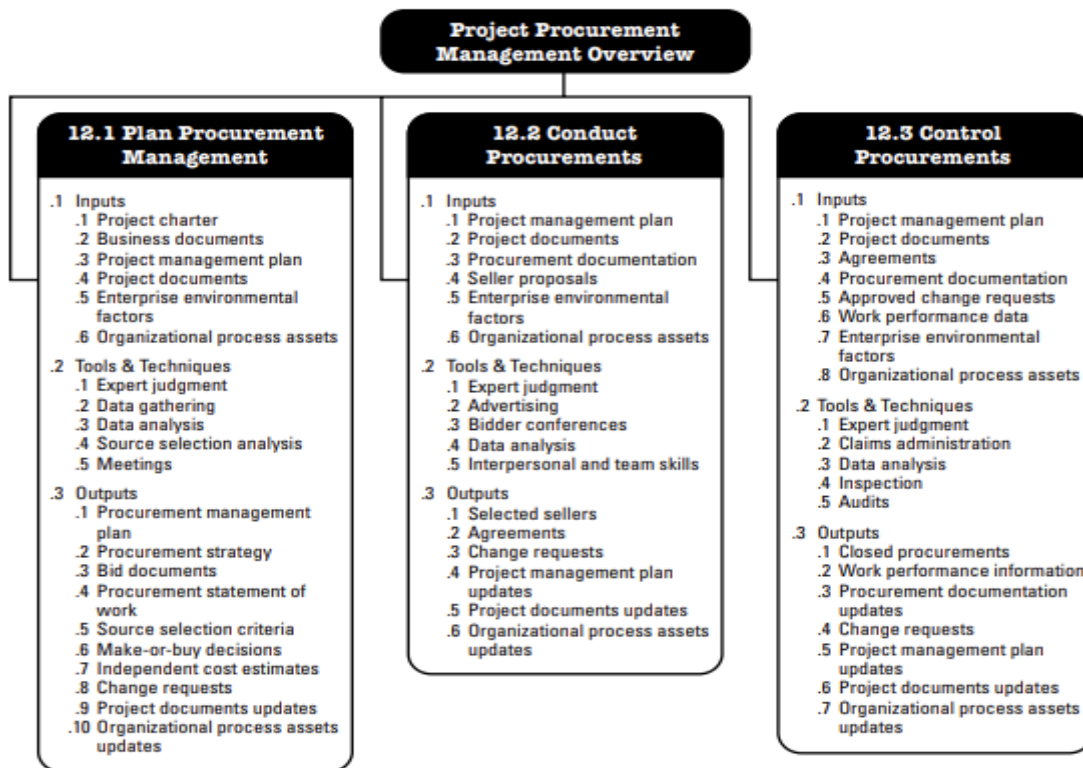


Note. From *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 11-1, p.396 Copyright 2017 by PMI Inc. Permission not sought

### Project procurement management plan

According to PMI (2017), the procurement management process is described as the processes necessary to purchase or acquire products, services, or results needed from outside the project team. These processes also concern the agreements that describe the relationship between two parties, usually the Buyer and the Seller. Figure 14 provides an overview of this knowledge area.

**Figure 14 Project Procurement Management overview**



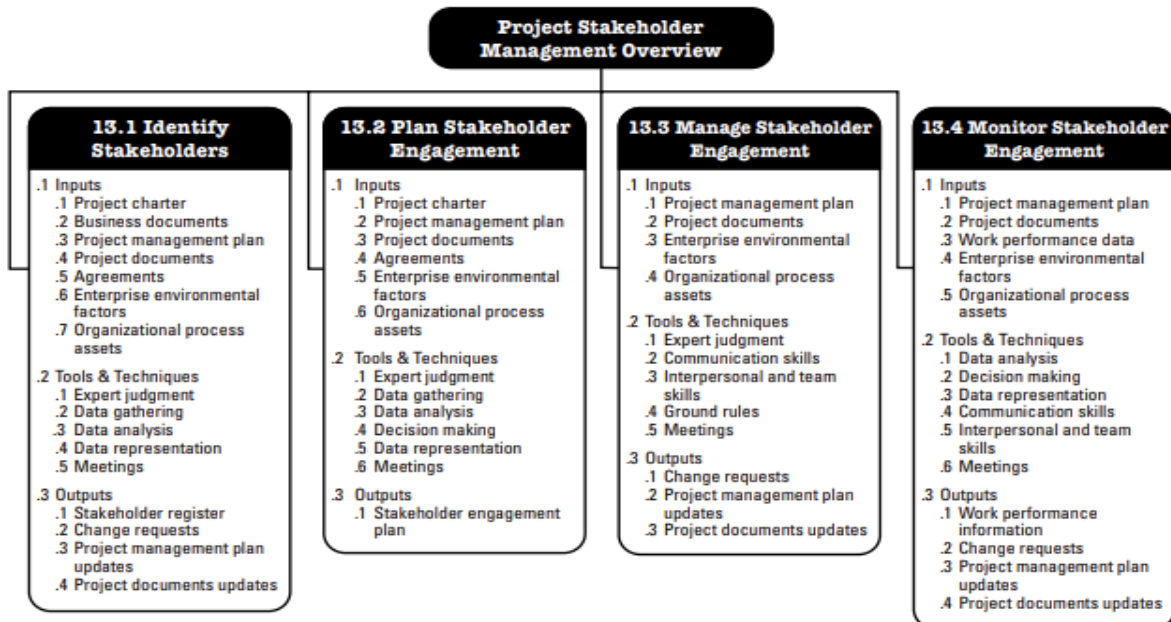
*Note.* From *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 12-1, p.460  
 Copyright 2017 by PMI Inc. Permission not sought

### **Project stakeholders management**

According to PMI (2017) project stakeholders management includes the processes required to identify the people, groups, or organizations that could impact or be impacted by the project, to analyze the stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution.



**Figure 15 Project Stakeholder Management overview**



*Note.* Reprinted from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 13-1, p.504 Copyright 2017 by PMI Inc. Permission not sought

## **2.3 Other applicable theory/concepts related to the project topic and context**

### **2.3.1. WTO Trade Facilitation Agreement (TFA)**

Although Suriname is part of the World Trade Organization (WTO), it has not ratified the WTO facilitation agreement on the single window for trade yet; however, it has implemented the online system. The WTO single window agreement implies that for the trade community there is one focal point to submit documentation and data requirements to comply with the import and export regulatory requirements. This single window should enable other trade facilitation tools as well. The single window should benefit trade by allowing faster clearance of goods crossing the borders.

The government agency in Suriname currently responsible for the WTO FTA is the Ministry of Economic Affairs, Entrepreneurship and Technological Innovation. There is no update provided on the ratification of the WTO FTA by parliament.

### **2.3.2 IMO single window for ship data**

The International Maritime Organization (IMO), through the IMO FAL convention, have new compulsory requirements for electronic exchange of information to aid in clearance processes in ports, by setting up a maritime single window platform. This would enable safe exchange on information between public and private stakeholders related to the arrival, stay and departure of vessels nationwide. The Maritime Single Window will become mandatory by January 1<sup>st</sup>, 2024. The IMO perceived the Covid-19 pandemic as a clear sign to expedite the implementation of the Maritime Single Window for Port Calls. Due to the pandemic, port calls were not allowed, as human contact was prohibited and/or minimized to avoid the spread of the virus. As most maritime authorities are still using hard copy documentation to provide clearance for port calls, this was not possible during the pandemic that lasted two (2) years. IMO underlines the importance of digitization in ensuring business continuity and improving the resilience of the maritime gateways and associated chains.

The Maritime Authority Suriname (MAS) is responsible for all vessel calls requesting to enter the waters (rivers) of Suriname. The MAS and HBS are both under the jurisdiction of the Ministry of Transport, Communication and Tourism. It is noted that the MAS does not possess an automated system yet for port calls and that they are looking into the possibility of using a similar system developed for Antigua and Barbuda.

### **2.3.3. ASYCUDA World program**

Asycuda, which stands for Automated System for Customs Data, “is a computerized automated customs management system that covers most foreign trade procedures” (<https://asycuda.org/en/about/>). This software can manage manifests, customs

declarations, accounting, transit, and suspense procedures whilst also generating trade data to be used for government's economic analysis. This system has been developed by UNCTAD, using international codes and standards developed by the World Custom Organization (WCO), the International Organization for Standards (ISO) and the United Nations.

The Customs Authority in Suriname, residing under the Ministry of Finance and Planning, uses the ASYCUDA World for operations at all ports, including airports.

These three automated systems related to maritime and trade can be connected through the new port community system that will be implemented at HBS. Providing connectivity to all stakeholders, the platform will be neutral and ensure continuance and ease of doing business. The digitization process at ports is becoming a necessity and the International Association for Ports and Harbors has set out a roadmap to be followed by a port/country as seen in Figure 16.

**Figure 16 Road map for digitization of ports**



*Note.* From “Accelerating Digitalization, critical actions to strengthen the resilience of the Maritime Sector”. Retrieved from <https://sustainableworldports.org/wp-content/uploads/> Copyright 2021 by the World Bank Group. Permission not sought

## **2.3.4 Sustainable project management**

### **2.3.4.1 Definitions**

According to Green Project Management (GPM) Global, sustainable project management is the application of methods, tools and techniques to achieve a specified objective, while considering the project outcome's entire life cycle to ensure a net positive environmental, social, and economic impact (GPM,n.d.).

According to the Institute of Project Management (IPM), *“sustainable project management is the planning, monitoring and controlling of project delivery and support processes, with consideration of the environmental, economical, and social aspects of the life-cycle of the project's resources, processes, deliverables and effects, aimed at realizing benefits for stakeholders”* ( IPM, 2021)

### **2.3.4.2. GPM -Global P5 Ontology**

GPM Global uses the P5 standards to identify potential impacts to sustainability, both positive and negative, that can be analyzed and presented to management in making informed decisions and to effectively assign resources where required (GPM, 2019). The P5 Ontology is a set of concepts and categories in a subject area, showing their properties and the relationship between them. By putting the available information in a coherent way, it aids in managing complexity of projects. The P5 stands for product, process, people, planet and prosperity. Figure 17 shows the P5 Ontology.

Figure 17 P5 Ontology

PROJECT										
Product Impacts				Process (Project Management) Impacts						
Lifespan of Product		Servicing of Product		Effectiveness of Project Processes		Efficiency of Project Processes		Fairness of Project Processes		
People (Social) Impacts				Planet (Environmental) Impacts				Prosperity (Economic) Impacts		
Labor Practices and Decent Work	Society and Customers	Human Rights	Ethical Behavior	Transport	Energy	Land, Air, and Water	Consumption	Business Case Analysis	Business Agility	Economic Stimulation
Employment and Staffing	Community Support	Non-discrimination	Procurement Practices	Local Procurement	Energy Consumption	Biological Diversity	Recycling and Reuse	Modeling and Simulation	Flexibility/Optionality	Local Economic Impact
Labor/Management Relations	Public Policy/Compliance	Age-Appropriate Labor	Anti-Corruption	Digital Communication	CO2 Emissions	Water and Air Quality	Disposal	Present Value	Business Flexibility	Indirect Benefits
Project Health and Safety	Protection for Indigenous & Tribal Peoples	Voluntary Labor	Fair Competition	Traveling and Commuting	Clean Energy Return	Water Consumption	Contamination and Pollution	Direct Financial Benefits		
Training and Education	Customer Health and Safety			Logistics	Renewable Energy	Sanitary Water Displacement	Waste Generation	Return on Investment		
Organizational Learning	Product and Service Labeling							Benefit-Cost Ratio		
Diversity and Equal Opportunity	Mkt. Comm. and Advertising							Internal Rate of Return		
Local Competence Development	Customer Privacy									

Note. From *The GPM P5™ Standard for Sustainability in Project Management*. GPM Global. Version 2.0 2019. Figure 3, p.3. Copyright 2019 by GPM Global. Permission not sought

### 2.3.4.3. Regenerative development

Regenerative development according to Gabel (2015) seeks to increase the efficiency and capacity of our industrial and technological metabolism while providing life-support services and products for the world's population. With regenerative development (RD) the aim is to re-aligning human activity with the evolution of this ecosystem. To invoke RD, Müller (2017) applies the following 6 principles: environment, social, economic, political, cultural, and spiritual.

These concepts of the P5 Standards and Regenerative Development will be integrated within the context of the FGP.

### **3 METHODOLOGICAL FRAMEWORK**

Chapter 3 intends to provide more understanding of the research path followed in order address the objectives of the final graduation project. The methodological framework validates the research done and ensures that the outcome for the development of the final graduation project is sound.

The first paragraph contains the sources available and from where the student will find information and how that will used in the final graduation project.

The second paragraph addresses the research methods to be used by the student in achieving the final graduation project.

The third paragraph focuses on the tools available and used by the student to attain the objectives of the final graduation project.

The fourth and last paragraph addresses the deliverables, being the outputs of the final graduation project.

These factors of sources, research methods, tools and deliverables form the synergy for establishing the Project Management Plan for the final graduation project.

#### **3.1 Information sources**

According to Bhasin (2021), sources of information include all the sources from where you can get hold of information for an effective study. As information is an integral part of the learning process, which includes research and the use of materials for studying. Where does it come from, and where to look for it are important questions. LISBDNETWORK (2018) opines that an information source is a source of information for somebody i.e., anything that might inform a person about something to provide knowledge to somebody. Information sources can be observations, people's speeches, documents, pictures, organizations etc.

Sources of information are characterized in three categories: primary, secondary, and tertiary sources (University of Minnesota Crookston, n.d.). For the creation of the FGP the student will only be considering primary and secondary sources.

### **3.1.1 Primary sources**

Primary sources are considered to be “*those sources which contain original documents that has been published, reported or recorded for the first time*”( <https://www.nios.ac.in/media/documents/SrSecLibrary/LCh-005.pdf>., n.d.). In other words, information that we receive firsthand, shown for the first time and these may include raw data, new observation on an experiment. Primary sources demonstrate the original thinking. Some primary information sources are interviews, correspondence, personal narrative, symposia and conference proceedings, dissertations, government reports.

### **3.1.2 Secondary sources**

Secondary sources only exist as they are dependent on primary sources, these sources try to identify and explain the primary sources, by trying to provide a comprehensive interpretation to make the topic more logical and easier to understand. Secondary sources “*are those which are either compiled from or refer to primary sources of information. The original information having been casually modified selected or reorganized so as to serve a definite purpose for group of users.*” (<https://www.lisedunetwork.com/sources-of-information/>, 2018). Some secondary information sources are periodicals, surveys, handbook, manuals.

Chart 1 provides a summary of the information sources used for the development of the final graduation project.

Chart 1 Information sources

Objectives	Information sources	
	Primary	Secondary
1. To create a project charter to formally approve the new Port Community System project and authorize the project manager to use project resources efficiently	<ul style="list-style-type: none"> <li>• Project charter</li> <li>• Personal communication</li> <li>• Interviews</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> </ul>
2. To develop a project scope management plan to aide in the description of the scope of the new Port Community System in defining, developing, monitoring, and controlling to	<ul style="list-style-type: none"> <li>• Personal communication</li> <li>• Interviews.</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility Studies</li> <li>• Journals</li> <li>• Articles</li> </ul>



Objectives	Information sources	
	Primary	Secondary
meet stakeholders' requirements and avoid scope creep.		
3. To create a schedule management plan to establish how the project schedule will be created, monitored, and controlled for the implementation of the new Port Community System within an approved reasonable time.	<ul style="list-style-type: none"> <li>• Personal communication</li> <li>• Interviews.</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• <i>Practice standard for scheduling</i></li> <li>• Feasibility Studies</li> <li>• Journals</li> <li>• Articles</li> </ul>
4. To develop a cost management plan to establish how the costs	<ul style="list-style-type: none"> <li>• Personal communication</li> <li>• Interviews</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility Studies</li> <li>• Journals</li> <li>• Articles</li> </ul>

Objectives	Information sources	
	Primary	Secondary
will be planned, structured, managed and controlled to complete the new Port Community System project within the available budget.		
5. To create a quality management plan to establish the guidelines, policies, and procedures to be implemented in achieving the quality objectives of the Port of Paramaribo (client), within the triple constraints of	<ul style="list-style-type: none"> <li>• Personal communication (emails)</li> <li>• Interviews</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility Studies</li> <li>• Journals</li> <li>• Articles</li> </ul>

Objectives	Information sources	
	Primary	Secondary
time, scope and cost.		
6. To create a resource management plan to establish how the resources will be categorized, allocated, managed and released to complete the new Port Community System project successfully.	<ul style="list-style-type: none"> <li>• Personal communication (emails)</li> <li>• Interviews</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility Studies</li> <li>• Journals</li> <li>• Articles</li> </ul>
7. To create a communication management plan to establish how information regarding the new Port Community System project will be	<ul style="list-style-type: none"> <li>• Personal communication (emails)</li> <li>• Interviews</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility Studies</li> <li>• Journals</li> <li>• Articles</li> <li>• Literature on meaningful stakeholders' engagement</li> </ul>

Objectives	Information sources	
	Primary	Secondary
<p>communicated to all stakeholders involved in a timely and appropriate manner to ensure that effective communication during the new Port Community System project is implemented.</p>		
<p>8. To create a risk management plan to establish how risk management activities will be formulated and performed for the new Port Community System project.</p>	<ul style="list-style-type: none"> <li>• Personal communication (emails)</li> <li>• Interviews</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility Study</li> <li>• Journals</li> <li>• Articles</li> </ul>

Objectives	Information sources	
	Primary	Secondary
<p>9. To create a procurement management plan to define which approaches, processes and procedures, appropriate goods and services will be acquired to ensure that the new Port Community System project is completed on time.</p>	<ul style="list-style-type: none"> <li>• Personal communication (emails)</li> <li>• Interviews</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility Study</li> <li>• Procurement policies and procedures</li> <li>• Journals</li> <li>• Articles</li> </ul>
<p>10. To create a stakeholders' management plan to define the strategies and actions to promote stakeholder engagement in</p>	<ul style="list-style-type: none"> <li>• Personal communication (emails)</li> <li>• Interviews.</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility Study</li> <li>• Journals</li> <li>• Articles</li> </ul>

Objectives	Information sources	
	Primary	Secondary
the decision-making and execution of the new Port Community System project.		
11.To assess if the implementation of the new Port Community system is in compliance with regenerative development and the sustainable development goals.	<ul style="list-style-type: none"> <li>• Personal communication (emails)</li> <li>• Interviews</li> </ul>	<ul style="list-style-type: none"> <li>• The GPM P5™ Standard for Sustainability in Project Management</li> <li>• Sustainable (or green) project management</li> <li>• Research papers on regenerative development.</li> </ul>

(Source : Amat, 2022)

### 3.2 Research methods

To confirm that the appropriate methods were used to establish the final graduation project, the difference between methods and methodologies should first be defined. Different methods are used by researchers for analyzing data and testing theories to achieve results.

PMBOK Guide 7<sup>th</sup> edition defines a method as “*the means for achieving an outcome, output, result or project deliverable*” (PMI 2021, p.153), whilst a methodology is

described “*as being a system of practices, techniques, procedures, and rules used by those who work in the discipline*” (PMI 2021, p. 243). Research methods refers to a specified approach or tools to collect and analyze data in reaching the conclusion to the research question set.

There are several research methods used and some common methods are: qualitative, quantitative, analytical, empirical, and synthetic. For the final graduation project the analytical research method will mainly be used.

### 3.2.1 Analytical method

The analytical research method is specific type of research involving critical thinking skills and the evaluation of facts and information related to the research being conducted. (Reference.com, 2022). In the development of the final graduation project the facts and information available and or collected were analyzed to reach a critical assessment. Chart 2 provides an overview of the research methods used.

**Chart 2 Research methods**

Objectives	Research methods
	Analytical Method
1. To create a project charter to formally approve the new Port Community System project and authorize the project manager to use project resources efficiently.	<p>The analytical method will be applied to create the project charter by using information and facts from the identified primary and secondary sources for the FGP.</p> <p>The information of the company will be influential in understanding the project and its needs.</p>

Objectives	Research methods
	Analytical Method
<p>2. To develop a project scope management plan to aide in the description of the scope of the new Port Community System in defining, developing, monitoring and controlling to meet stakeholders” requirements and avoid scope creep.</p>	<p>The analytical method will be applied to create the scope management plan by using information and facts from the identified primary and secondary sources for the FGP. The primary and secondary sources will be carefully analyzed to accurately define the project work.</p>
<p>3. To create a schedule management plan to establish the how the project schedule will be created, monitored and controlled for the implementation of the new Port Community</p>	<p>The analytical method will be applied to create the schedule management plan by using information and facts from the identified primary and secondary sources for the FGP. The primary and secondary sources will be carefully analyzed to draft a realistic plan to achieve project results.</p>



Objectives	Research methods
	Analytical Method
System within an approved reasonable time.	
4. To develop a cost management plan, to establish how the costs will be planned, structured, managed and controlled to complete the new Port Community System project within the available budget.	The analytical method will be applied to create the cost management plan by using information and facts from the identified primary and secondary sources for the FGP. The primary and secondary sources will be used to define project budget needs.
5. To create a quality management plan to establish the guidelines, policies, and procedures to be implemented in achieving the quality objectives of the Port of	The analytical method will be applied to create the quality management plan by using information and facts from the identified primary and secondary sources for the FGP. The primary and secondary sources will be used to develop specific quality requirements for the project.

Objectives	Research methods
	Analytical Method
<p>Paramaribo (client), within the triple constraints of time, scope, and cost</p>	
<p>6. To create a resource management plan to establish how the resources will be categorized, allocated, managed and released to complete the new Port Community System project successfully</p>	<p>The analytical method will be applied to create the resource management plan by using information and facts from the identified primary and secondary sources for the FGP. The primary and secondary sources will be carefully analyzed to define the delivery of proper resource management.</p>
<p>7. To create a communication management plan to establish how information regarding the new Port Community System project will</p>	<p>The analytical method will be applied to create the communication management plan by using information and facts from the identified primary and secondary sources for the FGP. The primary and secondary sources will be used to ensure proper and effective communication on the project.</p>

Objectives	Research methods
	Analytical Method
<p>be communicated to all stakeholders involved in a timely and appropriate manner to ensure that effective communication during the Port Community System project is implemented.</p>	
<p>8. To create a risk management plan to establish how risk management activities will be formulated and performed for the new Port Community System project.</p>	<p>The analytical method will be applied to create the risk management plan by using information and facts from the identified primary and secondary sources for the FGP to examine applicable risks of the project.</p>
<p>9. To create a procurement management plan to define which</p>	<p>The analytical method will be applied to create the procurement management plan by using information and facts from the identified primary and secondary sources for the FGP. The primary and secondary</p>

Objectives	Research methods
	Analytical Method
<p>approaches, processes and procedures appropriate goods and services will be acquired to ensure that the new Port Community System project is completed on time.</p>	<p>sources will be used to accurately define the procurement schedule and that all work related to procurement is properly planned.</p>
<p>10.To create a stakeholders” management plan to define the strategies and actions to promote stakeholder engagement in the decision-making and execution of the new Port Community System project</p>	<p>The analytical method will be applied to create the stakeholders” management plan by using information and facts from the identified primary and secondary sources for the FGP. The primary and secondary sources will be used to ensure that project stakeholders are meaningful engaged throughout the project.</p>

Objectives	Research methods
11.To assess if the implementation of the new Port Community system is in compliance with regenerative development and the sustainable development goals.	Analytical Method  The analytical method will be applied to create the sustainable management plan by using information and facts from the identified primary and secondary sources for the FGP. The primary and secondary sources will be carefully analyzed to assess the FGP compliance to sustainable development.

(Source: Amat, 2022)

### 3.3 Tools

According to the PMBOK Guide 6<sup>th</sup> edition, a tool is something tangible, such as a template or software program, used in performing an activity to produce a product or a result (PMI,2017, p.725). Merriam -Webster dictionary provides the following definition for a tool “something (such as an instrument or apparatus) used in performing an operation or necessary in the practice of a vocation or profession (Merriam Webster, Inc. [https://www.merriam-webster.com/dictionary/tool?utm\\_campaign=sd&utm\\_medium=serp&utm\\_source=sonld](https://www.merriam-webster.com/dictionary/tool?utm_campaign=sd&utm_medium=serp&utm_source=sonld). 2022). Both definitions indicate that tools are to be used to manage a project effectively and efficiently, they form a means to an end. PMI identifies many tools The tools that will be used in the development of the final graduation project are captured in Chart 3.

### Chart 3 Tools

Objectives	Tools
<p>1. To create a project charter to formally approve the Port Community System project and authorize the project manager to use project resources efficiently.</p>	<ul style="list-style-type: none"> <li>• Project Charter template</li> <li>• Microsoft Word</li> </ul>
<p>2. To develop a project scope management plan to aide in the description of the scope of the Port Community System in defining, developing, monitoring, and controlling to meet stakeholders” requirements and avoid scope creep</p>	<ul style="list-style-type: none"> <li>• Scope Management Plan template</li> <li>• Microsoft Word</li> <li>• Work Break Structure and dictionary</li> <li>• WBS creator</li> </ul>
<p>3. To create a schedule management plan to establish the how the project schedule will be created, monitored and controlled for the implementation of the Port Community System within an approved reasonable time.</p>	<ul style="list-style-type: none"> <li>• Schedule Management Plan template</li> <li>• Microsoft Word</li> <li>• Microsoft Project</li> </ul>
<p>4. To develop a cost management plan to establish how the costs will be planned, structured, managed and controlled to complete the</p>	<ul style="list-style-type: none"> <li>• Quality Management Plan template</li> <li>• Microsoft Word.</li> </ul>

Objectives	Tools
Port Community System project within the available budget.	
5. To create a quality management plan to establish the guidelines, policies, and procedures to be implemented in achieving the quality objectives of the Port of Paramaribo (client), within the triple constraints of time, scope, and cost.	<ul style="list-style-type: none"> <li>• Quality Management Plan template</li> <li>• Microsoft Word</li> <li>• Checklists</li> </ul>
6. To create a resource management plan to establish how the resources will be categorized, allocated, managed and released to complete the new Port Community System project successfully.	<ul style="list-style-type: none"> <li>• Resource Management Plan template</li> <li>• Resource Breakdown Structure</li> <li>• Responsibility assignment matrix</li> <li>• Microsoft Word</li> </ul>
7. To create a communication management plan to establish how information regarding the new Port Community System project will be communicated to all stakeholders involved, on a timely and appropriate manner to ensure that effective communication during the new Port Community System project is implemented.	<ul style="list-style-type: none"> <li>• Communication Management Plan template</li> <li>• Microsoft Word</li> </ul>

Objectives	Tools
8. To create a risk management plan to establish how risk management activities will be formulated and performed for the new Port Community System project.	<ul style="list-style-type: none"> <li>• Risk Management Plan template</li> <li>• Microsoft word</li> </ul>
9. To create a procurement management plan to define which approaches, processes and procedures, appropriate goods and services will be acquired to ensure that the new Port Community System project is completed on time.	<ul style="list-style-type: none"> <li>• Procurement Management Plan template</li> <li>• Microsoft word</li> <li>• Microsoft Excel</li> <li>• Microsoft Project</li> </ul>
10. To create a stakeholders' management plan to define the strategies and actions to promote stakeholder engagement in the decision-making and execution of the new Port Community System project	<ul style="list-style-type: none"> <li>• Stakeholders' Management Plan template</li> <li>• Microsoft Word</li> <li>• Stakeholder analysis matrix</li> </ul>
11. To assess if the implementation of the Port Community system is in compliance with regenerative development and the sustainable development goals	<ul style="list-style-type: none"> <li>• P5 Ontology</li> <li>• GPM Reference Guide</li> <li>• Regenerative Development guides</li> <li>• Microsoft Word</li> </ul>

(Source: Amat, 2022)



### 3.4 Assumptions and constraints

In project management there are factors and/or elements that one needs to consider as they may affect the outcome of research. For the development of the final graduation project the assumptions and constraints may have an impact on achieving the topic and established objectives.

An assumption according to PMBOK Guide 6<sup>th</sup> edition is “*a factor in the planning process that is considered to be true, real, or certain, without its haven been proved or demonstrated*”. (PMI 2017, p. 698). Hence, an assumption may affect the project positively when it is true, but negatively when proven to be false. A constraint is defined “*as a limiting factor affecting the execution of a project, program, or process*” and often perceived as an obstacle.

**Chart 4 Assumptions and constraints**

Objectives	Assumptions	Constraints
1. To create a project charter to formally approve the Port Community System project and authorize the project manager to use project resources efficiently	All information necessary to complete the project charter will be available.	Time allocated to create the project charter will be one week.
2. To develop a project scope management plan to aide in the description of the scope of the new Port Community System in defining, developing, monitoring and controlling to meet stakeholders” requirements and avoid scope creep	It is assumed that all information required to develop the scope management plan will be available and it is assumed that	Time allocated to create the scope management plan will be one week.

Objectives	Assumptions	Constraints
	<p>there will be minimal change to the scope during execution.</p> <p>The objective is clear and specific</p>	
<p>3. To create a schedule management plan to establish how the project schedule will be created, monitored and controlled for the implementation of the new Port Community System within an approved reasonable time</p>	<p>It is assumed that the time allocated for the project is realistic and that software to aid in scheduling (Microsoft Project) is available.</p>	<p>Time allocated to create the schedule management plan will be one week.</p>
<p>4. To develop a cost management plan to establish how the costs will be planned, structured, managed and controlled to complete the new Port Community System project within the available budget</p>	<p>It is assumed that the cost management plan will represent the financial resources required.</p>	<p>Time allocated to create the cost management plan will be one week.</p>
<p>5. To create a quality management plan to establish the guidelines, policies,</p>	<p>It is assumed that all</p>	<p>Time allocated to create the quality</p>

Objectives	Assumptions	Constraints
and procedures to be implemented in achieving the quality objectives of the Port of Paramaribo (client), within the triple constraints of time, scope, and cost	information necessary to complete the quality management plan will be available.	management plan will be one week.
6. To create a resource management plan to establish how the resources will be categorized, allocated, managed and released to complete the new Port Community System project successfully	It is assumed that all information regarding the available resources will be known and/or available.	Time allocated to create the resource management plan will be one week
7. To create a communication management plan to establish how information regarding the new Port Community System project will be communicated to all stakeholders involved in a timely and appropriate manner to ensure that effective communication during the Port Community System project is implemented	It is assumed that all stakeholders have the same means of communication and can use them adequately.	Time allocated to create the communication management plan will be one week
8. To create a risk management plan to establish how risk management activities will be formulated and	All information necessary to complete the risk	Time allocated to create the risk management

Objectives	Assumptions	Constraints
performed for the new Port Community System project.	management plan will be available. The risks related to the project are to be addressed and carefully identified.	plan will be one week
9. To create a procurement management plan to define which approaches, processes and procedures, appropriate goods and services will be acquired to ensure that the new Port Community System project is completed on time.	All information necessary to complete the procurement management plan will be available.	Time allocated to create the procurement management plan will be one week
10. To create a stakeholder's management plan to define the strategies and actions to promote stakeholder engagement in the decision-making and execution of the new Port Community System project.	All information necessary to complete the stakeholders' management plan will be available.	Time allocated to create the stakeholder's management plan will be one week
11. To assess if the implementation of the new Port Community system is in compliance with regenerative development and the sustainable development goals.	All information necessary to complete the sustainable management	Time allocated to create the sustainable management

Objectives	Assumptions	Constraints
	plan will be available.	plan will be one week.

(Source: Amat, 2022)

### 3.5 Deliverables

PMI (2017) defines a deliverable as a “unique and verifiable product, result, or capability to perform a service that is required to be produced to complete a process, a phase or a project”. These deliverables may be tangible or intangible, they may be repetitive and can exist beyond the project itself. A deliverable of a phase can serve as an input for the following phase. The Final Graduation Project (FGP) consists of the deliverables as provided in Chart 5. These deliverables are associated with each of the specific objectives and its related knowledge area.

**Chart 5 Deliverables**

Objectives	Deliverables
1. To create a project charter to formally approve the Port Community System project and authorize the project manager to use project resources efficiently	Project Charter. The Project Charter is the document that can provide authorization for a project. The project manager receives the necessary authority to manage and execute the project effectively
2. To develop a project scope management plan to aide in the description of the scope of the new Port Community System in defining, developing, monitoring and controlling to meet	Scope management plan: a subordinate plan of the overarching project management plan. It focuses on defining, developing, monitoring, controlling and validating how the scope will be done (PMI, 2017).

Objectives	Deliverables
stakeholders” requirements and avoid scope creep	
3. To create a schedule management plan to establish the how the project schedule will be created, monitored and controlled for the implementation of the new Port Community System within an approved reasonable time	Schedule management plan: a subordinate plan of the overarching project management plan. It focuses on how the schedule will be developed, monitored, and controlled. (PMI, 2017).
4. To develop a cost management plan to establish how the costs will be planned, structured, managed and controlled to complete the new Port Community System project within the available budget	Cost management plan: a subordinate plan of the overarching project management plan. It focuses on how the project costs are structured, released and monitored. (PMI, 2017).
5. To create a quality management plan to establish the guidelines, policies and procedures to be implemented in achieving the quality objectives of the Port of Paramaribo (client), within the triple constraints of time, scope and cost	Quality management plan: a subordinate plan of the overarching project management plan. This focusses on the quality objectives of the company and the community it serves, involving policies, procedures, and guidelines. (PMI,2017)
6. To create a resource management plan to establish how the resources will be	Resource management plan: is a subordinate plan of the overarching project management plan. It focusses

Objectives	Deliverables
<p>categorized, allocated, managed and released to complete the new Port Community System project successfully</p>	<p>on the project resources involving both the project team and physical resources, how the resources will be categorized, allocated, managed and released. (PMI,2017)</p>
<p>7. To create a communications management plan to establish how information regarding the new Port Community System project will be communicated to all stakeholders involved in a timely and appropriate manner to ensure that effective communication during the Port Community System project is implemented</p>	<p>Communications management plan: is a subordinate plan of the overarching project management plan. This plan focusses on establishing how to plan, structure, implement and monitor effective communications within the project. (PMI, 2017)</p>
<p>8. To create a risk management plan to establish how risk management activities will be formulated and performed for the new Port Community System project.</p>	<p>Risk management plan: a subordinate plan of the overarching project management plan. This plan will focus on the risk management activities that need to be properly structured and monitored. (PMI,2017)</p>
<p>9. To create a procurement management plan to define which approaches, processes and procedures, appropriate goods and services will be acquired to</p>	<p>Procurement management plan: a subordinate plan of the overarching project management plan. This plan focusses on all activities related to procurement processes, and when and</p>

Objectives	Deliverables
ensure that the new Port Community System project is completed on time	how procurements need to be conducted. (PMI,2017)
10. To create a stakeholders’ management plan to define the strategies and actions to promote stakeholder engagement in the decision-making and execution of the new Port Community System project	Stakeholders’ management plan: a subordinate plan of the overarching project management plan. This plan focusses on how to effectively engage stakeholders in the project. (PMI, 2017).
11. To assess if the implementation of the new Port Community system is in compliance with regenerative development and the sustainable development goals.	Sustainability assessment: a subordinate plan of the overarching project management plan addressing the sustainability of the final graduation project with regard sustainable and regenerative development.

**(Source: Amat, 2022)**



## **4 RESULTS**

### **4.1 PROJECT CHARTER**

#### **4.1.1 Introduction**

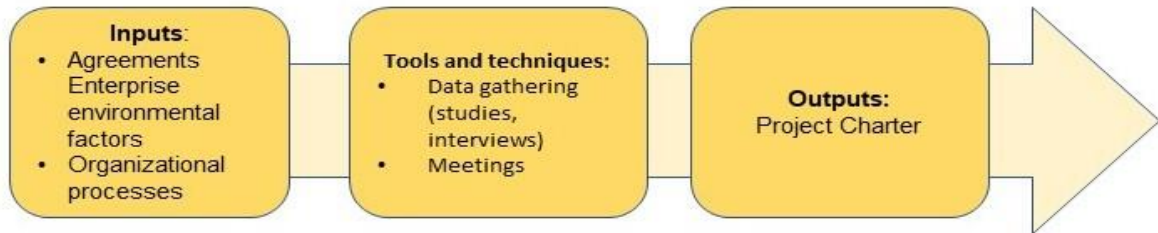
The project charter is the first objective of the project. According to the Project Management Body of Knowledge (2017) the project charter is defined as the document which is issued by the project sponsor or initiator to formally authorize the existence of a project and gives the project manager the authority in applying organizational resources for project activities. The project charter confirms a common understanding by the stakeholders of the key deliverables, the milestones and the roles and responsibilities of each individual or institute involved in the project. The project charter is an output of the integration management plan, which integrates all elements of the project as one cohesive plan. The integration management plan will not be addressed for the project management plan.

#### **4.1.2 Development of the project charter**

As stated in the PMBOK Guide 6<sup>th</sup> edition, the development of the project charter is defined as the process of developing a document to formally sanction the existence of the project and authorize the project manager to use organizational resources for project activities, including the development of the project management plan. The project charter will address the following: project objectives (general and specific), purpose, products, constraints, assumptions, milestones, preliminary risks, allocated budget, historical information, and identified stakeholders.

In developing the project charter the following inputs and tools and techniques will be applied as portrait in figure 18.

**Figure 18 Development of the Project Charter**



Note: Adapted from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 4-2, p.75  
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**Chart 6 Project Charter for the PCS Paramaribo**

PROJECT CHARTER	
<b>Date</b>	<b>Name of Project</b>
	The Implementation of a new Port Community System (PCS) at the Port of Paramaribo
<b>Type of project:</b>	Hybrid
<b>Application area (Sector / Activity)</b>	IT/Trade/Logistics
<b>Knowledge areas</b>	Scope management Schedule management Cost management Quality management Resource management Communication management Risk management Procurement management Stakeholder management

<b>Process groups</b>	Initiating; Planning	
<b>Tentative start date</b>	<b>Tentative completion date</b>	<b>Duration (months)</b>
December 2023	January 2025	24
<b>Project objectives (general and specific)</b>		
<p>General objective</p> <p>To install a new Port Community System (PCS) to enhance Suriname's competitiveness and logistics performance through improving efficiencies and reducing both cost and time to clear goods at the Port of Paramaribo.</p> <p>Specific objectives:</p> <p>To create a neutral platform that provides connectivity to programs used by the Maritime Authority, Customs Authority and the port operators, which should be user-friendly.</p> <ol style="list-style-type: none"> <li>1. To reduce the wait time for the trucks from 5 hours to 2 hours through better coordination and intercommunication between the systems of the different stakeholders, and to reduce the use of paper.</li> <li>2. To improve the position of the Port of Paramaribo in the Caribbean to become competitive again after the full installation and implementation of the PCS.</li> <li>3. To manage the project successfully within time, scope and budget.</li> </ol>		
<b>Justification or purpose of the project (Contribution and expected results)</b>		
<p>The current operation at the port is mainly paper-based, as the system currently in use does not allow for intercommunication with the systems present at the port operators, the customs and the Ministry of Economic Affairs. This is causing inefficiencies in port processes and is time-consuming, which in turn does not make the port as an attractive market to do business with. Taking into consideration that the channel of the river has been silting up in the last years, and that dredging was not done, the port was only accessible for small vessels. As the government has implemented dredging of the river</p>		

channel in the last two years, this has an effect on the port activities as larger vessels can enter the river. The port processes now require to be improved in order to strengthen its position as a port in the Caribbean.

The benefits of implementing a new port community system for the port will improve the efficiencies and effectiveness of the port processes, improve its position in the port community, it will lead to less paper used and in the long run no-paper to be used as the processes will become digitized. The implementation of a new PCS makes processes also transparent, which in turn will mean that revenues can be better traced and collected.

For the port operators and truckers, this will lead to shorter wait times from 5 hours to 2 hours and as such improve the services they offer the trade and industry.

#### **Description of the product or service that the project will generate - Final project deliverables**

1. PCS platform in place and in operation.
2. Project Management Plan
3. Certificate of acceptance

#### **Assumptions**

1. It is assumed that all port stakeholders are in favor of introducing the new PCS.
2. It is assumed that the procurement processes to attract a company to execute the project will be successful.
3. It is assumed that the beneficiary will approve the solutions presented in a timely manner in order to stay within the project timeline
4. It is assumed that approvals required from the sponsors are received in a timely manner.
5. It is assumed that payments to the service providers (consultants and companies) are carried out in a timely manner.
6. It is assumed that change requests by the beneficiary will not be significant.

<b>Constraints</b>		
<ol style="list-style-type: none"> <li>1. The budget is set at USD 2,240,000.00</li> <li>2. The time allocated is 23 months to execute the project.</li> </ol>		
<b>Preliminary identification of risks</b>		
<ol style="list-style-type: none"> <li>1. The PCS staff should be professional, unbiased, and not politically selected.</li> <li>2. The pandemic has impacted the supply chain, not only in materials but also in human resources, thus also impacting the rates of the labor market.</li> <li>3. Another wave of the pandemic may impede project implementation if the country would be in total lock-down.</li> </ol>		
<b>Budget</b>		
The budget allocated for this project is USD 2,240,000.00		
<b>Milestones schedule</b>		
Activity	Start Date	End Date
Project Start	December 12, 2022	December 12, 2022
PCS designer contracted	January 11,2023	January 11,2025
First testing passed	September 19, 2023	September 19, 2023
PCS platform launched	September 01 2024	September 01, 2024
Staff trained	January 10,2024	September 10, 2024
Final testing passed	February 21, 2024	February 21, 2024
Final acceptance	January 9, 2025	January 9, 2025
<b>Relevant historical information</b>		
<p>The Port of Paramaribo, established in 1971, is located on the left bank of the Suriname river at approximately 34km from the Atlantic Ocean. The Port of Paramaribo, also known as the Jules Sedney Terminal, is responsible for handling 90% of Suriname's sea</p>		

trade and is the only port managing containerized cargo for now. The handling of port processes is currently mainly paper-based and time consuming, and this does not aid in improving port efficiency. Various studies, such as the Deloitte (2018) have highlighted the inefficiencies and the need for improvement. The port is expanding and recent investments in its infrastructure will require that the port becomes more efficient and more effective in handling the goods both import and export, in order for it to attract customers such as ship-liners.

#### Identification of groups of interest (stakeholders )

Direct stakeholders:

The Ministry of Public Works (sponsor/client)

The Port of Paramaribo, NV Havenbeheer (beneficiary)

The Ministry of Finance and Planning, in particular the Tax department

Customs Authority

Maritime Authority

Port operators

Indirect stakeholders:

Shipping agencies

Truckers

Importers

Exporters

Broker agents

**Student's name (project manager):**

**Sitih Amat**

**Signature:**

**Name and title of the authorizing person (facilitator):**

**Signature:**

**(Source: Amat, 2022)**

### 4.1.3 Change management process

Changes in the project charter are only permissible through a change management process. However, changes to the project charter should be minimized and should only be made to meet project objectives. Changes may be requested by a stakeholder and should be formally submitted. It is the responsibility of the project manager to analyze each request for change based on the justifications of the submitted change request, and he/she should carry out the investigation into the validity of the submitted request. If the change request is considered, the implications of the changes will be investigated and proposed to a Change Control Board, as described in the PMBOK Guide 6<sup>th</sup> edition (2017). These change requests can only be approved by a change control board. In the PCS Paramaribo project, the change control board consists of the client and project sponsor. Upon Change Control Board approval, the changes will be accepted and documented, and the project charter is updated as required. Figure 19 illustrates the change process for the project charter.

**Figure 19 Change Request Project Charter**



*Note: Amat, 2022*

## 4.2 PROJECT SCOPE MANAGEMENT

### SCOPE MANAGEMENT PLAN PCS PARAMARIBO SURINAME

#### TABLE OF CONTENT

Introduction

Scope management approach

Project scope statement

Project requirements

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Work breakdown structure

Scope validation

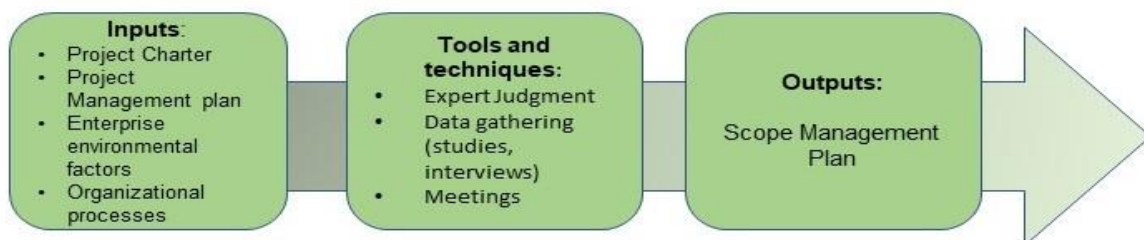
Scope control

#### 4.2.1 Introduction

The scope management plan for the PCS project provides the structure for the scope of the project and will address the following topics: scope management approach, scope requirements, the roles and responsibilities, the work breakdown structure, scope validation, and scope control. In defining the project scope management, the inputs, tools and techniques, and outputs as shown in Figure 19 will be applied. The project charter previously drafted is now used as an input for the scope management plan.



**Figure 20 Plan Scope Management**



*Note: Adapted from A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition. Project Management Institute, 2017 Figure 5-2, p.134. Copyright 2017 by PMI Inc. Permission not sought*

#### 4.2.2 Scope management approach

The project manager will be solely responsible for drafting the project scope management plan. For the project scope management plan to be drafted it is important that the stakeholder management plan is first established, as the roles and responsibilities of each identified stakeholder that may have an impact on the scope should be established.

#### 4.2.3 Project scope statement

The project scope statement for the PCS Paramaribo project should provide a detailed description of the project, its deliverables, constraints, exclusions, and project acceptance criteria.

**Chart 7 Project Scope Statement**

Project name	The implementation of a new Port Community System (PCS) at the Port of Paramaribo
Project sponsor	Inter-American Development Bank (IADB)
Project client	Ministry of Public Works
Project manager	
Approval date	

Scope description	Project management plan which includes scope, schedule, cost, quality, resource, communication, risk, procurement and stakeholder management.
Project deliverables	<ol style="list-style-type: none"> <li>1. PCS platform in place and in operation.</li> <li>2. Project management plan</li> <li>3. Certificate of acceptance</li> </ol>

(Source: Amat, 2022)

#### 4.2.4 Project scope requirements

**Chart 8 Project Scope Requirements and Acceptance Criteria**

Project Requirements	Acceptance Criteria
Project Management Plans	
All project management plans to be completed and ready for approval by the client	<ul style="list-style-type: none"> <li>• Completed management plans for:</li> <li>• Scope management</li> <li>• Schedule management</li> <li>• Cost management</li> <li>• Quality management</li> <li>• Resource management</li> <li>• Communication management</li> <li>• Risk management</li> <li>• Procurement management</li> <li>• Stakeholder management</li> </ul>
Terms of References	
Should be unbiased and clearly written Should be written in English	<ul style="list-style-type: none"> <li>• Documents should contain the following chapters:</li> <li>• Background</li> <li>• Objective of the assignment</li> <li>• Specificities of the assignment</li> <li>• Required consultants/ consultancies</li> </ul>

	<ul style="list-style-type: none"> <li>• Minimum experience and the specialization of the required expert.</li> <li>• The required input of the expert(s).</li> <li>• The total duration of the assignment</li> <li>• The location of the assignment.</li> <li>• The eligibility and nationality of the consultants and the consultancies.</li> </ul>
<b>Contracts</b>	
<p>Contract conditions to be unbiased, equal opportunity for all</p> <p>Payment conditions to be clear</p> <p>Rights and obligations clearly stated.</p>	<ul style="list-style-type: none"> <li>• Applicable legislation to be clearly mentioned</li> <li>• Payment procedures are clear</li> <li>• Rights and obligations should be unbiased.</li> </ul>
<b>PCS Platform</b>	
<p>Platform should be neutral and not belong to a particular party.</p>	<ul style="list-style-type: none"> <li>• The platform should be located on a safe location preferably cloud-based.</li> <li>• Security should be safeguarded, as sensitive information regarding shipping agents, shipping liners and port operators is stored on the platform.</li> </ul>

	<ul style="list-style-type: none"> <li>The governance of the PCS should be clear.</li> </ul>
<b>Training</b>	
<p>Training material should be clear</p> <p>Training should be specific for the group and not only general material to be trained in.</p>	<ul style="list-style-type: none"> <li>Clearly written manuals/instructions</li> <li>Staff to be trained meet the minimum criteria to be trained. (Should fit a profile of unbiased, integrity and education level)</li> </ul>

(Source: Amat, 2022)

#### 4.2.5 Roles and responsibilities

Though the client is responsible for the entire project, the program manager, the beneficiary, the project steering committee, and the project management unit (PMU or PIU) have a role in managing the scope of the project. All stakeholders have their roles and responsibilities in ensuring that the project is executed in conformity with the agreed scope during the project life cycle, avoiding scope creep. The roles and responsibilities for the scope management are defined in Chart 9, as shown below.

**Chart 9 Scope Management Roles and Responsibilities**

Name	Role	Scope Management Responsibilities
Mr. S. Mohan	Client	<ul style="list-style-type: none"> <li>Approves or denies scope change requests if correct</li> <li>Evaluates the need for scope change request</li> <li>Accepts project deliverables if accepted by the beneficiary.</li> <li>Keeps track of the project.</li> </ul>

Mr. A. Talea	Beneficiary	<ul style="list-style-type: none"> <li>• May request change.</li> <li>• Participates in change control meetings</li> <li>• Accepts project deliverables.</li> </ul>
Representatives of the Customs Authority, Maritime Authority, Port Authority	Project Steering Committee	<ul style="list-style-type: none"> <li>• May request change of scope.</li> <li>• Supports the project manager in scope change requests and their validity.</li> </ul>
Ms. S. Amat	Project Manager	<ul style="list-style-type: none"> <li>• Identifies, defines, evaluates, verifies, executes, and communicates scope change requests received.</li> <li>• Provides overall management to the project.</li> <li>• Is responsible for drafting the project management plan with all its subsidiary plans</li> </ul>
PIU/PMU	Team Member	<ul style="list-style-type: none"> <li>• Supports the project manager in specifying the scope and scope change decisions.</li> <li>• Evaluates the scope change necessity and</li> </ul>

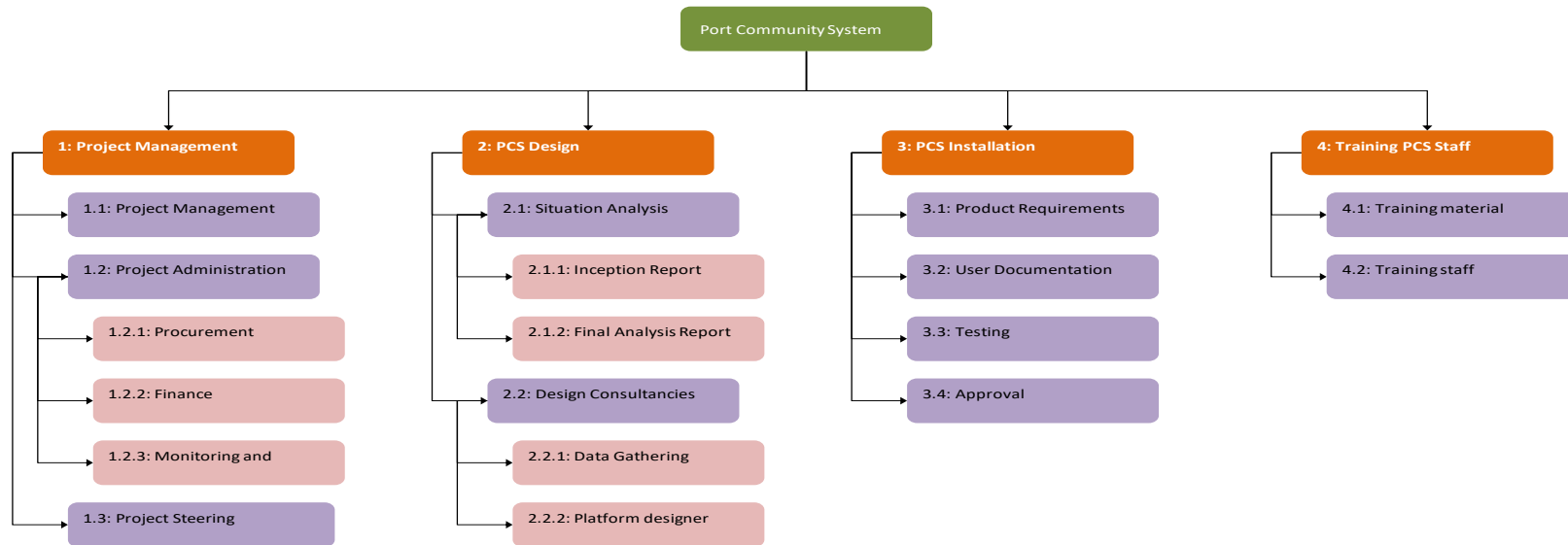
		must communicate this to the project manager.
--	--	---

**(Source: Amat, 2022)**

#### 4.2.6 Work breakdown structure

To manage the PCS Paramaribo project successfully the project is divided into the deliverables that are required. In this way the project manager will be able to better manage the scope and his/her team can work on the tasks required for completion of the project. The project is broken down into four deliverables: project management, PCS design, PCS installation, and Training PCS staff. Each deliverable is further subdivided and broken down in work packages. The division of the project is shown in the work breakdown structure of the PCS Paramaribo project depicted in Figure 21

**Figure 21 Work Breakdown Structure PCS Paramaribo.**



(Source: Amat, 2022)

#### 4.2.6.1.1 Work Breakdown Structure Dictionary

The WBS Dictionary will be used to define the work necessary to complete the PCS Paramaribo project.

**Chart 10 Work Breakdown Structure Dictionary PCS Paramaribo**

PCS PARAMARIBO						
WBS Code	Name	Description of Work	Deliverables	Assumptions & Constraints	Resources	Budget
1.	project management	Sets out the PCS Paramaribo project and oversees the execution thereof	Inception report Progress reports	Receives support from the client, the beneficiary, the project steering committee and the sponsor.	Project funding	
1.1.	Project management plan	Create the project management plan with its subsidiary plans: Scope management Schedule management Cost management Quality management	Project management plan	Is approved by the client	Laptop Microsoft Word Microsoft Excel MS Project Microsoft PowerPoint	0.00



PCS PARAMARIBO						
WBS Code	Name	Description of Work	Deliverables	Assumptions & Constraints	Resources	Budget
		Resource management Communication management Risk management Procurement management Stakeholder management				
1.2.	Project administration	Project documentation Project support	Project status reports Project documents	Plans are updated on a regular basis	Server Laptop Internet Email Microsoft Word Microsoft Excel MS Project	60,000.00
1.2.1	Procurement	Conduct procurement processes.	Contracts Contract amendments	Procurement plans should be understandable	Server Desktop Internet Email Laptop Microsoft Word	0.00

PCS PARAMARIBO						
WBS Code	Name	Description of Work	Deliverables	Assumptions & Constraints	Resources	Budget
		Draft bidding documents. Aids in evaluation of the bids received, carries out the due diligence of bidders. Reviews scope changes and the impact on the signed contracts			Microsoft Excel	
1.2.2.	Finance	Responsible for the financial expenditure of the project and the eligibility of the expenditures.	Financial reports. Request for advance of funds.	Sufficient funds available to pay for services rendered.	Server Desktop Laptop Internet Email	0.00

PCS PARAMARIBO						
WBS Code	Name	Description of Work	Deliverables	Assumptions & Constraints	Resources	Budget
		Responsible for requesting project funds to be replenished in a timely manner. Project financial prognosis for the scope of the works.	Financial ledger.		Microsoft Word Microsoft Excel QuickBooks	
1.2.3.	Monitoring and evaluation	Monitors that the scope of works is executed and aids in evaluation of scope change needs and the impact thereof.	Progress report (Status)		Laptop Internet Email Microsoft Word Microsoft Excel MS Project	0.00
1.3.	Project steering committee	Supports the project manager in	Minutes of meeting		Internet Meeting room Laptop	0.00

PCS PARAMARIBO						
WBS Code	Name	Description of Work	Deliverables	Assumptions & Constraints	Resources	Budget
		scope change request.				
2	PCS design	Sets out the requirement for the PCS				0.00
2.1.	Situation Analysis	Analysis the current situation, identifies the constraints and the opportunities for improvement	Analysis Report	Cooperation to get information on current systems used by stakeholders	Laptop Internet Microsoft Word Microsoft Excel	8,000.00
2.2.	Design Consultancies	Several consultancy services required to provide the specifications, terms of references etc.	TOR specifications	Consultants with the required expertise are available		0.00

PCS PARAMARIBO						
WBS Code	Name	Description of Work	Deliverables	Assumptions & Constraints	Resources	Budget
2.1.1.	Data gathering	Investigate current data, legislation regarding data sharing and digitization	Data analyses	Data are accessible and all different parties are willing to participate	Laptop Internet Microsoft Word Microsoft Excel	20,000.00
2.1.2.	Platform designer	Should provide the structure of the PCS platform. The superstructure, necessary technical requirements, training of staff	Design, manual of the PCS. Training material (instructions. Hand-outs) Presentations	All port stakeholders accept the change the PCS will entail and what will be required from them. The TOR and specifications are understandable	Laptop Software Internet Database	200,000.00
3.	PCS installation	PCS Paramaribo is installed.	Platform	Information on the platform is secure.		0.00
3.1.	Product requirements	PCS should comply with the elements as	PCS should be working	Is user-friendly Preferable internet fiber optic	Cloud- based (Azure/Amazon) or on premises.	2,000,000.00

PCS PARAMARIBO						
WBS Code	Name	Description of Work	Deliverables	Assumptions & Constraints	Resources	Budget
		provided in the technical specifications. PCS should provide inter connectivity to programs used by the different port operators.				
3.2.	User documentation	Understandable user manuals should be drafted for the PCS staff, beneficiary and the client	Manuals Trouble shooting solutions	Manuals are written in understandable English with translation into Dutch	Printing Laptop Graphics software	0.00
3.3	Testing	PCS platform to be tested for: <ul style="list-style-type: none"> <li>•workability</li> </ul>	Test Completion report and test result.	The system completes test successfully	Laptop Internet	0.00

PCS PARAMARIBO						
WBS Code	Name	Description of Work	Deliverables	Assumptions & Constraints	Resources	Budget
		<ul style="list-style-type: none"> <li>• compliance with the required specifications and output .</li> <li>• tracking and hacking.</li> </ul>	If test was not completed successfully, re-testing is required.			
3.4.	Approval	After completing the tests successfully, approval of the works and services delivered to be provided.	Certificate of acceptance	The beneficiary is satisfied with the final product.		0.00
4.	Training PCS staff	Training to be provided to the people selected to operate the PCS.	Training and presentation material	Staff to be trained is equipped to be trained. They are unbiased and honest.		0.00

PCS PARAMARIBO						
WBS Code	Name	Description of Work	Deliverables	Assumptions & Constraints	Resources	Budget
4.1.	Training material	Training material should be clear, unambiguous and in English and Dutch.	Training material should be understandable and should be available in both English and Dutch	Training material is prepared timely, and focused on the audience	Instruction manual Internet Venue Printing services	2,000.00
4.2.	Training staff.	Training to be provided to the identified PCS staff in training sessions. The client or part of his staff should also participate in the training.	PCS staff trained and the client and/or parts of the staff trained	Staff is selected based on their knowledge.	Training center Laptop Software	10,000.00

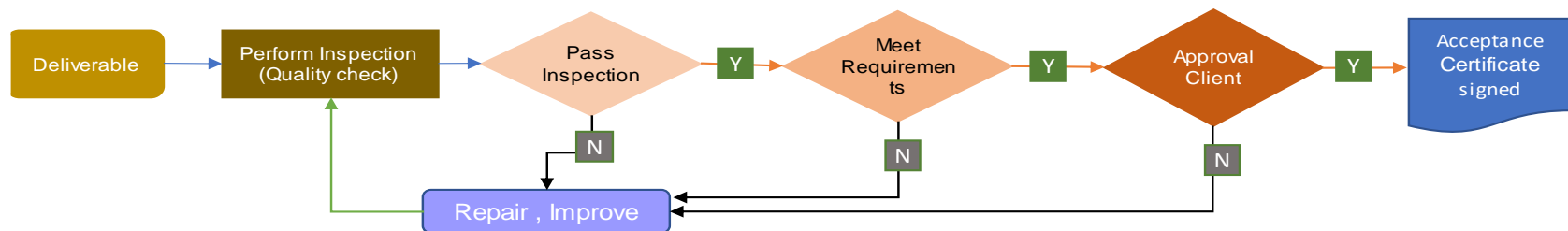
(Source: Amat, 2022)



#### 4.2.7 Scope validation and verification

Once the scope of the PCS Paramaribo project has been defined and the client and beneficiary have provided their approval on the scope, it is the responsibility of the project manager to track and verify during project implementation that the scope meets the requirements mentioned in the scope statement. The progress reports and the deliverables identified should meet the scope requirements, WBS and WBS dictionary. If the deliverable complies with the scope as defined in the project management plan, the certificate of acceptance can be signed, and the deliverable is formally accepted by the client. The scope verification process is illustrated in Figure 22.

**Figure 22 Scope Verification Process**



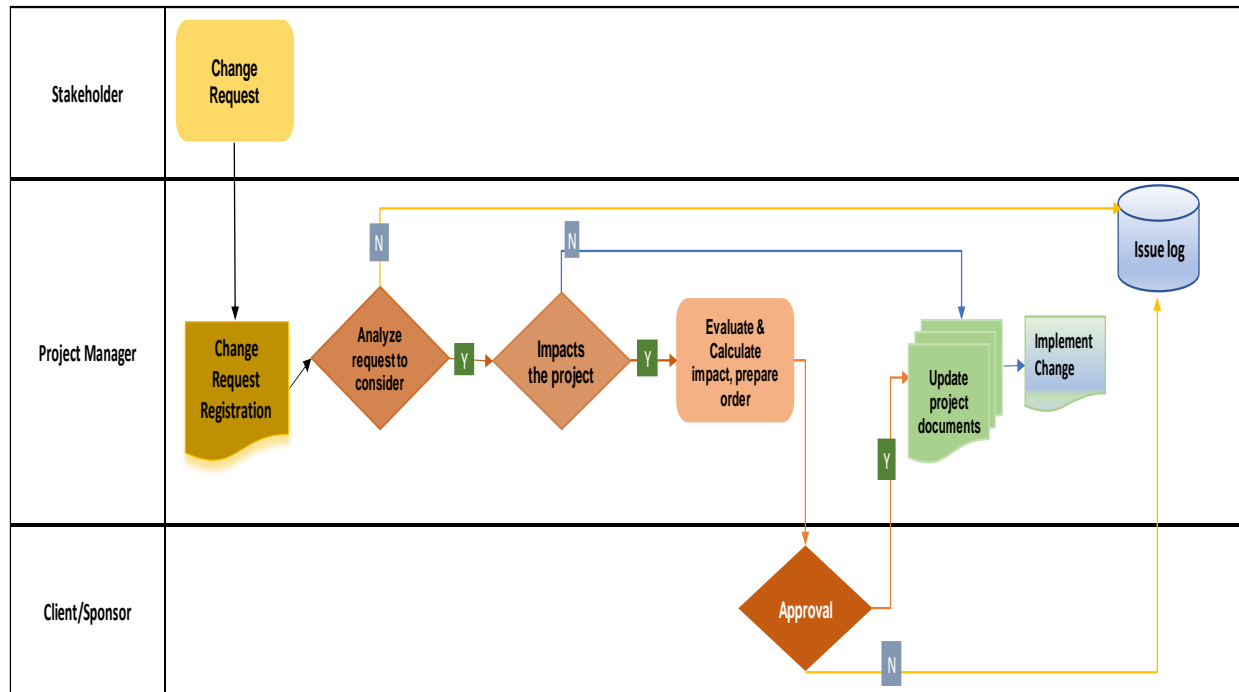
*Note: Amat, 2022*

#### 4.2.8 Scope control

During the execution of the PCS Paramaribo project the project manager and his team will be responsible for controlling the scope of the project and avoiding scope creep. The WBS Dictionary will be used as a tool to measure the WBS work packages. The team should ensure that only the work as defined should be carried out for the deliverables to be delivered according to the scope statement as required for the project.

Figure 23 illustrates how change management will be followed in the PCS Paramaribo project. For the change request the project manager shall use a standard change request form as illustrated in Figure 24.

**Figure 23 Change Management Process**



Note: Amat, 2022

**Figure 24 Change Application Form**

### PCS PARAMARIBO CHANGE REQUEST FORM

REQUESTED BY .....

REQUEST NO. ....

NAME REQUEST .....

DATE .....

---

Change Request Details			
Change Request Reason			
Impact Change <small>(check applicable boxes)</small>	<input type="checkbox"/> Scope <input type="checkbox"/> Cost <input type="checkbox"/> Time <input type="checkbox"/> Quality <input type="checkbox"/> Resources <input type="checkbox"/> Communication <input type="checkbox"/> Others		
Proposed Action			
Associated Cost			
status	In review	Approved	Rejected
Approved by			
Approval date			

*Note: Amat, 2022*

### 4.3 PROJECT SCHEDULE MANAGEMENT PLAN

#### SCHEDULE MANAGEMENT PLAN PCS PARAMARIBO SURINAME

Introduction

Schedule management approach

Roles and responsibilities

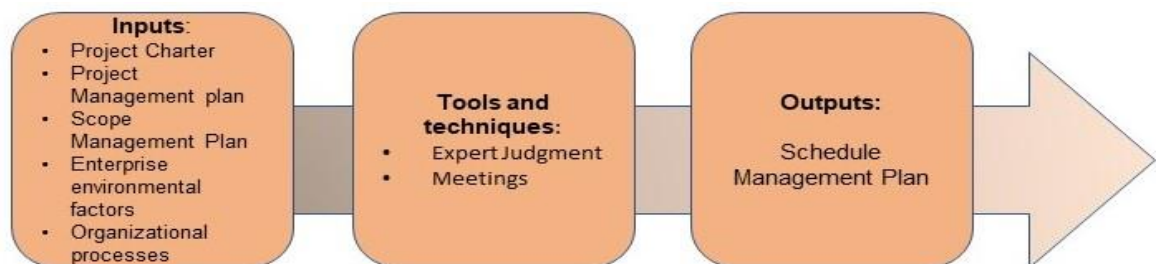
Project schedule

#### 4.3.1 Introduction

The purpose of the schedule management plan is to present the schedule for the PCS Paramaribo project, identify factors that may impede or delay the schedule, describe the procedures to be performed when handling schedule impacts, and describe the reporting requirements and the tools for schedule monitoring, management, performance and control. As per PMBOK Guide (2017) the overall aim of the schedule management plan is to successfully complete the PCS Paramaribo project in a timely manner.

The outputs of the previous processes will now serve as the inputs for the schedule management plan.

**Figure 25 Schedule Management Plan PCS Paramaribo.**



Note: Adapted from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 6-3, p.179. Copyright 2017 by PMI Inc. Permission not sought

### 4.3.2 Schedule management approach

For the project schedule management plan to be drafted the project manager and his/her team should have proper software at their disposal, such as Microsoft Excel, Microsoft Project, Primavera. The project schedule for the PCS Paramaribo project will be created using the Microsoft Project tool based on the milestones identified. The project manager is responsible for the development of the project schedule based on the sequence, the duration of the activities and the resources allocated to the activities. Once the time schedule has been drafted by the project manager and his/her team, the client needs to approve this time schedule. This time schedule will be used as the baseline for the schedule management plan.

### 4.3.3 Roles and responsibilities

**Chart 11 Schedule Management Roles and Responsibilities PCS Paramaribo**

Role	Schedule Management Responsibilities
Client	<ul style="list-style-type: none"> <li>• Provides approval and sponsorship of the project.</li> <li>• Provides approval to baseline schedule.</li> <li>• Participates in schedule reviews, identifying and approving schedule changes, and aids in schedule validation.</li> </ul>
Beneficiary	<ul style="list-style-type: none"> <li>• Participates in schedule validation.</li> </ul>
Project steering committee	<ul style="list-style-type: none"> <li>• Provides support to the project manager</li> </ul>
Project manager	<ul style="list-style-type: none"> <li>• Responsible for the overall management of the project.</li> <li>• Responsible for defining activity definition, activity sequencing, estimation duration and resources for the activities with support of the project team.</li> </ul>

Role	Schedule Management Responsibilities
	<ul style="list-style-type: none"> <li>• Responsible for creating the project schedule using tools such as MS Project or Primavera.</li> <li>• Validates the schedule with the project team, project steering committee and the client. Should obtain the approval of the client and the beneficiary to baseline the schedule.</li> <li>• Responsible for reviewing and updating the schedule during the project life cycle.</li> <li>• Contributes to identification, defining, evaluation, verification and execution of approved changes.</li> </ul>
PEU/ PIU team	<ul style="list-style-type: none"> <li>• Participates / supports the project manager in defining, sequencing, estimating duration and resources to create the schedule.</li> <li>• Participates in review and validation of the schedule.</li> <li>• Performs project activities as per approved schedule.</li> <li>• Supports the project manager in analyzing, estimating, verifying, communicating and execution of changes in the schedule.</li> </ul>

*Note: Amat, 2022*

#### 4.3.4 Project Schedule

Based on the WBS deliverables and work packages the activity list for the PCS Paramaribo project can be generated. This activity list will be used to draft the initial project schedule, which must be updated by the Project Manager and his team as needed during the project life cycle. Chart 12 illustrates the activity list for the PCS Paramaribo project. The project schedule is shown in Figure 26.

Chart 12 Activity List PCS Paramaribo

WBS	Work package	Activity	Description
0	PCS Paramaribo Project		
1	Project management		
1.1.	Project management plan	Project charter	High level description of the project scope, schedule, costs
		Scope management plan	Create scope management plan including scope statement, requirements, project scope and scope inclusions (limitations)
		Schedule management	Create the schedule management plan including the time schedule and activities to complete the project
		Communications management	Create the communications management plan including the communications matrix, which will serve both as guide and tool to communicate with all project stakeholders
		Stakeholder management	Create a stakeholder management plan, including the strategies to maintain and promote stakeholder engagement for project success
		Risk management plan	Create a risk management plan including the identification of potential project risks, the

WBS	Work package	Activity	Description
			mitigation process during the project
		Cost management plan	Create a cost management plan including the analysis of project expenditure and the profitability of executing the project
		Quality management plan	Create a quality management plan including quality measurement criteria to meet project objectives and ensure project success.
		Resource management	Create a resource management plan outlining the required resources to complete the project successfully
		Procurement management plan	Create a procurement management plan outlining the policies and procedures of acquiring resources to complete the project successfully
1.2.	Project administration	Procurement	Ensuring that policies and procedures are followed and correctly applied in acquiring resources for the project, including metrics of achieving contract requirements
		Finance	Ensuring that vendors are paid according to the contract and

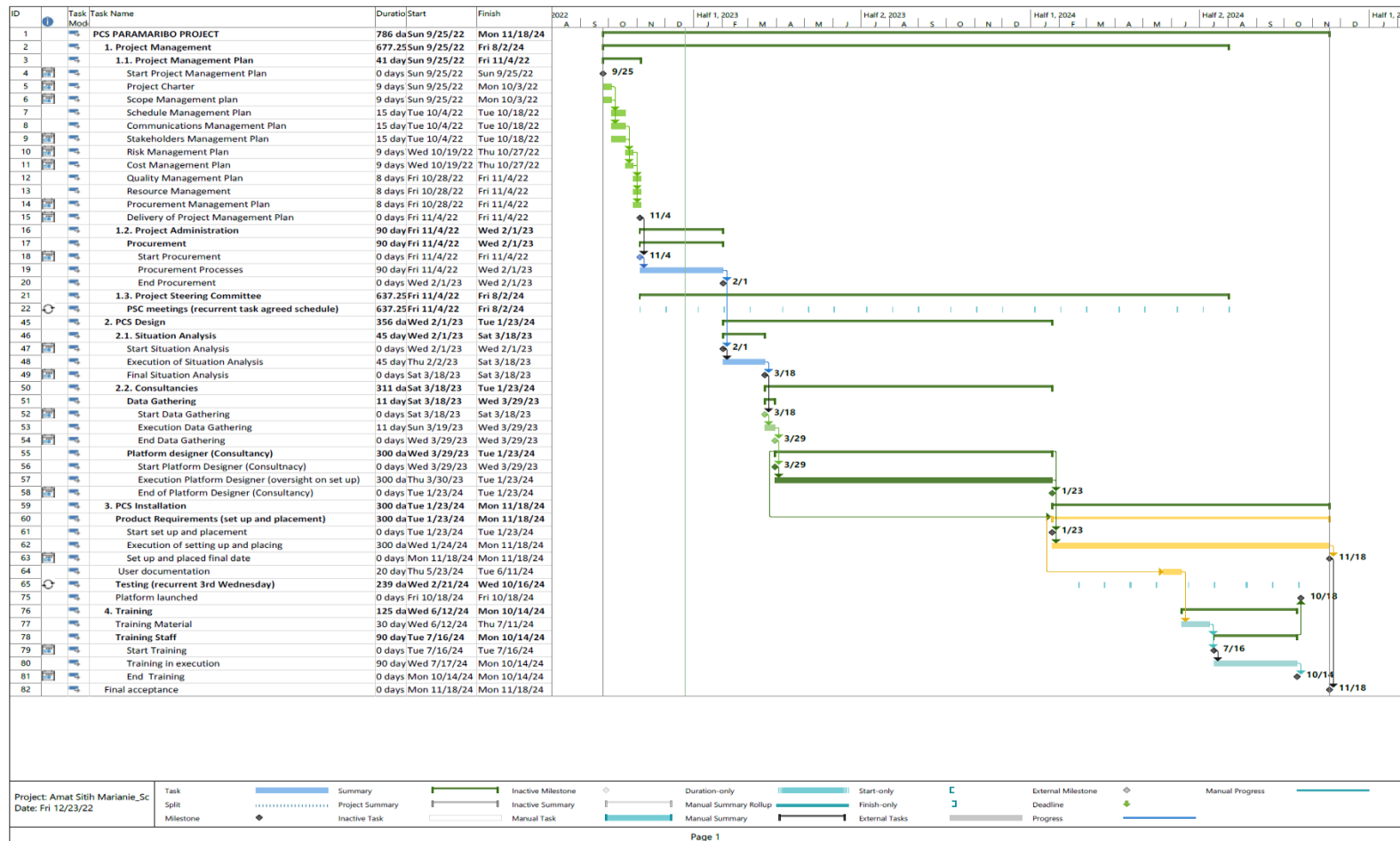


WBS	Work package	Activity	Description
			that project finances are correctly applied.
		Monitoring and evaluation	Ensuring that the project deliverables are submitted on time and according to the contract and ensuring that project success is achieved
1.3	Project steering committee	PSC meetings	Monthly project steering committee meetings held, aiding the project manager in achieving project success.
2.	PCS designs		
2.1.	Situation Analysis	Needs and situation analysis	Analysing the current situation, the desired situation and the means and needs to achieve the desired situation
2.2	Design Consultancies	Data gathering	Data regarding existing legislation as well as systems already in place is analyzed. Identification of necessary legislation and or procedures required for successful implementation of the project.
		Platform designer	Outlines the requirements of the PCS platform, the configuration of the system to meet the needs of the stakeholders and ensure project success.
3	PCS installation		

WBS	Work package	Activity	Description
		Product requirements (set up and placement)	The PCS platform is initialized and installed for the PCS staff. Complying with the technical requirements as identified by the client
		User documentation	User documentation to be drafted based upon the installation type, version, and applicability
		Testing	Testing of the PCS platform will be carried out on a regular basis during the set up to identify possible bugs in the system and solve the bugs.
		PCS platform launched	PCS platform is enabled after undergoing several test moments.
4	Training		
		Training material	Training material is drafted based on the installation type, version, and applicability of the PCS at the Port.
		Training staff	Personnel to operate the PCS system receives training

*Note: Amat, 2022*

Figure 26 Time Schedule PCS Paramaribo



Note: Amat, 2022

### **4.3.5 Critical path**

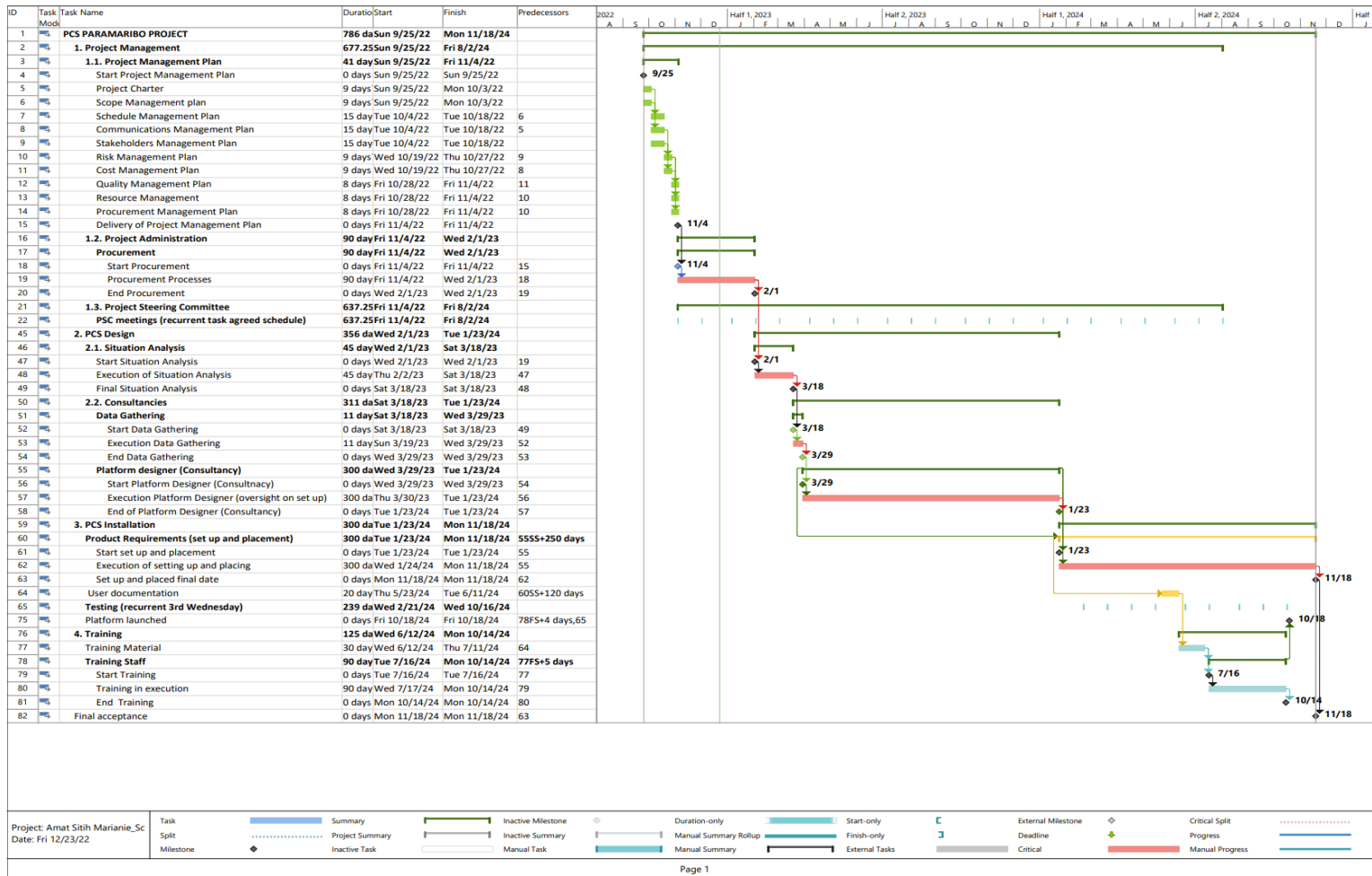
The critical path according to PMBOK Guide (2017) reflects the sequence of activities on the longest path through a project, which determines the shortest possible project duration. The critical path shows the chronological order and dependencies of project activities, where there is the least float or slack between sequential activities. For instance, between activities 21 and 22 of Figure 27 the slack is zero. The critical path as illustrated in Figure 27 was generated from MS Project based on the time schedule as portrait in Figure 26. The critical path needs to be carefully monitored by the project manager and his team to avoid and detect possible delays.

#### **4.3.5.1 Schedule control**

The project manager should manage and control the schedule based on the information received in a reporting period, using the critical path as the guide to complete the project on time. It is of importance that the project manager is able to use the critical path method in identifying the shortest possible project schedule/duration. As stated earlier, the critical path is characterized by having zero float. The schedule flexibility is determined by the amount of time that an activity can be delayed from its original scheduled start date without delaying the end date of the project. This enables the project manager to identify critical and non-critical activities with the aim of preventing execution-time problems.

As such the project manager should monitor the variance of the actual situation from the baseline schedule. When slippage of the schedule has been observed the project manager should use techniques such as crashing or fast-tracking to get the project back on track.

Figure 27 Critical Path PCS Paramaribo



Note: Amat, 2022

## 4.4 PROJECT COST MANAGEMENT PLAN

### COST MANAGEMENT PLAN PCS PARAMARIBO SURINAME

Introduction

Cost management approach

Roles and responsibilities

Cost estimation

Project budget determination

Cost control

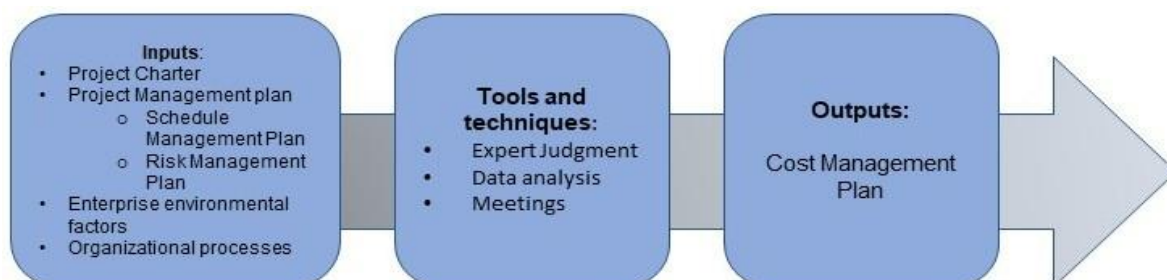
Cost change process

#### 4.4.1 Introduction

Every project is defined by the triple constraints of time, schedule and costs to be successful in achieving project goals. The cost management plan is the responsibility of the project manager and should manage and report on the project costs during the project duration. The cost management plan should also comprise of the guidelines and procedures needed to help the project manager and his team to keep the PCS Paramaribo project stay within budget. Cost management is the process of planning and managing the budget of a project and helps the project manager estimate what the project will cost and set controls to reduce the chances of the project going over budget (Bridges, J., 2022).

Cost performance is measured by earned value, and the project manager should present cost deviations with options/solutions to getting the project back on track in case there are deviations.

**Figure 28 Cost Management Plan PCS Paramaribo**



Note: Adapted from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 7-2, p.235. Copyright 2017 by PMI Inc. Permission not sought

#### **4.4.2 Cost management approach**

The project deliverables have been clearly defined earlier in the scope management plan, and thus cost estimation and budget estimation were closely linked and carried out as one process. Funding for the project has been secured through the Inter-American Development Bank. Should additional funding be required to cover project costs, the client as co-sponsor shall seek to secure these funds. Cost estimates are expressed in United States dollars (USD) and currency exchange fluctuations are not expected to have an impact, as payments are carried out in USD. International inflation may affect the whole of the project. All costs will be managed at the fourth level of the WBS. Actual costs and cost variances will be reported to the client and sponsor at the monthly progress meeting of the preceding period and of the upcoming planned period.

#### **4.4.3 Roles and responsibilities**

The project manager, the team, the beneficiary, and the client will play a key role in managing the costs of the project. In defining the role, this concerns the ownership of reviewing and approving all project expenses, project cost estimation, review of budget tracking details and daily cost management. The role and responsibilities are defined in Chart 13.

**Chart 13 Cost Management Roles and Responsibilities PCS Paramaribo**

<b>Role</b>	<b>Cost Management Responsibility</b>
Client/Sponsor	<ul style="list-style-type: none"> <li>• Seeks and secures funding for the project.</li> <li>• Approves the project cost baseline.</li> <li>• Approves changes to the project impacting on the budget after thorough analysis of the requested change.</li> </ul>
Beneficiary	<ul style="list-style-type: none"> <li>• Provides recommendations to the project manager relating to costs of procured goods or services.</li> <li>• Approves the deliverable and payments related to the deliverable/reports.</li> <li>• Aids the project manager in analyzing change requests received that may impact the budget.</li> </ul>
Project manager	<ul style="list-style-type: none"> <li>• Project should stay within budget.</li> <li>• Enables the creation of a financial management plan.</li> <li>• Compiles financial reports to be shared with the project sponsors.</li> <li>• Reviews received change requests.</li> <li>• Analyses change requests before collaborating with the client and sponsor</li> <li>• Ensures that the project stays within budget and on target for successful project completion.</li> </ul>



Role	Cost Management Responsibility
PIU/PEU	<ul style="list-style-type: none"> <li>• Supports the project manager in achieving financial targets.</li> <li>• Provides support in financial reporting.</li> <li>• Supports the project manager in analyzing change requests.</li> <li>• Financial support in day-to- day management of the project (accounting)</li> <li>• Participates in all administrative duties regarding project cost tracking, monitoring and control.</li> <li>• Liaises with the external auditor.</li> </ul>

*Note: Amat, 2022*

#### **4.4.4 Cost estimation**

In estimating the costs, the inputs from the earlier developed project charter, scope baseline, project schedule, lessons learned, exchange rates, cost estimating policies and historical information and market study on required services for the PCS Paramaribo project, have been used to produce an initial project estimate , which is reflected in chart 14. Tools and techniques, such as expert judgment, analogous and bottom-up estimating, alternatives analysis and decision-making, were used in determining the cost estimates for the PCS Paramaribo project. The costs for project administration includes labor and services for the project team, whilst consultancies such as data gathering, and platform design, are based on labor, services, equipment, and information technology used for the assignments. For Task 3 parametric estimating was used to determine the cost estimate, taking into consideration that the fixed cost estimate and the delivery time (installation and set-up) were specified by the client. Each task will serve as a control account in the PCS Paramaribo project.

**Chart 14 Cost estimation PCS Paramaribo Project**

<b>WBS</b>	<b>Task name</b>	<b>Duration</b>	<b>Cost</b>
0	PCS Paramaribo project		
1	Project management		\$ 60,000.00
1.1	Project management plan		\$ 0.00
1.2	Project administration	23 months	\$ 60,000.00
1.3	Project steering committee	22 months	\$ 0.00
2	PCS design		\$ 228,000.00
2.1	Consultancies		\$ 0.00
	Data gathering	2 months	\$ 20,000.00
	Platform design	21 months	\$ 208,000.00
3	PCS installation		\$ 2,000,000.00
	Product requirements (set-up+ installation)	11 months	\$ 2,000,000.00
	User documentation	1 months	\$ 0.00
	Testing	7 months	\$ 0.00
	Platform launch	1 day	\$ 0.00
4	Training		\$ 12,000.00
	Training material	2 months	\$ 2,000.00
	Training staff	3 months	\$ 10,000.00
	<b>TOTAL ESTIMATED COSTS</b>		<b>\$ 2,300,000.00</b>

Source: Amat, 2022

#### 4.4.5 Project budget determination

The process of combining the estimated costs of individual activities or work packages to create an authorized cost baseline is how the budget of a project is determined (PMI, 2017). Based on historical information and applied standards by the client, a contingency reserve ranging from 5-7% may be applied. Based on current challenges, funding sources and availability of experts, a contingency reserve of 5% on the total project is for contingency reserve. Chart 15 illustrates the total contingency reserve as well as the individual contingency reserve allocated per task.

**Chart 15 Contingencies**

WBS	Task Name	Cost estimate	Contingency Reserve	
			Percentage	Value
1	Project management	\$ 60,000.00	5%	\$ 3,000.00
2	PCS design	\$ 228,000.00	5%	\$ 11,400.00
3	PCS installation	\$ 2,000,000.00	5%	\$ 100,000.00
4	Training	\$ 12,000.00	5%	\$ 600.00
		<b>\$ 2,300,000.00</b>		<b>\$ 115,000.00</b>

Source: Amat, 2022

The aggregated estimated costs of the control accounts in Chart 15 establishes the authorized cost baseline of USD 2,415,000.00, against which the project performance will be monitored and controlled.

Based on available funding a management reserve of 3% is reserved. Chart 16 illustrates the project budget.

**Chart 16 Budget Estimation PCS Paramaribo project**

	Value
Initial estimate	\$ 2,300,000.00
Contingency reserve (5%)	\$ 115,000.00
Baseline	\$ 2,415,000.00
Management reserve (3%)	\$ 72,450.00
Budget	\$ 2,487,450.00

Source: Amat, 2022

Another output of the budget determination besides cost baseline will be project funding requirements. The client will issue disbursements requests as illustrated in Chart 17 based on the loan agreement with IADB. The disbursements are based on the progress of works expected to be finished within each semester of project duration.

**Chart 17 PCS Paramaribo Project Disbursement Matrix**

			Disbursements			
ID	Task name	Budget	Disbursement 1	Disbursement 2	Disbursement 3	Disbursement 4
1	Project management	\$ 60,000.00	\$ 15,652.17	\$ 15,652.17	\$ 15,652.17	\$ 13,043.48
2	PCS design	\$ 208,000.00	\$ 59,619.05	\$ 59,428.57	\$ 59,428.57	\$ 49,523.81
3	PCS installation	\$ 2,000,000.00	\$ -	\$ 363,636.36	\$ 1,090,909.09	\$ 545,454.55
4	Training	\$ 12,000.00	\$ -	\$ -	\$ 1,000.00	\$ 11,000.00
Total			\$ 75,271.22	\$ 438,717.11	\$ 1,166,989.84	\$ 619,021.83

\*Eligible upon approved authorization of charter, financial request of first semester by the client

\*Eligible upon proof of 80% expenditure of the previous semester and signed contracts

\*Eligible upon proof of 80% expenditure of the previous semester

\*Eligible upon proof of 80% expenditure of the previous semester and signed contracts

Source: Amat, 2022

#### 4.4.6 Cost control

Sharp management of the approved cost baseline by the project manager is important to effectively manage cost control during execution of the PCS Paramaribo project.

The project manager will therefore ensure that:

- All change requests are managed on time.
- Cost expenditures should not exceed the approved/available funding.
- Continuous cost performance monitoring is executed to distinguish and understand cost variances from the approved cost baseline.
- Continuous monitoring of the work performance against expenditures is carried out.

- All approved changes and related costs are communicated in a timely manner.
- Cost overruns are duly managed within acceptable limits.

Therefore, cost control is one of the most important processes in project management in ensuring proper completion of the PCS Paramaribo project. With Control Cost the project manager ensures that project costs remain on track and that change is immediately identified whenever it may occur.

Inputs for Control Costs are the Cost Management Plan, project charter, schedule management plan, policies, procedures, guidelines related to costs, and monitoring and reporting methods used for the PCS Paramaribo project. There are several tools and techniques to control costs such as variance analysis, forecasting and earned value analysis.

#### **4.4.6.1 Earned value analysis**

The earned value analysis (EVA) is applied as a monitoring tool by the project manager and his/her team during the implementation of the PCS Paramaribo project, to measure and control the project costs and ensure that the project stays within budget.

Earned Value Analysis					
Abbreviation	Name	Lexicon Definition	How Used	Equation	Interpretation of Result
PV	Planned Value	The authorized budget assigned to scheduled work.	The value of the work planned to be completed to a point in time, usually the data date, or project completion.		
EV	Earned Value	The measure of work performed expressed in terms of the budget authorized for that work.	The planned value of all the work completed (earned) to a point in time, usually the data date, without reference to actual costs.	$EV = \text{sum of the planned value of completed work}$	
AC	Actual Cost	The realized cost incurred for the work performed on an activity during a specific time period.	The actual cost of all the work completed to a point in time, usually the data date.		
BAC	Budget at Completion	The sum of all budgets established for the work to be performed.	The value of total planned work, the project cost baseline.		
CV	Cost Variance	The amount of budget deficit or surplus at a given point in time, expressed as the difference between the earned value and the actual cost.	The difference between the value of work completed to a point in time, usually the data date, and the actual costs to the same point in time.	$CV = EV - AC$	Positive = Under planned cost Neutral = On planned cost Negative = Over planned cost
SV	Schedule Variance	The amount by which the project is ahead or behind the planned delivery date, at a given point in time, expressed as the difference between the earned value and the planned value.	The difference between the work completed to a point in time, usually the data date, and the work planned to be completed to the same point in time.	$SV = EV - PV$	Positive = Ahead of Schedule Neutral = On schedule Negative = Behind Schedule
VAC	Variance at Completion	A projection of the amount of budget deficit or surplus, expressed as the difference between the budget at completion and the estimate at completion.	The estimated difference in cost at the completion of the project.	$VAC = BAC - EAC$	Positive = Under planned cost Neutral = On planned cost Negative = Over planned cost
CPI	Cost Performance Index	A measure of the cost efficiency of budgeted resources expressed as the ratio of earned value to actual cost.	A CPI of 1.0 means the project is exactly on budget, that the work actually done so far is exactly the same as the cost so far. Other values show the percentage of how much costs are over or under the budgeted amount for work accomplished.	$CPI = EV/AC$	Greater than 1.0 = Under planned cost Exactly 1.0 = On planned cost Less than 1.0 = Over planned cost
SPI	Schedule Performance Index	A measure of schedule efficiency expressed as the ratio of earned value to planned value.	An SPI of 1.0 means that the project is exactly on schedule, that the work actually done so far is exactly the same as the work planned to be done so far. Other values show the percentage of how much costs are over or under the budgeted amount for work planned.	$SPI = EV/PV$	Greater than 1.0 = Ahead of schedule Exactly 1.0 = On schedule Less than 1.0 = Behind schedule
EAC	Estimate At Completion	The expected total cost of completing all work expressed as the sum of the actual cost to date and the estimate to complete.	If the CPI is expected to be the same for the remainder of the project, EAC can be calculated using: If future work will be accomplished at the planned rate, use: If the initial plan is no longer valid, use: If both the CPI and SPI influence the remaining work, use:	$EAC = BAC/CPI$ $EAC = AC + BAC - EV$ $EAC = AC + \text{Bottom-up ETC}$ $EAC = AC + [(BAC - EV)/(CPI \times SPI)]$	
ETC	Estimate to Complete	The expected cost to finish all the remaining project work.	Assuming work is proceeding on plan, the cost of completing the remaining authorized work can be calculated using: Reestimate the remaining work from the bottom up.	$ETC = EAC - AC$ $ETC = \text{Reestimate}$	
TCPI	To Complete Performance Index	A measure of the cost performance that must be achieved with the remaining resources in order to meet a specified management goal, expressed as the ratio of the cost to finish the outstanding work to the budget available.	The efficiency that must be maintained in order to complete on plan.  The efficiency that must be maintained in order to complete the current EAC.	$TCPI = (BAC - EV)/(BAC - AC)$  $TCPI = (BAC - EV)/(EAC - AC)$	Greater than 1.0 = Harder to complete Exactly 1.0 = Same to complete Less than 1.0 = Easier to complete  Greater than 1.0 = Harder to complete Exactly 1.0 = Same to complete Less than 1.0 = Easier to complete

**Figure 29 Earned Value Analysis**

Note. Reprinted from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 7-1, p.267 Copyright 2017 by PMI Inc. Permission not sought

Chart 18 Planned Value PCS Paramaribo

ID	Task Name	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
<b>1</b>	<b>Project management</b>								
	Project management plan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Project administration	7,826.09	7,826.09	7,826.09	7,826.09	7,826.09	7,826.09	7,826.09	5,217.39
	Project steering committee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>2</b>	<b>PCS design</b>								
	Data gathering	20,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Platform design	9,904.76	29,714.29	29,714.29	29,714.29	29,714.29	29,714.29	29,714.29	19,809.52
<b>3</b>	<b>PCS installation</b>								
	Product requirements (install+set-up)	0.00	0.00	0.00	363,636.36	545,454.55	545,454.55	545,454.55	0.00
	User documentation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>4</b>	<b>Training</b>								
	Training material	0.00	0.00	0.00	0.00	0.00	1,000.00	1,000.00	0.00
	Training staff	0.00	0.00	0.00	0.00	0.00	0.00	6,666.67	3,333.33
	<b>Total planned costs</b>	<b>37,730.85</b>	<b>37,540.37</b>	<b>37,540.37</b>	<b>401,176.74</b>	<b>582,994.92</b>	<b>583,994.92</b>	<b>590,661.58</b>	<b>28,360.25</b>
	<b>Cumulative planned costs</b>	<b>37,730.85</b>	<b>75,271.22</b>	<b>112,811.59</b>	<b>513,988.33</b>	<b>1,096,983.25</b>	<b>1,680,978.17</b>	<b>2,271,639.75</b>	<b>2,300,000.00</b>

Source: Amat, 2022

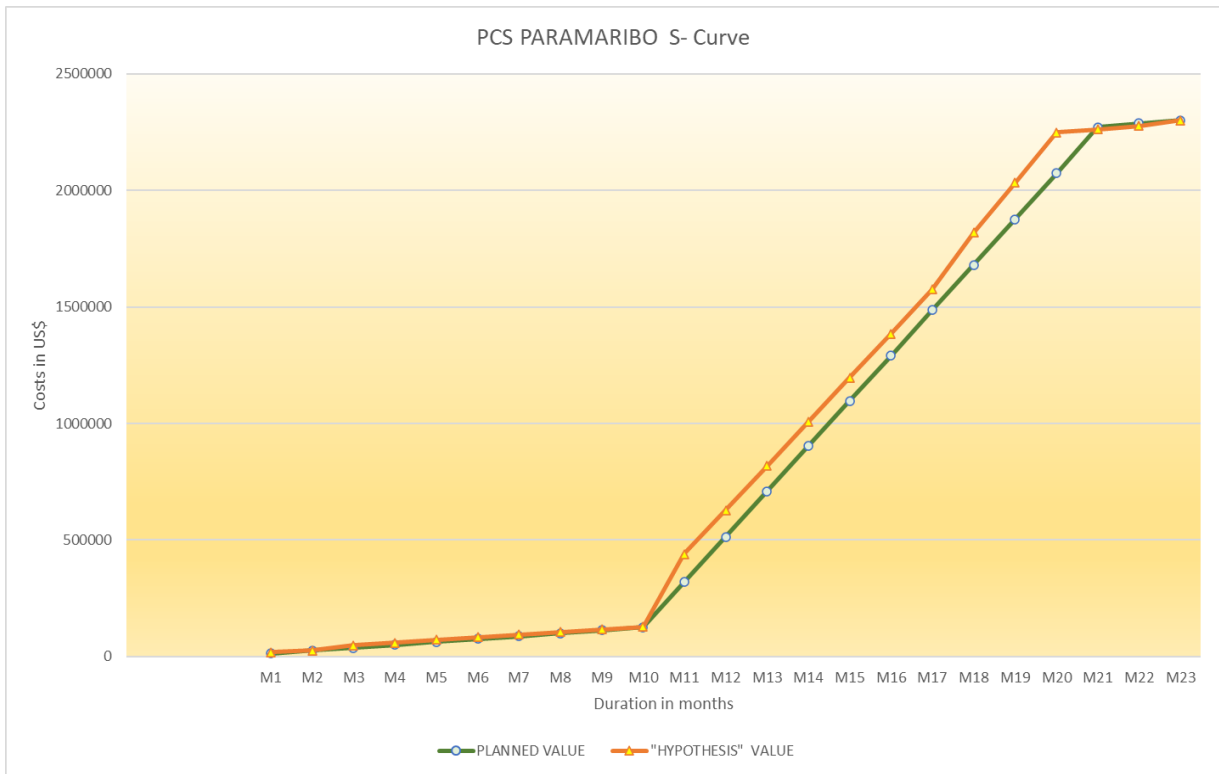
Chart 19 “Hypothesis” Value PCS Paramaribo

ID	Task Name	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
1	<b>Project management</b>								
	Project management plan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Project administration	7,826.09	7,826.09	7,826.09	7,826.09	7,826.09	7,826.09	7,826.09	5,217.39
	Project steering committee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	<b>PCS design</b>								
	Data gathering	20,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Platform Design	20,800.00	26,273.67	26,273.67	26,273.67	26,273.67	26,273.67	26,273.67	29,557.98
3	<b>PCS installation</b>								
	Product requirements (install+set-up)	0.00	0.00	0.00	477,777.78	533,333.33	588,888.89	400,000.00	0.00
	User documentation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	<b>Training</b>								
	Training material	0.00	0.00	0.00	0.00	0.00	400.00	1,600.00	0.00
	Training staff	0.00	0.00	0.00	0.00	0.00	0.00	7,500.00	2,500.00
<b>Total “Hypothesis” Costs</b>		<b>48,626.09</b>	<b>34,099.76</b>	<b>34,099.76</b>	<b>511,877.53</b>	<b>567,433.09</b>	<b>623,388.65</b>	<b>443,199.76</b>	<b>37,275.37</b>
<b>Cumulative "Hypothesis" Costs</b>		<b>48,626.09</b>	<b>82,725.84</b>	<b>116,825.60</b>	<b>628,703.14</b>	<b>1,196,136.23</b>	<b>1,819,524.88</b>	<b>2,262,724.63</b>	<b>2,300,000.00</b>

Source: Amat, 2022



**Figure 30 S-Curve PCS Paramaribo Project**



Source: Amat, 2022

To further elaborate on the Earned Value Analysis, two scenarios have been chosen. The first scenario is at the end of Month 7 and second scenario 2 will be at the end of quarter 7 i.e., Month 21. For the sake of clarity and the formula's applied, the 'hypothesis costs' are considered to be actual costs.

### Scenario 1

Earned Value Analysis (EVA) Performed at End of Month 7

Cost Baseline or Budget The project has a duration of 23 months with a planned estimate of 2.3M US\$

EVA end of M7
ACTUAL COST
\$116,825.60

Project Task	M1	M2	M3	M4	M5	M6	M7	M8	M9	Q4	Q5	Q6	Q7	Q8	Planned Value (PV)	% completed	Earned Value (EV)	
1	2,608.70	2,608.70	2,608.70	2,608.70	2,608.70	2,608.70	2,608.70	2,608.70	2,608.71	7,826.09	7,826.09	7,826.09	7,826.09	5,217.37	60,000.00	30.43%	18,260.87	
2	10,000.00	10,000.00	9,904.76	9,904.76	9,904.76	9,904.76	9,904.76	9,904.76	9,904.78	29,714.29	29,714.29	29,714.29	29,714.29	19,809.52	228,000.00	30.49%	69,523.80	
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	363,636.36	545,454.55	545,454.55	545,454.55	0.00	2,000,000.00	0.00%	0.00	
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,000.00	7,666.67	3,333.33	12,000.00	0.00%	0.00	
Planned Value	12,608.70	12,608.70	12,513.46	12,513.46	12,513.46	12,513.46	12,513.46	12,513.46	12,513.49	401,176.74	582,994.93	583,994.93	590,661.60	28,360.22	2,300,000.00		87,784.67	
Earned Value (EV)=	87,784.67																	
Actual Cost (AC)=	94,092.43																	
Planned Value (PV)=	87,784.68																	
CV=	-6,307.76	←	Cost Variance , CV=EV-AC															
SV=	-0.01	←	Schedule Variance , CV=EV-PV															
CPI=	0.93296209	←	Cost Performance Index, CPI= EV/AC															
SPI=	0.99999988	←	Schedule Performance Index, CV=EV/PV															
EAC=	2,465,266.31	←	Estimated Cost at Completion, EAC=BAC/CPI															
E[TC]=	23,000,027	←	Estimated Cost at Completion, E[TC]=Duration/SPI															

Source: Amat, 2022

From Scenario1 the following may be concluded:

- CV is negative (-6,307.76), the project is spending more than planned.
- SV is negative (-0.01), the project is running behind schedule.
- CPI is less than 1 (0.93), the project is spending more than planned.
- SPI is less than 1(0.99), meaning that the project is running behind schedule.
- If the project continues as is, the project will cost US\$ 2,465,266.31, meaning that there will be a cost overrun at the end of the project of US\$ 165,266.31.

## Scenario 2:

Earned Value Analysis (EVA) Performed at End of Q7

Cost Baseline or Budget      The project has a duration of 23 months with a planned estimate of 2.3M US\$

EVA end of Q7
ACTUAL COST
\$2,262,724.63

Project Task	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Planned Value (PV)	% completed	Earned Value (EV)
1	7,826.09	7,826.09	7,826.09	7,826.09	7,826.09	7,826.09	7,826.09	5,217.37	60,000.00	91.30%	54,782.63
2	29,904.76	29,714.29	29,714.29	29,714.29	29,714.29	29,714.29	29,714.29	19,809.50	228,000.00	91.31%	208,190.50
3	0.00	0.00	0.00	363,636.36	545,454.55	545,454.55	545,454.54	0.00	2,000,000.00	100.00%	2,000,000.00
4	0.00	0.00	0.00	0.00		1,000.00	7,666.67	3,333.33	12,000.00	72.22%	8,666.67
Planned Value	37,730.85	37,540.38	37,540.38	401,176.74	582,994.93	583,994.93	590,661.59	28,360.20	2,300,000.00		2,271,639.80
Earned Value (EV)=	2,271,639.80										
Actual Cost (AC)=	2,262,724.63										
Planned Value (PV)=	2,271,639.80										
CV=	8,915.17	←	Cost Variance , CV=EV-AC								
SV=	0.00	←	Schedule Variance , CV=EV-PV								
CPI=	1.00	←	Cost Performance Index, CPI= EV/AC								
SPI=	1	←	Schedule Performance Index, CV=EV/PV								
EAC=	2,290,973.53	←	Estimated Cost at Completion,EAC=BAC/CPI								
E[T]=	23	←	Estimated Time at Completion, E[T]=duration/SPI								

Source: Amat, 2022

From Scenario 2 the following may be concluded:

- CV is positive (8,915.17), the project is spending more than planned.
- SV is zero, meaning the project is on track.
- CPI is 1, the project is spending as planned.
- SPI is 1, meaning that the project is on schedule.
- If the project continues as is, the estimated costs at completion will be US\$ 2,290,973.53, meaning that the project will cost US\$ 9,026.47 less than originally planned.

### 4.4.7 Cost change process

Any modification to the approved baselined budget is only possible through the change management process (integrated change control process). The change application form as illustrated in Figure 24 should be used to request change. The change management process as depicted in Figure 23 will apply to all change requests received.

## 4.5 PROJECT QUALITY MANAGEMENT PLAN

### QUALITY MANAGEMENT PLAN PCS PARAMARIBO SURINAME

Introduction

Quality management approach

Project quality

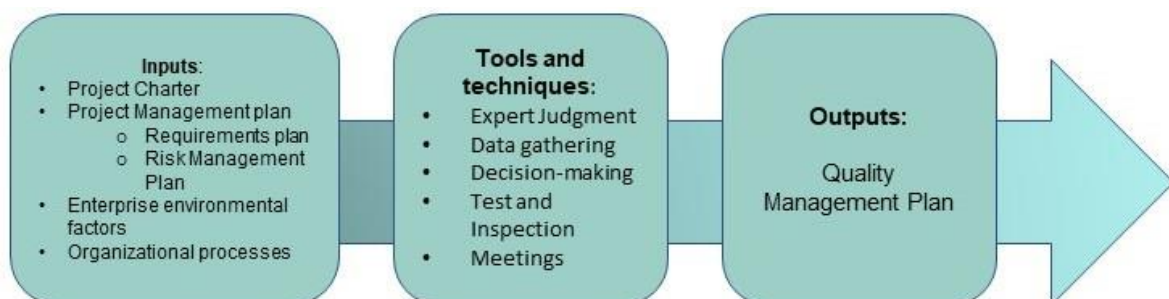
Roles and responsibilities

Quality control and change for improvement

#### 4.5.1 Introduction

The aim of the quality management plan is to ensure that quality is planned, define how quality will be managed, define the quality assurance activities, define the quality control activities, and define the acceptable quality standards that will be applied for the PCS Paramaribo project. This plan will serve both as a guide and tool for the project manager and his/her team in ensuring that quality of both the processes and the project deliverables are achieved. Figure 31 illustrates the several inputs, tools and techniques and outputs of the quality management process plan.

**Figure 31 Quality Management Plan PCS Paramaribo**



Note: Adapted from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 8-2, p.273. Copyright 2017 by PMI Inc. Permission not sought

### 4.5.2 Quality management approach

To ensure that the project is successful, quality is ensured throughout the PCS Paramaribo project lifecycle and is focused on both the project processes and the project deliverables. To achieve project success, the project manager should apply an integrated quality approach to define the quality standards, the quality measures and the improvement of quality.

### 4.5.3 Roles and responsibilities

To ensure quality throughout the project life cycle, responsibilities are assigned to the key stakeholders involved in the project. Chart 20 provides an overview of the responsibilities assigned to the stakeholders.

**Chart 20 Quality Management Roles and Responsibilities PCS Paramaribo**

Role	Quality Management Responsibilities
Client/Sponsor	<ul style="list-style-type: none"> <li>• Provides approval to the project quality management plan.</li> <li>• Defines the quality standards of the project deliverables.</li> <li>• Participates in quality inspections.</li> <li>• Assists in drafting quality decision in escalated quality issues.</li> <li>• Approves the final deliverables</li> </ul>
Beneficiary	<ul style="list-style-type: none"> <li>• Approves the final deliverables.</li> <li>• Participates in quality inspections.</li> <li>• Monitors and reviews quality performance of the project.</li> </ul>
Project manager	<ul style="list-style-type: none"> <li>• Responsible for overall project performance.</li> <li>• Ensures that the PEU/PIU complies with quality management processes.</li> </ul>

Role	Quality Management Responsibilities
	<ul style="list-style-type: none"> <li>• Ensures overall quality in all aspects of the project (processes and deliverables).</li> <li>• Ensures that resources are available to perform quality management.</li> <li>• Reviews the quality inspection reports.</li> <li>• Ensures that quality audits are scheduled and executed.</li> <li>• Reviews and analyzes change requests related to quality.</li> <li>• Updates the project documents as required.</li> </ul>
PEU/ PIU team	<ul style="list-style-type: none"> <li>• Participates in the quality inspections.</li> <li>• Supports the project manager in ensuring that quality expectations are met.</li> <li>• Assists the project manager in reviewing change requests and their impacts on the project resources and outcome.</li> </ul>
Suppliers	Provide high quality goods
Consultants	<ul style="list-style-type: none"> <li>• Provide services of quality as described in their terms of references and or specifications.</li> <li>• Conducts quality inspections.</li> </ul>

*Note: Amat, 2022*

#### **4.5.4 Project quality**

##### **4.5.4.1 Process quality**

The project manager together with his/her team shall determine the quality standards to be applied during the different project processes. These processes are based on best practices for project quality management. The established process quality standards shall be approved by the client/sponsor and incorporated in the relevant project documents. These standards shall be communicated to the project stakeholders.

##### **4.5.4.2 Product quality**

The product quality standards will be determined by the project manager with his/her team in collaboration with the beneficiary and the project steering committee. These quality standards will be based on the beneficiary's documented standards and the international standards for port community systems. The project manager and his team will document the identified quality standards into the project plan and documents and will be communicated to the key stakeholders.

##### **4.5.4.3 Quality assurance**

Quality assurance is focused at both the processes and deliverables for the PCS Paramaribo project. The project manager and his/her team will be required to execute quality checks throughout the project life cycle to ensure quality. These quality check processes require measuring of process metrics, analyzing the data and continuously improving the project processes.

These assessments will be performed according to an approved schedule to ensure that processes are implemented correctly. Chart 21 provides an overview of the quality assurance plan.

Quality improvement is a result of quality assurance reviews, findings, assessing and addressing the issues that were raised. The Plan-Do-Check-Act cycle enables the

project manager and his/her team to continuously work on quality improvement, as illustrated in Figure 32. However, any change in quality should follow the integrated change control process.



Chart 21 Quality Assurance Plan

No.	WBS code	Description /Requirement	Specification	Assurance Activity	Schedule	Responsible	Status/comments
1	1	Project management plan	Completed plans for: <ul style="list-style-type: none"> <li>• Project charter</li> <li>• Project scope management plan</li> <li>• Project schedule management plan</li> <li>• Project cost management plan</li> <li>• Project quality management plan</li> <li>• Project resource management plan</li> <li>• Project communication management plan</li> <li>• Project risk management plan</li> </ul>	Approximate of 4.5 % is achieved monthly	Bi-weekly	Project manager	

No.	WBS code	Description /Requirement	Specification	Assurance Activity	Schedule	Responsible	Status/comments
			<ul style="list-style-type: none"> <li>• Project procurement management plan</li> <li>• Project stakeholder management plan</li> </ul>				
2	2	Terms of reference should be clearly written in English	Used wordings are not ambiguous	Number of ambiguous words or phrases checked	Twice by the project steering committee and beneficiary. project manager checks the document each time the document has received feedback from the project steering committee	Project manager, Task manager	

No.	WBS code	Description /Requirement	Specification	Assurance Activity	Schedule	Responsible	Status/comments
					and beneficiary		
3	2	Terms of reference should contain the necessary sections	<p>The document should contain the following sections:</p> <ul style="list-style-type: none"> <li>• Background</li> <li>• Objectives</li> <li>• Scope of the services</li> <li>• Expected outputs</li> <li>• Required Experts and their experience</li> <li>• Duration of the assignment</li> <li>• Reporting requirements</li> </ul>	Sections that are mandatory	One week after first draft by the PSC and project manager. And once again after the final document	Project manager, Task manager	
4	2	Contract agreements should be clearly written	Ambiguous wordings are to be avoided.	Number of ambiguous words or phrases checked	Twice by the legal department and twice by the project manager	Project manager, legal department of the sponsor	

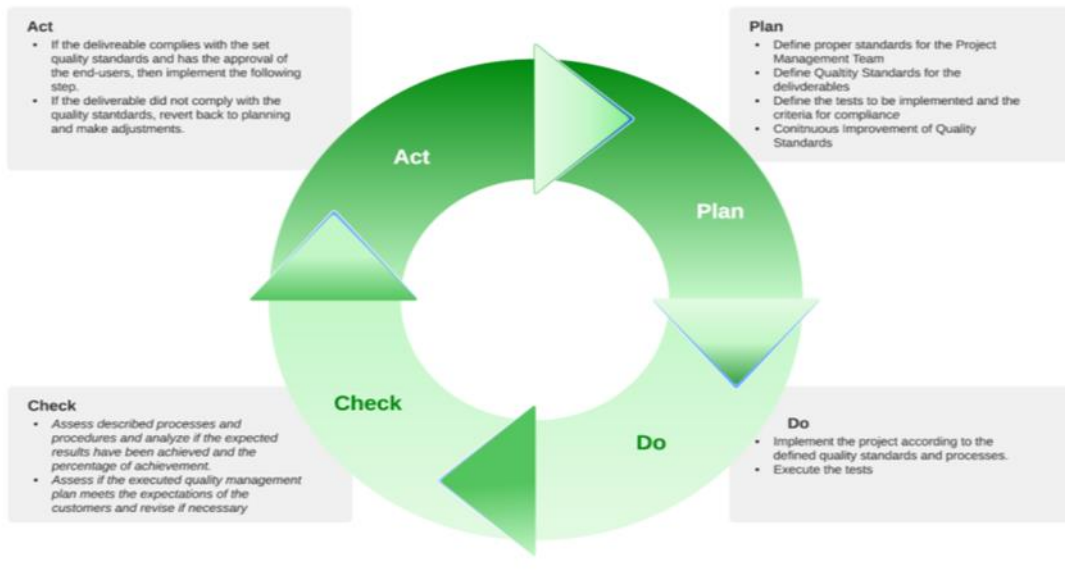
No.	WBS code	Description /Requirement	Specification	Assurance Activity	Schedule	Responsible	Status/comments
5	2	Contract agreement should contain the necessary sections	Contract should contain the following: <ul style="list-style-type: none"> <li>• Letter of Agreement</li> <li>• General conditions to the contract</li> <li>• Specific conditions to the contract, including payment schedule</li> <li>• Terms of Reference</li> <li>• Workplan</li> <li>• Submitted bid</li> </ul>	Mandatory contract conditions	Twice by the legal department and PSC and twice by the project manager	Project manager	
6	2	Consultants or consultancy firms should be experienced in the relevant field	<ul style="list-style-type: none"> <li>• Companies should have at least 10 years minimum experience in PCS.</li> <li>• Should have sufficient personnel with</li> </ul>	Company profile, portfolio of projects, references, and CVs of experts		Project manager	

No.	WBS code	Description /Requirement	Specification	Assurance Activity	Schedule	Responsible	Status/comments
			PCS related activities.				
7	2	Auditor should be experienced	Auditor should have a minimum of 5 years proven experience	Company profile, portfolio of projects, references, and CVs of experts			
8	2	Bidding documents should be clearly written	<p>The document should not contain ambiguous wordings and should contain the following sections.</p> <ul style="list-style-type: none"> <li>• Selection procedures and requirements including the letter of invitation to bid, instructions to bidders, technical proposal (standard forms), financial proposal</li> </ul>	Number of ambiguous words or phrases checked	One week after first draft by the PSC and project manager. and once again after the final document and before issuance of the bidding document	Project manager, Procurement specialist	

No.	WBS code	Description /Requirement	Specification	Assurance Activity	Schedule	Responsible	Status/comments
			(standard forms), Terms of Reference. <ul style="list-style-type: none"> <li>• Contract and Contract conditions</li> <li>• Forms of notification to award the contract</li> </ul>				
9	3	Consultants to execute tests	Experience in testing of software in PCS environment	Portfolio of projects, references, and CVs of experts	As scheduled	Project manager	
10	4	Trainers should be experienced and certified	Trainers should have a minimum of 5 years of experience in relevant field.	Portfolio of projects, references, and CVs of experts	Evaluation of the experts	Project manager	
11	4	Training facility should be available	Venue is suitable to facilitate training considering the social distancing measures for Covid-19	Venue amenities	As scheduled	Project manager	

Note: Amat, 2022

**Figure 32 Plan-Do-Check Act Cycle**



*Note: Amat, 2022*

#### **4.5.5 Quality control and change for improvement**

The quality of all project processes and deliverables should be controlled and measured. Any modification to the approved project quality management plan is only possible through the change management process (Integrated change control process). The change application form as illustrated in Figure 24 should be used to request change. The change management process as depicted in Figure 23 will apply to all change requests received.

## 4.6 PROJECT RESOURCE MANAGEMENT PLAN

### RESOURCE MANAGEMENT PLAN PCS PARAMARIBO SURINAME

Introduction

Resource management approach

Project resources

Roles and responsibilities

Estimating resources

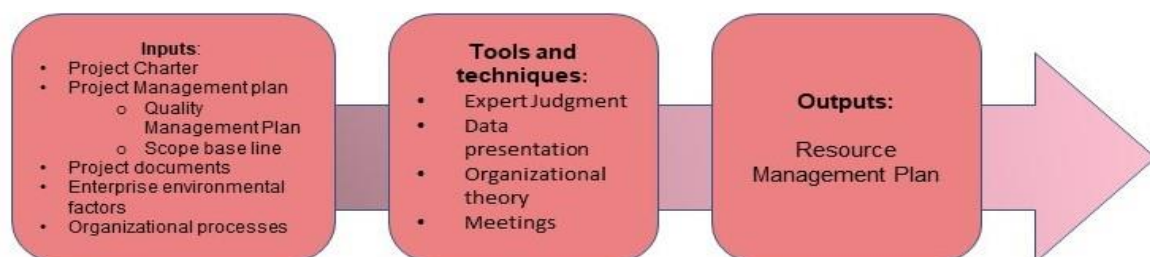
Resource control

#### 4.6.1 Introduction

According to the PMBOK Guide(2017), project resource management includes the process of identifying, acquiring and managing the resources needed to successfully complete the project. The purpose of the resource management plan is to define how the resources will be categorized, allocated, managed and released to ensure successful completion of the PCS Paramaribo project. The project resource management plan will serve as a guide, a roadmap and reference for the project manager and his/her team.

Figure 33 illustrates the several inputs, tools and techniques and outputs of the procurement management Plan process.

**Figure 33 Resource Management Plan PCS Paramaribo**



Note: Adapted from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 9-2, p.311. Copyright 2017 by PMI Inc. Permission not sought



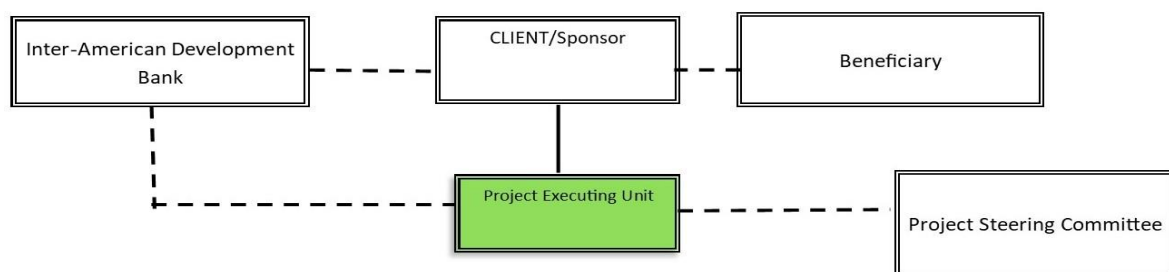
#### 4.6.2 Resource management approach

Throughout the PCS Paramaribo project lifecycle, the project manager will ensure that the correct resources will be available at the right time. Understanding the relationship between the project elements such as scope, schedule, cost, quality, risk, communication, as well as the procurement policies and processes, will help the Project manager and his/her team in the management of project resources and eliminating waste. The project resource management plan will be required to be updated on a regular basis as the project evolves. For the execution of the project and according to the IDB procedures, program operations manual is developed in which the team agreements and operating guidelines for the project manager and his/her team are included.

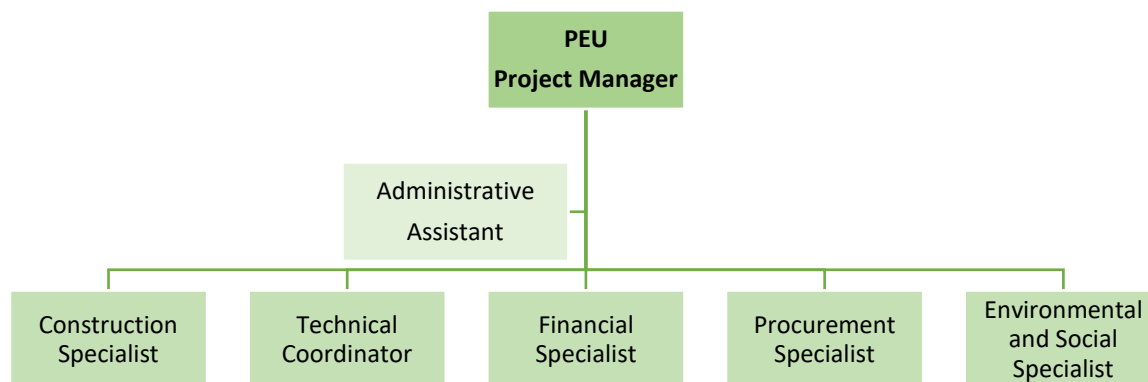
#### 4.6.3 Roles and responsibilities

The organizational charts of both the project and of the PEU will be used to highlight the responsibilities of the key stakeholders to manage the resources actively and effectively. The organization charts for the PCS project and the PEU are respectively illustrated in Figure 34 and Figure 35. Chart 22 illustrates the responsibilities of the involved parties.

**Figure 34 PCS Project Organization Chart**



*Note: Amat (2022)*

**Figure 35 PEU Organization Chart**

*Note: Amat, 2022*

**Chart 22 Resource Management Roles and Responsibilities PCS  
Paramaribo**

<b>Role</b>	<b>Resource Management Responsibilities</b>
Client/Sponsor	<ul style="list-style-type: none"> <li>• Provides approval to project manager and his team.</li> <li>• Responsible for the overall selection of PEU staff.</li> <li>• Responsible for the release of financial resources in a timely manner.</li> <li>• Provides the policies and guidelines for the resource management plan.</li> <li>• Resolves issues which are escalated by the project manager to client /sponsorship level.</li> </ul>
Beneficiary	<ul style="list-style-type: none"> <li>• Provides support to the project manager in resolving the issues related to deploying project resources.</li> </ul>
Project manager	<ul style="list-style-type: none"> <li>• Responsible for developing the resource management plan.</li> </ul>

Role	Resource Management Responsibilities
	<ul style="list-style-type: none"> <li>• Responsible for the utilization of project resources.</li> <li>• Assist the Client in selecting staff for the PEU/PIU.</li> <li>• Responsible for drafting the resource reports to be presented to the client/sponsor.</li> <li>• Responsible for capacity building of both the PEU and stakeholders involved.</li> </ul>
PEU/ PIU team	<p>Supports the project manager:</p> <ul style="list-style-type: none"> <li>• In identifying and improving the use of resources (physical).</li> <li>• In daily supervision and managing of the project resources.</li> <li>• In identifying and resolving resource issues in a timely manner.</li> </ul>

*Note: Amat, 2022*

The Responsibility Assignment Matrix (RAM) should be drafted based on the Project Activity list as captioned in Chart 22. RAM describes the responsibility on the project for the specific work packages and/or activity. Chart 23 depicts the RAM on the activity list as mentioned on Chart 22.

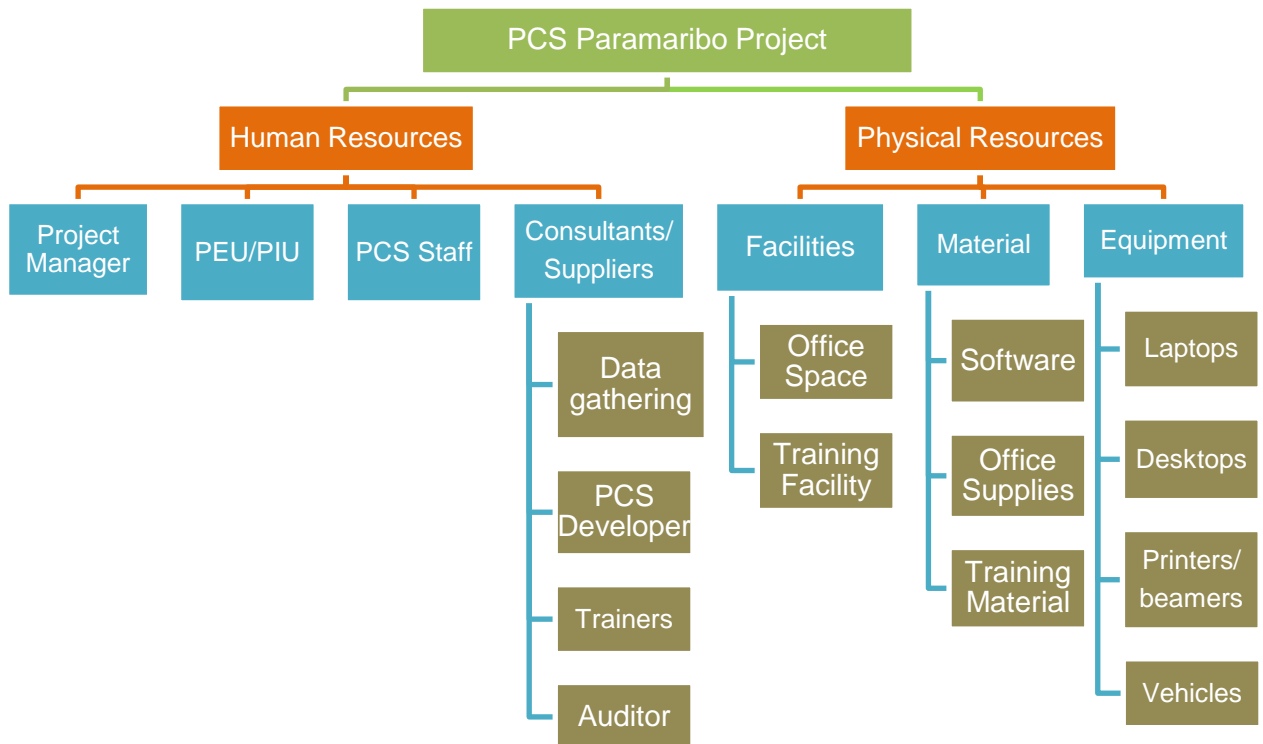
The RACI Chart and the Resource Breakdown Structure as illustrated in Figure 36, both provide important additional information about the available and required resources, the roles and responsibilities assigned to the Project Manager, his team, and the stakeholders to the PCS Paramaribo project.

Chart 23 RACI Chart

WBS Code	Role	Client/ Sponsor	Beneficiary	Project Manager	PEU/PIU	Steering Commit- tee	Consultants	PCS Staff	Port Operators
	Name								
1	Project management								
1.1.1	Project charter	A	C	R	I	C			
1.1.2	Scope management	A	C	R	I	C			
1.1.3	Schedule management	A	C	R	I	C			
1.1.4	Cost management	A	C	R	I	C			
1.1.5	Quality management	A	C	R	I	C			
1.1.6	Resource management	A	C	R	I	C			
1.1.7	Communications management	A	C	R	I	C			
1.1.8	Risk Management	A	C	R	I	C			
1.1.9	Procurement management	A	C	R	I	C			
1.1.10	Stakeholder management	A	C	R	I	C			
1.2.1	Procurement	I	C	R	A	I			
1.2.2	Finance	I	C	R	A	I			
1.2.3	Monitoring and evaluation	I	C	R	I	I	A		
2	PCS design								
2.1.1	Data gathering consultancy	I	C	A	C	I	R		I
2.1.2	Platform design consultancy	I	C	A	C	I	R		I
3	PCS installation								
3.1	Product requirements	C	A	C	C	C	R	I	I
3.2	User documentation	C	I	A	I	C	R	I	I
3.3	Testing	I	C	A	C	C	R	I	I
3.4	Approval	R	C	C	I	C	A	I	
4	Training PCS staff								
4.1	Training material	I	I	A	C	C	R	I	I
4.2	Training staff	I	I	R	I	C	R	A	C

R= Responsible, A = Accountable. C= Consulted, I = Informed

(Source: Amat, 2022)

**Figure 36 Resource Breakdown Structure**

*Note: Amat, 2022*

#### 4.6.4 Acquire resources

The required project resources will either be contracted or purchased. The hiring and or contracting of human resources will be based on Terms of Reference. For the hiring of the project manager and his/her team, interviews will also be conducted. The project manager and his/her team should be in place prior to hiring of the consultants and/or suppliers. For the PCS Paramaribo project only one member of the PEU/PIU is personnel from the client, as this member serves also as a liaison person between the project team and the organization of the client. Chart 24. and Chart 25, respectively, illustrate the acquisition of the human resources and the physical resources as mentioned in Figure 36.

**Chart 24 Human Resource Acquisition**

Role	Type of Acquisition	Method of Acquisition
Project manager	Contract	CV, Interview
Administrative assistant	Contract	CV, Interview
Construction specialist	Contract	CV, Ability test, Interview
Technical coordinator	Contract	CV, appointed
Financial specialist	Contract	CV, Ability test, Interview
Procurement specialist	Contract	CV, Ability test, Interview
Environmental and social specialist	Contract	CV, Interview
PCS staff	Contract	CV, Interview
Consultants/Suppliers	Contract	Multicriteria decision analysis, company experience, negotiation

(Source: Amat, 2022)

**Chart 25 Physical Resource Acquisition**

Type	Type of acquisition	Method of acquisition
Facilities	Contract	Price offer
Material	Contract	Price offer
Equipment	Contract	Company experience, Price offer

(Source: Amat, 2022)

#### 4.6.5 Developing team

Developing team is the process of improving team competencies, team member interaction, and the overall team environment to improve project performance (PMI, 2017). The more we get out of the team, the better the outcome of the project achieving its objectives. People get better at what they do when they are motivated (Maslow's hierarchy of needs). This process addresses the improvement of

teamwork, enhanced interpersonal skills and competencies, and motivation of employees. This process is performed throughout the project life cycle.

Tools and techniques for developing team are amongst others but not limited to: training, teambuilding, meetings.

#### **4.6.5.1 Training**

The project manager, his/her team, the steering committee, and staff of the beneficiary will be able to attend training to acquire skills necessary to execute their work to improve project performance. Training may be on-site or on-line, provided the possibilities to attend in-person training are available. The PCS training will be developed by the PCS Designer to be hired as the PCS system will be designed based on the needs of the Port of Paramaribo. PCS Software training will be made available for the PCS staff, staff of the beneficiary and port operators.

Software training such as MS Project, Excel, Access, AutoCAD will be made available based on the team's needs.

Management training and specific technical training such as FIDIC will be provided for the project manager, his/her team, and staff of the client and beneficiary. Appendix 6 to this document provides an overview of a FIDIC training schedule.

#### **4.6.5.2 Teambuilding**

Teambuilding activities to create "collaborative teams" will contribute to a positive outcome of the project activities. These teambuilding activities may be accompanied by small training sessions aimed at creating and nourishing team spirit.

A quarterly informal gathering, where team members can interact openly with the client to create better working relationships and an understanding of what is expected from all team members.

#### **4.6.5.3 Meetings**

At the progress meetings to be held at the beginning of the week, the team's performance will be reviewed during the PCS Paramaribo project life cycle. Having the team meeting led by a new member each week improves the interpersonal skills of team members and adds to their abilities. During the progress meeting, the status of the resources and when resources will be required for the project will be thoroughly discussed. Appendices 7 and 8 to this document provide agenda templates for both the kick-off meeting and the progress meetings.

#### **4.6.5.4 Recognition and rewards**

The team's performance does not go unnoticed, and as per contract, each person will be assessed based on commonly agreed upon evaluation criteria. The performance appraisal will be properly discussed with each team member separately and if applicable, the promotion will also be properly addressed. When the team member's performance requires improvement or there are issues that need to be augmented, these are discussed, and proper measures will be sought to realize improvement.

#### **4.6.6 Manage team**

Manage team according to the PMBOK Guide (2017), is the process of tracking team member performance, providing feedback, solving issues, and managing team changes to enhance project performance. This process is aimed at improving the team's behavior and at how to deal with conflicts and issues to be solved.

Team management requires the project manager to have a combination of communication, conflict management, negotiation and leadership skills. The work performance reports can help with tracking team performance, which includes cost control, schedule control, scope validation and quality control.

For the PCS Paramaribo project, the progress meetings could include a presentation of project performance in MS project, which can provide a clear view on the progress made in physical and financial resources.



#### **4.6.7 Control resource**

Any modification to the approved project resource management plan is only possible through the change management process (integrated change control process). The change application form as illustrated in Figure 24 should be used to request change. The change management process as depicted in Figure 23 will apply to all change requests received.

## 4.7 PROJECT COMMUNICATION MANAGEMENT PLAN

### COMMUNICATION MANAGEMENT PLAN PCS PARAMARIBO SURINAME

Introduction

Communication Management Approach

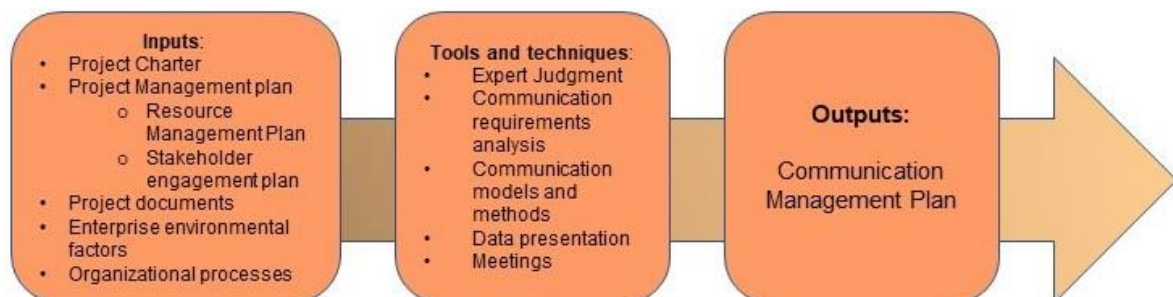
Roles and Responsibilities

Project Communication

#### 4.7.1 Introduction

The Communication Management Plan will serve as both a guide and a tool in communication between the different stakeholders within the PCS Paramaribo project. The Communication Management Plan is aimed at identifying the type of communication to be used, prioritizing the communication demands and expectations of the project stakeholders, describing how communication will be disseminated to the stakeholders and provide strategies for effective communication with the stakeholders.

**Figure 37 Communication Management Plan PCS Paramaribo**



Note: Adapted from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 10-2, p.365. Copyright 2017 by PMI Inc. Permission not sought

### 4.7.2 Communication Management Approach

To ensure project success it is of utmost importance that all project stakeholders are provided with the information needed to perform their roles. All communication should be adequate, specific, concise, and timely shared. Merriam -Webster dictionary defines communication as a process by which information is exchanged between individuals through a common system of symbols, signs, or behavior (<https://www.merriam-webster.com/dictionary/communication>). The Project Manager and his team should ensure that a two-way communication is maintained during the project life cycle. It is also a requirement that the Project Manager and his team should ensure that pro-active communication throughout the PCS Paramaribo project is strived. The Communication Management Plan is focused on the stakeholders, their information needs and their relation and contribution to the successful completion of the PCS Paramaribo project.

### 4.7.3 Roles and Responsibilities

Communication is important throughout the project and is a shared responsibility of all stakeholders involved in the project. Chart 26 provides an overview of the key stakeholders involved in the day-to-day execution of the PCS Paramaribo project. As the project evolves the stakeholders' responsibilities as well as the stakeholders may increase. The Project Manager and his team are responsible for maintaining overall communication.

**Chart 26 Communication Management Roles and Responsibilities PCS Paramaribo**

Role	Communication Management Responsibilities
Client/Sponsor	<ul style="list-style-type: none"> <li>• Timely communicating approvals or rejections to the Project Manager</li> </ul>
Beneficiary	<ul style="list-style-type: none"> <li>• Encourages, establishes open communication channels throughout the project</li> </ul>

Role	Communication Management Responsibilities
Project Manager	<ul style="list-style-type: none"> <li>• Establishes, encourages open communication channels with all stakeholders. These communication channels will be maintained.</li> <li>• The Project Manager is responsible for disseminating the appropriate communication to each stakeholder, which should be clear, accurate and timely</li> </ul>
PEU/ PIU Team	<ul style="list-style-type: none"> <li>• Supports the Project Manager in maintaining the open communication channels.</li> </ul>

(Source: Amat, 2022)

#### 4.7.4 Project Communication

In ensuring that project communication is effective and supports in improving project success, some guidance notes on how and when communication is shared will be required:

- Communication (messages) is tailored to the audience it is planned for and what they need to know.
- Crucial communication will be formally communicated and using an appropriate channel.
- The Project Manager and his team should communicate what a stakeholder needs to know and when.
- Feedback received from the stakeholders should be followed up and should be communicated back to the stakeholders.

The use of a Communication Matrix as illustrated in Chart 27 will aid the Project Manager and his team in maintaining and improving communication with the project stakeholders. It summarizes the Communication management plan to be used for the PCS Paramaribo project.

#### 4.7.4.1 Communication Models and Methods

As stated earlier effective communication is a crucial element in project management and especially for the PCS Paramaribo project. The exchange of information can vary in every project and in the different stages of the project itself. Good communication comprises of different elements such as the sender, the receiver, the message, medium, feedback and noise. Medium is often defined as the technology used to deliver the message while noise relates to the barriers or interference in relaying the message.

The project should apply an interactive communication model, meaning that the receivers are expected to acknowledge receipt of communication and should provide appropriate feedback to the senders for successful communication. Due to the nature of the project and characteristics of the different stakeholders involved, a combination of pro-active, push and pull communication method (PMI, 2017) will be applied making use of interpersonal, small group and public communication to meet the needs of the stakeholders and to avoid noise in the communication between the stakeholders. The stakeholder's involvement may evolve during the project execution as their needs may change. Chart 28 illustrates the communication models and mediums that can be applied for the PCS Paramaribo project.

**Chart 27 Communication Matrix PCS Paramaribo**

Communication Matrix PCS Paramaribo						
Communication type	Purpose	Medium	Frequency	Deliverable	Audience	Owner
Briefing meeting	Gather information for the project	In-person meeting or virtual meeting	Once at the start of the project	Minutes of the meeting	Client, Project Manager, Beneficiary	Project Manager

<b>Communication Matrix PCS Paramaribo</b>						
Communication type	Purpose	Medium	Frequency	Deliverable	Audience	Owner
Kick off meeting	To provide information regarding the project to all stakeholders	In-person meeting	Once at the start of the project	Minutes of the meeting	Client, Project Manager, Beneficiary	Project Manager
Monthly Progress meetings	To provide information on the project status and the progress made	In-person meeting or virtual meeting	monthly	Minutes of the meeting Progress reports	Project Manager, Beneficiary, Project Steering Committee, PCS Consultant	PCS Consultants
Project Team meetings	To review the project activities, update project plans during the project life cycle. Review submitted	In-person meeting or virtual meeting	Bi-weekly	Minutes of the meeting Dashboard report	Project Manager, PEU	Project Manager /PEU

Communication Matrix PCS Paramaribo						
Communication type	Purpose	Medium	Frequency	Deliverable	Audience	Owner
	change requests					
Project Steering Committee (PSC) meetings	To discuss project activities amongst the Project Steering Committee Members	In-person meeting or virtual meeting	Monthly	Minutes of the meeting	Project Steering Committee, Project Manager	Project Manager
Monthly Status meeting	Report on status of the project in particular the progress of the activities, cost, schedule, issues, change requests	In-person meeting or virtual meeting	monthly	Minutes of the meeting	Client, Project Manager, Beneficiary	Project Manager
Public Presentations	Report on the project its purpose and status to a	In person or informercial (tv video)	Quarterly	Presentation, Video	General Public	Project Manager

<b>Communication Matrix PCS Paramaribo</b>						
Communication type	Purpose	Medium	Frequency	Deliverable	Audience	Owner
	greater public					

(Source: Amat, 2022)

**Chart 28 Communication Methods and Mediums PCS Paramaribo**

<b>Communication model</b>	<b>Methods and mediums</b>
Interpersonal	<ul style="list-style-type: none"> <li>A. Group meetings/briefings (face-to-face)</li> <li>B. Videoconferencing/virtual meetings</li> <li>C. Consultation groups</li> <li>D. Presentations (informercial/tv spot)</li> <li>E. Phone conversations</li> <li>F. WhatsApp messages/groups</li> </ul>
Push	<ul style="list-style-type: none"> <li>G. Email</li> <li>H. Letters</li> <li>I. Reports</li> <li>J. Draft deliverables</li> <li>K. Final deliverables</li> </ul>
Pull	<ul style="list-style-type: none"> <li>L. Databases/repositories</li> </ul>

(Source: Amat, 2022)



## 4.8 PROJECT RISK MANAGEMENT PLAN

### RISK MANAGEMENT PLAN PCS PARAMARIBO SURINAME

Introduction

Risk Management Approach

Roles and Responsibilities

Identify Risk

Risk Analysis

Risk Register

Plan Risk Response

Risk Monitoring and Control

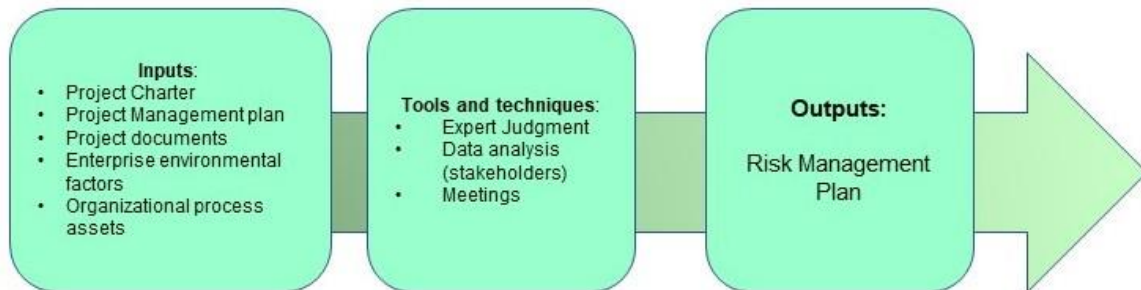
Risk Management Change Process

#### 4.8.1 Introduction

No project is without risk. However, it is about encountering the risk and trying to mitigate its impact on the project on fulfilling its objective successfully. The purpose of the Project Risk Management Plan is to define how the risks linked with the PCS Paramaribo project will be identified, analyzed, and managed. The Project Risk Management Plan shall also develop and define the procedures to identify the risks, mitigate risks, identify new risk, and evaluate the existing risks. The Project Risk Management plan will outline how risk management activities will be performed, recorded, and monitored during the project life cycle.

Figure 38 illustrates the several inputs, tools and techniques and outputs of the Plan Risk Management Process.

**Figure 38 Communication Management Plan PCS Paramaribo.**



Note: Adapted from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 11-2, p.401. Copyright 2017 by PMI Inc. Permission not sought

#### **4.8.2 Risk Management Approach**

The Project Manager and his team will identify the risks for the PCS Paramaribo project very early on in the project planning process to minimize the risks and the potential impacts the identified risks may have on the project. Risk is a shared responsibility and as such the Project manager and his team should engage with the key stakeholders on the possible risks, their occurrence, their impact and the possible response and strategies to be followed. The Project Manager will be responsible in managing the risks and should report on the risk management during the monthly progress meeting.

#### **4.8.3 Roles and Responsibilities**

Risk management is important throughout the project and is a shared responsibility of all stakeholders involved in the project. Chart 29 provides an overview of the key stakeholders involved in the day-to-day execution of the PCS Paramaribo project. As the project evolves the stakeholders' responsibilities as well as the stakeholders may increase. The Project Manager and his team are responsible for maintaining overall communication. Risk may be assigned to a risk owner, that may not necessarily be the Project Manager.

**Chart 29 Risk Management Roles and Responsibilities PCS Paramaribo**

<b>Role</b>	<b>Risk Management Responsibilities</b>
Client	<ul style="list-style-type: none"> <li>• Supports in identifying and determining the context, consequence, impact, timing, and priority of the risk.</li> <li>• Risks escalated to Client/Sponsor and of which the risk impact is to be financed out of contingency reserve, to be properly addressed.</li> </ul>
Beneficiary	<ul style="list-style-type: none"> <li>• Assists in identifying and determining the context, consequence, impact, timing, and priority of the risk.</li> </ul>
Project Manager	<ul style="list-style-type: none"> <li>• The Risk Manager or Project Manager determines if the risk is unique, identifies risk interdependencies across the project, verifies if the risk is internal or external to project, assigns risk classification and tracking number.</li> <li>• During the life of the project, they continually monitor the project for potential risks.</li> <li>• Project Manager should report the risks during the progress meeting.</li> </ul>
PIU/PEU	<ul style="list-style-type: none"> <li>• Assists the Project Manager in identifying project risks, reviewing, and making recommendations.</li> </ul>
Risk Owner(s)	<ul style="list-style-type: none"> <li>• The risk owner determines which risks require mitigation and contingency plans, he/she generates the risk mitigation and</li> </ul>

Role	Risk Management Responsibilities
	contingency strategies and performs a cost benefit analysis of the proposed strategies. <ul style="list-style-type: none"> <li>• The risk owner is responsible for monitoring and controlling and updating the status of the risk throughout the project lifecycle.</li> <li>• The risk owner can be a member of the project team.</li> </ul>
Steering Committee	<ul style="list-style-type: none"> <li>• Assists the Project Manager in developing the Risk Management Plan.</li> </ul>

(Source: Amat, 2022)

#### 4.8.4 Identify Risk

The identification of risks for the PCS Paramaribo project occurs firstly during the planning phase of the project as the project charter is being developed and should be continuously identified as the project evolves, because the risks may change, and or new risks may arise during the execution of the project.

There are several levels of risks, once they have been identified and categorized, a particular risk ID is assigned to that risk. This enables the Project Manager to manage the risks more easily. Risks are categorized according to the Risk Breakdown Structure (RBS) as illustrated in Chart 30.

Chart 30 Risk Breakdown Structure PCS Paramaribo project

RISK LEVEL 0	RISK LEVEL 1	RISK LEVEL 2	RISK LEVEL 3
0. ALL SOURCES OF PROJECT RISK	1. Technical Risk	1.1. Requirements	1.1.1. Lack of clarity of scope Requirements
			1.1.2. Insufficient Security Requirements
			1.1.3. Misappropriation of Resources
		1.2. Performance	1.2.1. Poor Interconnectivity with port operators
			1.2.2. Poor Internet
			1.2.3. Faults in the configurations
			1.2.4. Errors in training documents
		1.3. Application	1.3.1. Outdated software version
			1.3.2. Applicability/compatibility of the software
	2. Management Risk	2.1. Project Management	2.1.1. Poor Procurement planning
			2.1.2. Poor Communication
		2.2. Organization	2.2.1. Appropriation of Human Resources
			2.2.2. Appropriation of Financial Resources
		2.3. Operations Management	2.3.1. Inadequate personnel for PCS staff
			2.3.2. Resistance for change
	3. Commercial Risk	3.1. Contractual Agreements	3.1.1. Poor terms and conditions to safeguard Client
			3.1.2. Poor Client/customer relationship
		3.2. Suppliers/Vendors	3.2.1. Poor requirements of consultants
			3.2.2. Inadequate Training experts
		4.1. Legislation	4.1.1. No adequate laws

RISK LEVEL 0	RISK LEVEL 1	RISK LEVEL 2	RISK LEVEL 3
	4. External Risk		4.1.2. Unfamiliarity with procurement regulations that are applicable
		4.2. Economic/Market	4.2.1. Poor credit ratings of the country
			4.2.2. PCS is a niche market, few eligible competitors
		4.3. Social	4.3.1. Resistance from Importers/exporters
		4.4. Health	4.4.1. New Covid-wave

(Source: Amat, 2022)

#### 4.8.5 Risk Analysis

Each identified risk for the PCS Paramaribo project will be reviewed to characterize the range of possible project outcomes. The risk will be categorized and prioritized to understand the probability of its occurrence and the impact the risk may have on the final project outcome. The qualification of the risks will be used to determine the prioritization of the risks and their risk responses.

##### 4.8.5.1 Qualitative Risk Analysis

The Project Manager and his team shall assess the probability and impact of occurrence of each identified risk. The risk analysis is a collaborative assessment of the Project Manager and his team throughout the project life cycle. The likelihood of risk occurrence is assessed, and the outcome is classified according to the

probability and impact scale to be applicable for the PCS Paramaribo project. Charts 31 and 32 illustrate the scales of Probability and Impact respectively. By multiplying the probability and the impact of a risk, the urgency level of a risk is calculated, which is captured in chart 33 and for which a risk response and risk strategy will be specified.

**Chart 31 Probability Scale PCS Paramaribo project**

Probability Scale		
Score	Scale	Interpretation
0.9	Very High	Very likely to happen in the project life cycle (>71%)
0.7	High	Likely to happen in the project life cycle (51-70%)
0.5	Medium	Probably may happen in the project life cycle (31-50%)
0.3	Low	Unlikely to happen in the project life cycle (10-30%)
0.1	Very Low	Not likely to happen in the project life cycle (<10%)

Note. Adapted from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Table 11-1, p.407. Copyright 2017 by PMI Inc. Permission not sought

**Chart 32 Impact Scale PCS Paramaribo project**

Impact Scale					
Scale	Insignificant	Marginal	Significant	Critical	Very Critical
Score	0.1	0.3	0.5	0.7	0.9
Schedule	1 week	1-4 weeks	1-2 months	2-6 months	> 6 months
Cost	2-4% increase	4-8 % increase	8-12% increase	12-18% increase	> 18 % increase
Scope	No noticeable change	Minor Scope change	Major Scope change	Reduction of scope are unacceptable to the client	Scope change extremely high,

Impact Scale					
					deliverables are useless
<b>Quality</b>	Minimal or no consequences on secondary functions	Minor impact on overall functions	Small reduction in technical performance	Significant impact on overall functions	Technical requirements cannot be met

*Note.* Adapted from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Table 11-1, p.407. Copyright 2017 by PMI Inc. Permission not sought

The probability score of a risk is determined by the likelihood and its proportion on the project is expressed in Chart 31. Consequently, a risk that is unlikely to happen within the project life cycle is assigned a probability score of 0.3. As such, a risk that is likely to happen will be appropriated a probability score of 0.7.

The impact score of a risk is based on a combination of the impacts that a certain risk has on the schedule, cost, scope, and quality of the project as captured in Chart 32. For risk A that may delay the project 1-4 weeks the assigned score 0.3, has a financial impact of 8-12% for which the assigned score is 0.5, with zero change in scope has an assigned scope score of 0.1, but quality wise has minor impacts on overall functions, has an assigned score of 0.3, the impact score for risk A is 0.3. For each identified risk the impact score has been calculated.



**Chart 33 Probability and Impact Matrix PCS Paramaribo**

			IMPACT				
			Very Critical	Critical	Significant	Marginal	Insignificant
			0.9	0.7	0.5	0.3	0.1
PROBABILITY	Very High	0.9	0.81	0.63	0.45	0.27	0.09
	High	0.7	0.63	0.49	0.35	0.21	0.07
	Medium	0.5	0.45	0.35	0.25	0.15	0.05
	Low	0.3	0.27	0.21	0.15	0.09	0.03
	Very Low	0.1	0.09	0.07	0.05	0.03	0.01

Note. Adapted from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 11-5, p.408. Copyright 2017 by PMI Inc. Permission not sought

Based on the probability and impact matrix the following level of urgency may be awarded:

	Critical	Risk having the potential to severely impact the project
	High	Risk having the potential to greatly impact the project
	Moderate	Risk having the potential to moderately impact the project
	Low	Risk having no significant impact on the project

Risks that fall within the red, orange, and yellow zones will have risk response planning.

#### 4.8.5.2 Quantitative Risk Analysis

Analysis of risk events that have been prioritized using the qualitative risk analysis process and their effect on project activities will be estimated, a numerical rating applied to each risk based on this analysis, and then documented in this section of the risk management plan. It aids the project team in analyzing whether the project is a GO /NO GO. As the quantitative risk analysis requires specialized risk software

to be used, and using historical data of the PCS system, which is currently not available, the quantitative analysis will not be addressed.

#### **4.8.6 Risk Register**

The Risk Register is a tool in risk management, utilized in identifying potential risks in a project, to remain on top of potential issues that can derail the project to achieve its objectives. The Risk Register is used as a repository of risks identified, their probability and impact, the risk addressed and resolved and newly identified risks. Chart 34-37 illustrates the Risk Register of the identified risk.

**Chart 34 Risk Register for the Technical Risks**

RBS ID	Cause	Consequence	Probability	Impact	Pxl	Risk Owner
1.1.1.	Lack of knowledge regarding PCS and its environmental requirements	Scope creep	0.5	(0.5+.01+0.7+0.7) 0.5	0.25	Client Consultants
1.1.2.	Lack of knowledge about the severity of security breaches	Hackers may overtake the system if no cyber security is in place. Information of the system users may fall into the wrong hands. Security breaches, confidentiality is breached	0.7	(0.1+0.5+0.1+0.1) 0.43	0.30	Consultants Project Manager
1.1.3.	Lack of knowledge what is required in technology and resources	Loss of financial resources, financial deficit on the project	0.3	(0.3+0.7+0.3+0.7) 0.5	0.15	Project Manager
1.2.1.	Incompatible systems at the different port operators	Data sharing will be hampered. Port processes will not be effective, and productivity will be slowed down.	0.5	(0.3+0.5+0.7+0.9) 0.6	0.30	Beneficiary Project Manager
1.2.2.	Internet providers cannot furnish	Data sharing will be hampered. Connectivity is not continuous	0.5	(0.3+0.3+0.5+0.7) 0.45	0.23	Beneficiary

RBS ID	Cause	Consequence	Probability	Impact	Pxl	Risk Owner
	the required bandwidth					
1.2.3.	Lack of knowledge about the required system configuration	Required data will not be available	0.5	(0.3+0.5+0.5+0.5) 0.45	0.23	Consultants
1.2.4.	Translation errors.	Trainees miss necessary content	0.3	(0.3+0.3+0.1+0.1) 0.43	0.13	Consultants
1.3.1.	Purchasing old version of the software	Problems in connectivity with other systems may occur.	0.3	(0.1+0.1+0.3+0.7) 0.3	0.09	Consultants
1.3.2.	Poor inventory about current systems at the port operators and lack of knowledge to connect the systems.	The several systems at the Port, Port Operators and port systems will not function properly	0.3	(0.5+0.7+0.3+0.3) 0.45	0.14	Consultants

(Source: Amat, 2022)

**Chart 35 Risk Register for the Management Risks**

RBS ID	Cause	Consequence	Probability	Impact	Pxl	Risk Owner
2.1.1	Lack of procurement processes and procedures and guide. Insufficient market research	Delays in procurement, causing delays in selecting the consultant/contractor/vendor Project delivery delayed.	0.5	(0.9+0.9+0.1+0.1) 0.5	0.25	Project Manager PIU/PEU
2.1.2.	Lack of communication and not following the communication plan and strategy.	Project communication is not effective. May cause unnecessary delays in decision-making and or approvals.	0.5	(0.5+0.7+0.1+0.1) 0.5	0.18	Project Manager
2.2.1.	Lack of knowledge of the personnel required to implement the project	Financial losses as	0.3	(0.7+0.7+0.3+0.7) 0.6	0.18	Project Manager
2.2.2.	Lack of budgetary requirements	Financial losses as some processes may need to be replicated, causing a deficit on project budget.	0.5	(0.7+0.9+0.5+0.5) 0.65	0.33	Project Manager
2.3.1	Choosing personnel not	PCS control is not secured as personnel is ill-equipped to	0.7	(0.7+0.9+0.7+0.9)	0.56	Beneficiary

RBS ID	Cause	Consequence	Probability	Impact	Pxl	Risk Owner
	based on their capabilities to fulfill the position.	understand the gravity of their responsibility.		0.8		
2.3.2.	Fear to lose job and income	Because people fear job loss, leading to loss of income, any impulse will receive resistance. The people may go on strike and or not cooperate in the implementation of the project.	0.7	(0.7+0.9+0.3+0.5) 0.6	0.42	Beneficiary, Port Operators

(Source: Amat, 2022)

**Chart 36 Risk Register for the Commercial Risks**

RBS ID	Cause	Consequence	Probability	Impact	Pxl	Risk Owner
3.1.1	Lack of knowledge regarding contractual conditions to safeguard the client	The client is at the mercy of the consultants. Claims from consultant are expected if Client's position is weak. Project objectives are not met	0.1	(0.3+0.1+0.1+0.1) 0.15	0.02	Client Consultants
3.1.2.	Unclear rules of engagement in the contract may affect the Client/customer relationship	Project objectives are not met	0.3	(0.3+0.1+0.1+0.1) 0.15	0.05	Project Manager

3.2.1.	Lack of knowledge about the expertise required to implement the PCS	Uncontrolled changes, insufficient testing of the PCS system. Poor process/project management. Scope creep	0.5	(0.5+0.9+0.7+0.7) 0.7	0.35	Project Manager
3.2.2.	Inadequate specifications provided in the Terms of Reference to hire the training experts.	Trainees will not be properly trained, as such the acquired knowledge may not suffice. PCS system will not be manned properly. PCS would consequently not be as effective as envisioned at the project idea stage.	0.3	(0.3+0.1+0.5+0.7) 0.4	0.12	Project Manager Consultants

(Source: Amat, 2022)

**Chart 37 Risk Register for the External Risks**

RBS ID	Cause	Consequence	Probability	Impact	Pxl	Risk Owner
4.1.1	<ul style="list-style-type: none"> <li>Absence of legislation on e-governance</li> <li>Absence cyberlaw</li> </ul>	Loss of revenues as the PCS system would enable the government to earn more revenues for services rendered at the ports.	0.7	(0.7+0.1+0.3+0.3) 0.35	0.25	Client Consultants
4.1.2.	Inadequate local	Procurement procedures of an international sponsor are to be	0.7	(0.5+0.5+0.3+0.3) 0.4	0.28	Client/sponsor

RBS ID	Cause	Consequence	Probability	Impact	Pxl	Risk Owner
	procurement procedures	complied with. Thresholds are usually higher than the local thresholds, to which local vendors cannot compete in.				
4.2.1.	The economic situation v.v. the country's borrowing status and ability to pay back loans.	Investors/vendors are not eager to commit with a country with poor credit ratings as this is a liability for the company.	0.9	(0.7+0.9+0.3+0.3) 0.55	0.50	Client/Sponsor
4.2.2.	Few eligible competitors to partake in PCS consultancies	The pool of experts/companies to choose from is small, therefore the financial offers may be too high.	0.7	(0.7+0.9+0.3+0.3) 0.55	0.39	Project Manager
4.3.1	Malicious practices for under billing in the past.	PCS will entail change and transparency of processes regarding the import and export of all goods from the point of origin till the point of final destination, this will cause resistance to use the PCS system.	0.7	(0.7+0.7+0.3+0.1) 0.45	0.32	Client/ Sponsor



RBS ID	Cause	Consequence	Probability	Impact	Pxl	Risk Owner
4.4.1.	Worldwide surge of new covid cases.	May impede procurement processes as required expertise and specialists are becoming scarce. The international market will be impacted if lockdowns are implemented. Deliverables will be delayed; project will not achieve its objective	0.9	(0.9+0.9+0.3+0.1) 0.55	0.50	Client/Sponsor/ Project Manager

(Source: Amat, 2022)

#### **4.8.7 Plan Risk Response**

According to PMI (2017) Plan Risk Response is the process of developing options, choosing strategies, and agreeing on actions to address overall project risk exposure along with treating individual project risks. This process assigns resources and includes activities in project documents and plans as required and is performed during the project. Risk responses should be appropriate for the identified risk, cost effective to meet project's objective, realistic and to be agreed upon with all the stakeholders and assigned a risk owner.

Inputs for the Plan Risk Response process are the Project Management Plan including the Resource Management Plan, Risk Management Plan, the Cost baseline as the Risks may have an impact on the costs. Other project documents to be used as inputs are the lessons learned register, the project team assignments, resource calendars, risk register, project schedule and stakeholder register. The Enterprise Environmental factors that may impact the Plan Risk Response are the risk appetite and threshold of the key stakeholders. Templates for the risk register and risk response, historical databases will serve as the organizational process assets.

In planning the Risk Response tools and techniques such as requiring expertise from individuals or groups specialized in response strategies (Expert Judgment), conducting interviews with affected stakeholders, risk owners, facilitation of meetings to extract information and aid the stakeholders in better understanding of the risk that can arise and how to respond to the risk. Strategies that may be considered for dealing with threats are Escalate, Avoid, Transfer, Mitigate and Accept. For opportunities the strategies may be Escalate, Exploit, Share, Enhance and Accept.

The Risk Responses for the PCS Paramaribo project are illustrated in Charts 38-41.

**Chart 38 Risk Response and Strategy to Threats for the Technical Risks**

RBS ID	Risk	P x I	Category	Risk Response	Risk Strategy
1.1.1.	Lack of clarity of Scope Requirements	0.25	Moderate	Mitigate	Mitigate the risk: (Threat) Clearly written requirements, technical specifications considering the constraints pertaining the area of influence, budget of the project is required. International agreements may serve as guidance when drafting the requirements and technical specifications.
1.1.2.	Insufficient Security Requirements	0.30	Moderate	Transfer	Transfer the risk: (threat) The Consultants should be required to consider that adequate security should be built in within the description and technical specifications of the PCS system.
1.1.3.	Misappropriation of Resources	0.14	Low	Accept	Accept the risk: (Threat) Consultants hired should have knowledge of PCS projects and its implementation.
1.2.1.	Poor interconnectivity with Port Operators	0.30	Moderate	Transfer	Transfer the risk:(threat) Better collaboration with the port operators.
1.2.2.	Poor Internet	0.23	Low	Accept	Accept the risk: (Threat) Collaborate with the beneficiary and the port operators to acquire more bandwidth from the internet provider.
1.2.3.	Faults in the configurations	0.23	Low	Accept	Accept the risk: (Threat) The Consultants should be required to consider that adequate security should be built in within the description and technical specifications of the PCS system

(Source: Amat, 2022)

**Chart 39 Risk Response and Strategy to Threats for the Management Risk**

RBS ID	Risk	P x I	Category	Risk Response	Risk Strategy
2.1.1.	Poor Procurement planning	0.25	Moderate	Transfer	Transfer the risk: (Threat) Hiring of experienced procurement specialist with knowledge of IDB procurement policies and procedures. Using user-friendly procurement software systems.
2.2.2.	Misappropriation of Financial Resources	0.33	Moderate	Transfer	Transfer the risk: (Threat) Clearly written job description and requirements for financial position. Close collaboration between the Project Manager, the procurement specialist and the financial specialist required during the estimation of costs and defining the budget and schedule.
2.3.1.	Inadequate Personnel for PCS Staff	0.56	High	Avoid	Avoid the risk: (Threat) Having clear profile requirements set and open publication for the positions. Required personnel should not have a criminal background or have been under investigation related to cybercrime. Signing of an NDA agreement would be advisable
2.3.2.	Resistance for change	0.42	High	Avoid	Avoid the risk: (Threat) Open and clear communication on the impacts of the project with all project stakeholders is required. Awareness programs regarding the necessity and benefits of the PCS system should be

RBS ID	Risk	P x I	Category	Risk Response	Risk Strategy
					launched. Jobs will not disappear due to the implementation of the project.

(Source: Amat, 2022)

**Chart 40 Risk Response and Strategy to Threats for the Commercial Risks**

RBS ID	Risk	P x I	Category	Risk Response	Risk Strategy
3.1.1.	Poor terms and conditions to safeguard Client	0.02	Low	Accept	Accept the risk: (Threat) Contract conditions regarding duties and responsibilities should be clearly specified in procurement documents.
3.1.2.	Poor Client/customer relationship	0.05	Low	Accept	Accept the risk: (Threat) Contract conditions regarding duties and responsibilities for both Client and customer should be clearly specified in procurement documents.
3.2.1	Poor requirements of consultants	0.35	Moderate	Transfer	Transfer the risk: (Threat) Terms of reference should be clear and unbiased. A needs analysis should be executed by a reputable consultant to be hired for the project. The needs analysis consultant should have the knowledge and experience in related PCS area.
3.2.2.	Inadequate Training experts	0.12	Low	Accept	Accept the risk: (Threat) The experts should be professional trainers. The terms of reference should have requirements such as x number of years in professional training, certified trainers from reputable training institutions.

(Source: Amat, 2022)

**Chart 41 Risk Response and Strategy to Threats for the External Risks**

RBS ID	Risk	P x I	Category	Risk Response	Risk Strategy
4.1.1.	No adequate laws	0.25	Moderate	Transfer	Transfer the risk: (Threat) Request the Ministry of TCT and the Ministry of Finance and Planning to promote and engage in law adoption for digital authorization of documents. The PCS will at the end accrue revenues for the government.
4.2.1.	Poor credit ratings	0.50	High	Avoid	Avoid the risk: (Threat) This risk is beyond the realm of the Project Manager and his team. The risk is escalated to the Client/Sponsor.
4.3.1.	Resistance from Importers/Exporters	0.32	High	Transfer	Transfer the risk (Threat) Close collaboration with the Suriname Business Association, the Chamber of Commerce regarding the implementation of the PCS project is required. Awareness programs and or meetings should be held with these focus groups.
4.3.2.	New Covid-19 wave	0.50	Critical	Avoid	Avoid the risk: (Threat) This threat is beyond the realm of the Project Manager and is escalated to the Client/Sponsor. A governmental decision for a total lock-down impedes all processes and projects in the country. On project level wise the only mitigation measures to be considered are the social distancing,

RBS ID	Risk	P x I	Category	Risk Response	Risk Strategy
					wearing of masks, and to have virtual meetings.

(Source: Amat, 2022)

**Chart 42 Risk Response and Strategy to Opportunities for the Technical Risks**

RBS ID	Risk	P x I	Category	Risk Response	Risk Strategy
1.1.1.	Lack of clarity of Scope Requirements	0.25	Moderate	Enhance	Enhance the risk: (Opportunity) Provide training to assist the team in writing clear, unbiased and unambiguous requirements and technical specifications. As a result the potential bidders shall submit comprehensive and clearly written description of offered services.
1.1.2.	Insufficient Security Requirements	0.30	Moderate	Share	Share the risk: (Opportunity) The Project team should include in the contract documents for the consultants to be hired, sufficient security requirements to be delivered by the consultants.
1.1.3.	Misappropriation of Resources	0.14	Low	Accept	Accept the risk: (Opportunity) The criteria to hire consultants should be clearly defined, the level of knowledge required in the field of PCS, to avoid misappropriation of resources.
1.2.1.	Poor Interconnectivity with port operator	0.30	Moderate	Share	Share the risk: (Opportunity) Better and continuous collaboration with the port operators requesting them to share

RBS ID	Risk	P x I	Category	Risk Response	Risk Strategy
					in the responsibility to secure interconnectivity.
1.2.4.	Errors in training documents	0.13	Low	Accept	Accept the risk: (Opportunity) Training requirements should be clearly stipulated, professional translation of documents must be requested to ensure that training documents are acceptable. Request feedback from participants to improve training documents.
1.3.1	Outdated software version	0.09	Low	Accept	Accept the risk: (Opportunity) Within procurement documents the requirements to use the latest version of a software is a pre-requisite
1.3.2.	Applicability/compatibility	0.14	Low	Accept	Accept the risk: (Opportunity) Within procurement documents the requirements to use the compatible software is a pre-requisite

(Source: Amat, 2022)

**Chart 43 Risk Response and Strategy to Opportunities for the Management Risk**

RBS ID	Risk	P x I	Category	Risk Response	Risk Strategy
2.1.1.	Poor Procurement planning	0.25	Moderate	Share	Share the risk: (Opportunity) Offer training in IDB procurement policies and procedures. Purchase user-friendly procurement software systems.
2.1.2.	Poor communication	0.18	Moderate	Accept	Accept the risk: (Opportunity) From the onset information on communication line and method used,



RBS ID	Risk	P x I	Category	Risk Response	Risk Strategy
					should be shared with all stakeholders. Timeliness in addressing queries received is of importance. The possession of a communication manual is advisable.
2.2.1.	Misappropriation of Human Resources	0.18	Low	Accept	Accept the risk: (Opportunity) Clearly written job description and requirements for positions

(Source: Amat, 2022)

**Chart 44 Risk Response and Strategy to Opportunities for the Commercial Risks**

RBS ID	Risk	P x I	Category	Risk Response	Risk Strategy
3.1.1.	Poor terms and conditions to safeguard Client	0.02	Low	Accept	Accept the risk: (Opportunity) The duties and responsibilities of each party should be clearly specified in procurement documents and also written in the contract agreement.
3.1.2.	Poor Client/customer relationship	0.05	Low	Accept	Accept the risk: (Opportunities) Contract conditions regarding duties and responsibilities for both Client and customer should be clearly specified in procurement documents. During negotiations leading to contract award, the requirements should be duly discussed and agreed upon. Having kick-off meetings with the customer about the services to be rendered.

3.2.1	Poor requirements of consultants	0.35	Moderate	Share	Share the risk: (Opportunity) Procurement can launch a Request for Information about the availability of services in the field of PCS. From the information received, the project team will be able to write proper and clear requirements of the type of services that are required.
3.2.2.	Inadequate Training experts	0.12	Low	Accept	Accept the risk: (Opportunity) Identify specialized training centers that possess accredited and certified professional trainers in the field of PCS. Request quotations from the list of the identified training centers. This will be a limited bidding process.

(Source: Amat, 2022)

**Chart 45 Risk Response and Strategy to Opportunities for the External Risks**

RBS ID	Risk	P x I	Category	Risk Response	Risk Strategy
4.1.2.	Unfamiliarity with the applicable procurement regulations	0.25	Moderate	Share	Share the risk: (Opportunity) Training in the procurement procedures and regulations from the IDB can be established.
4.2.2.	PCS is a niche market, few eligible competitors	0.39	Moderate	Share	Share the risk: (Opportunity) The terms and conditions of the offered contract should provide long-term agreements to attract potential competitors. Long-term contracts can be a

RBS ID	Risk	P x I	Category	Risk Response	Risk Strategy
					leverage to be used by the client in ensuring a commitment with a competitor.

(Source: Amat, 2022)

#### **4.8.8 Risk Monitoring and Control**

During the execution of the PCS Paramaribo project, the Project Manager and his team need to monitor and control the risks that have been identified continuously. During the weekly project team meetings, the risk shall be discussed, monthly reports shall reflect the risk and risk responses. The Project Manager and his team shall be diligent for new risks that may arise and respond quickly in planning risk responses for new identified risks.

#### **4.8.9 Risk Management Change Process**

Any modification to the Project Risk Management Plan is only possible through the Change Management Process (Integrated Change Control Process). The Change Application Form as illustrated in Figure 24 should be used to request change. The Change Management Process as depicted in Figure 23 shall apply to all change requests received by the Project Manager. Following the decision, a proper response will be sent. The Project Manager shall, as described in Figure 23 update the Risk Management Plan on as required.

## **4.9 PROJECT PROCUREMENTMANAGEMENT PLAN**

### **PROCUREMENT MANAGEMENT PLAN PCS PARAMARIBO SURINAME**

Introduction

Procurement Management Approach

Project Procurement

Roles and Responsibilities

Defining the Procurements

Procurement

Procurement Risk and Risk Management Control

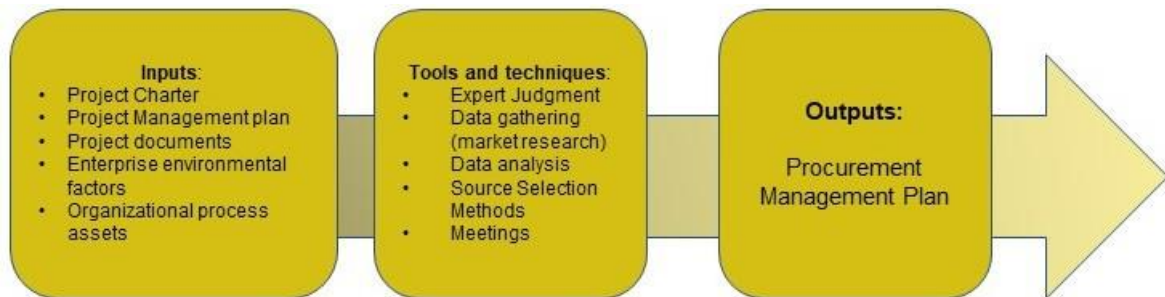
Management of Supplier/Vendor and Consultants Relationship

Procurement Management Change Process

#### **4.9.1 Introduction**

The Procurement Management Plan provides the procurement framework for the Project Manager and his team in the execution of the project. The purpose of the Procurement Management Plan is to define the procurement approaches, processes, and procedures to acquire correct goods and services to ensure that the Port Community System project is completed on time. This plan shall identify and define the services and goods to be procured, the types of contracts used for the procurement, the source-selection criteria used for the different procurements. Figure 39 shows the process to develop the Procurement Management Plan, the required Inputs, the tools, and techniques used and the final output.

**Figure 39 Procurement Management Plan PCS Paramaribo**



Note: Adapted from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition*. Project Management Institute, 2017 Figure 12-2, p.466. Copyright 2017 by PMI Inc. Permission not sought

#### **4.9.2 Procurement Management Approach**

To ensure that the right resources are available at the right time as mentioned in the Resource Management Plan, it is important the procurement processes are launched accordingly. Good procurement planning and the implementation of procurement is thus important.

Procurement processes should be transparent and fair to all eligible contenders/bidders. The Project Manager should have control of all procurement activities in conjunction with the Procurement Specialist, the Financial Specialist, and the Technical Resource person.

#### **4.9.3 Roles and Responsibilities**

To guarantee that the procurement processes should lead to the successful completion of the PCS Paramaribo project, responsibilities are assigned to the key stakeholders. These responsibilities are illustrated in Chart 42.

**Chart 46 Procurement Management Roles and Responsibilities**

Role	Procurement Management Responsibilities
Client/Sponsor	<ul style="list-style-type: none"> <li>• Approves the procurement Management plan</li> <li>• Provides the framework and guidelines for the</li> <li>• Procurement Management Plan</li> <li>• Review and approves the evaluation reports and contracts to be signed with selected bidder/consultant/supplier</li> <li>• Approves the Terms of Reference to be issued</li> </ul>
Beneficiary	<ul style="list-style-type: none"> <li>• Approves the Terms of Reference prior to submission to the Client/Sponsor</li> </ul>
Project Manager	<ul style="list-style-type: none"> <li>• Responsible for overall project execution</li> <li>• Leads in the preparation of the procurement plan for the whole of the project and preparation of the annual procurement plan</li> <li>• Guides his team in the fiduciary compliance with the procurement guidelines and procedures as set by the Client.</li> <li>• Guides the responsible person in the drafting of the Terms of Reference based on the needs and requirements of the beneficiary.</li> <li>• Provides feedback to the responsible person on submitted draft Terms of References</li> <li>• Submits the terms of reference, including the bidding document and proposed type of contract to the client/ sponsor for their approval.</li> <li>• Reviews request for change of the procurement plan.</li> <li>• Reviews request for change of the contracts signed.</li> <li>• Provides information on procurement processes at the Progress meeting with the Client and Beneficiary.</li> </ul>

Role	Procurement Management Responsibilities
PIU/PEU	<ul style="list-style-type: none"> <li>• The Procurement Specialist shall prepare the draft procurement plan in collaboration with the Financial Specialist.</li> <li>• Assists the Project Manager in achieving procurement targets</li> <li>• Develop the required Terms of Reference and contracts</li> <li>• Advises and assists the Project Manager on change requests received.</li> </ul>

(Source: Amat, 2022)

#### 4.9.4 Defining the Procurements

As the PCS Paramaribo project is financed through a loan with the IDB, the policies and procedures governing the implementation of the project are those agreed upon. Method of procurement is different for each Borrowing Country and is stipulated by the thresholds applicable to a particular country. For Suriname and thus the PCS Paramaribo project t these thresholds are captured in Figure 40.

**Figure 40 Thresholds applicable**

THRESHOLDS				
International Competitive Bidding Threshold*		National Competitive Bidding Range ** (Complex Works and non-common goods)		Consulting Services
Works	Goods	Works	Goods	International Short List
≥1,000,000	≥100,000	100,000 – 1,000,000	25,000 - 100,000	≥100,000

\* When procuring simple works and common goods and their amount is under the International Competitive Bidding thresholds, Shopping may be used.

\*\* When procuring complex works and non-common goods with amounts under the NCB range, Shopping shall be used  
Country Thresholds Table (US\$) [www.iadb.org/procurement](http://www.iadb.org/procurement)

*Note. From Program Operational Manual applicable to the loan agreement for “Improving Transport Logistics and Competitiveness in Suriname” 2020, Permission not sought*



For the PCS Paramaribo project the overview of the procurement services and goods as captioned in Chart 43 are deemed important for successful completion of the project.

**Chart 47 Procurement List PCS Paramaribo project**

<b>Goods or services</b>	<b>Type</b>	<b>Procurement Method</b>	<b>Needed by</b>
Project Manager	Human Resources	Contract	At least 6 months prior to start of the procurement of consultancy activities
PEU/PIU (PM team)	Human Resources	Contract	At least 4 months prior to start of the procurement of consultancy activities
Data gathering Services	Human Resources	Source-selection criteria, Contract	December 2022
PCS Developer	Human Resources	Source-selection criteria, Contract	January 2023
Trainers	Human Resources	Source-selection criteria, Contract	April 2024
Auditor	Human Resources	Source-selection criteria, Contract	Start of the project
Facilities	Physical Resources	Direct Contracting	Start of the project
Office Supplies	Physical Resources	Offer, Direct Contracting	Throughout the project life cycle
Software	Physical Resources	Purchasing(shopping)	Start of the project

Goods or services	Type	Procurement Method	Needed by
Training material	Physical Resources	Direct	Start of the project
Equipment	Physical Resources	Purchasing(shopping), Contract	Before the start of the procurement of consultancy activities

(Source: Amat, 2022)

#### 4.9.5 Procurement

All procurements and contracts require prior approval from the Client/Sponsor after the Project Manager has provided his approval.

The selection of the Project Manager and his team will be based on the presented CV, interviews, and tests when necessary. The team will be selected based on their compliance to fulfill the task assigned to the position and shall be stated in the Terms of Reference.

The procurements for other type of services also require Terms of References, which should be clear and unambiguous. The selection and awarding process, and the draft contract should be well described in the tender documents. Fixed price with economic price adjustments will be applicable for the multi-annual contracts, for all other types of services fixed price contracts will be applied.

For direct purchasing, a three-quotation process will be used to compare the vendors/suppliers, examine the quotations, and ultimately select the vendor/supplier offering the most advantageous offer (best price).

#### 4.9.6 Procurement Risk and Risk Management

Within Procurement Management like any other process there are potential risk that may impact the procurement process. The project Manager and his team shall make the necessary considerations to respond to the procurement risks. Chart 48 illustrates the potential procurement risk and the management of those risks.

**Chart 48 Procurement Risks**

Procurement Risk	Management of the Risk
Scope and schedule changes	<ul style="list-style-type: none"> <li>• Procurement activities should support and/or accommodate scope and schedule changes. An addendum to a bidding document may be issued.</li> </ul>
Noncompliance to the terms of reference for the PCS Developer.	<ul style="list-style-type: none"> <li>• Carry out market research on potential competitors.</li> <li>• Extension of the submission date of bids.</li> </ul>
Training materials do not meet the requirements	<ul style="list-style-type: none"> <li>• Vendor/supplier to submit a prototype of the training material 2 months prior to the date set for the training.</li> </ul>
Amount of training material is insufficient	<ul style="list-style-type: none"> <li>• Agree with the vendor/supplier at contract signature that sufficient material should be available within agreed timelines.</li> </ul>
Change in cost due to international market	<ul style="list-style-type: none"> <li>• Built a contingency plan to cover these unforeseen costs</li> </ul>
Products delivered by the consultants do not meet the specifications	<ul style="list-style-type: none"> <li>• Ensure that feedback time is incorporated in the contract</li> </ul>

Procurement Risk	Management of the Risk
	documents and that communication line are also well defined.

(Source: Amat, 2022)

#### 4.9.7 Management of Supplier/Vendor and Consultants Relationship

The Project Manager shall foster a good relationship with the selected Suppliers and Consultants to ensure that the successful project delivery is achieved. Appendix A to this document illustrates a template of criteria used to hire a needs assessment consultant.

Kick-off meetings will be held, where the Project Manager should emphasize the requirements and expectations to each of the Supplier and Consultants. Regular meetings should be held to ensure that proper follow-up to contract agreements is carried out by both parties to the contract.

The Project Manager shall inform the Project Steering Committee, the Beneficiary, and the Client about the performance of the suppliers and consultants. Any delay or non-conformance to the agreed contract will be properly addressed by the Project Manager to the Suppliers and or Consultants.

#### 4.9.8 Procurement Management Change Process

Any modification to the Procurement Management Plan is only possible through the Change Management Process (Integrated Change Control Process). The Change Application Form as illustrated in Figure 24 should be used to request change. The Change Management Process as depicted in Figure 23 shall apply to all change requests received by the Project Manager. Following the decision, a proper response will be sent. The Procurement Specialist shall, as described in Figure 23 update the Procurement Plan as required.

## **4.10 PROJECT STAKEHOLDER MANAGEMENT PLAN**

### **STAKEHOLDER MANAGEMENT PLAN PCS PARAMARIBO SURINAME**

Introduction

Stakeholder management approach

Identification of stakeholders

Analysis of the stakeholders

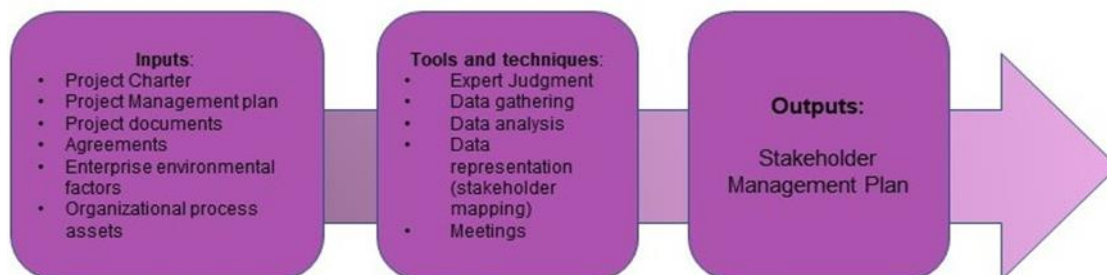
Managing stakeholder engagement

Stakeholder management plan and the change process

#### **4.10.1 Introduction**

The Stakeholder Management Plan for the PCS Paramaribo project is aimed at identifying the key stakeholders that are impacted by and can influence the successful outcome of the project. The stakeholder management plan provides the framework for effective stakeholder engagement and strategies for stakeholder management during the project life cycle. The Stakeholder management plan for the PCS Paramaribo project should provide clear information on the roles and responsibilities of the key stakeholders involved. The Project manager for the PCS Paramaribo project is responsible for drafting the Project stakeholder management plan. Figure 41 shows the process to develop the stakeholder management plan, the required Inputs, the tools, and techniques used and the final output.

**Figure 41 Develop Stakeholder Management Plan PCS Paramaribo**



Note. Adapted from “A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition”. Project Management Institute, 2017 Figure 13-2, p.507. Copyright 2017 by PMI Inc. Permission not sought

#### **4.10.2 Stakeholder management approach**

In developing the stakeholder’ management plan the stakeholders involved or that may be affected by the project or have influence on the project should be identified. The identification of the Stakeholders should be done at the beginning of the PCS Paramaribo project. The main stakeholders were already mentioned in the project charter and are engaged from the beginning of the project, through effective communication and stakeholder engagement.

#### **4.10.3 Identification of stakeholders**

The identification of the stakeholders within the PCS Paramaribo project is important to effectively manage and involve the stakeholders for a successful completion of the project. In the project charter a distinction was made between direct and indirect stakeholders, Chart 45 provides an overview of the direct and indirect stakeholders. Each identified stakeholder will receive a unique ID code and will be used throughout the project. Once the stakeholders have been identified, the stakeholder’s register can be created. The stakeholders’ register documents the stakeholders, their interest, their expectations, their influence, and impact they may have on the PCS Paramaribo project. The stakeholders’ register is captured in Chart 46.

**Chart 49 Stakeholder Identification PCS Paramaribo**

<b>ID</b>	<b>Stakeholder</b>	<b>Direct/Indirect</b>
1	Project Sponsor	Direct
2	Client	Direct
3	Port of Paramaribo (Beneficiary)	Direct
4	Project Manager	Direct
5	Project Steering Committee	Direct
6	Ministry of Finance and Planning	Direct
7	Customs Authority	Direct
8	Maritime Authority	Direct
9	Port Operators	Direct
10	Port Workers	Indirect
11	PCS developers	Indirect
12	Consultants	Indirect
13	Shipping Agencies	Indirect
14	Truckers/truckdrivers	Indirect
15	Importers/Exporters	Indirect
16	Broker Agents	Indirect
17	Suriname Business Association	Indirect

**(Source: Amat, 2022)**

Chart 50 Stakeholder Register PCS Paramaribo

ID	Stakeholder	Functional area	Roles-responsibilities	Main Expectations	Main Requirements	Type of Communication	Influence (L-M-H)	Impact (L-M-H)
1	Project Sponsor	Sponsorship	Provides overall support	Project completion	Project to be finished within time, budget, and scope and according to the policies.	Meetings, emails, reports	High	High
2	Client	Sponsorship	Provide support during the planning and execution. Contribution may be in kind and in supplemental funding.	Project completion	Successful completion within the available time, cost, scope.	Meetings, emails, reports	High	High
3	Port of Paramaribo	Beneficiary/end- user	Provide support to the Project Manager	Project completion	Successful completion of the project to meet their requirements	Meetings, emails, reports	High	High



ID	Stakeholder	Functional area	Roles-responsibilities	Main Expectations	Main Requirements	Type of Communication	Influence (L-M-H)	Impact (L-M-H)
					to comply with globalizing the port communities.			
4	Project Manager	Project Management	Oversight of the project and all the project processes	Project completion	Successful completion within the available time, cost, scope.	Meetings, emails, calls, reports	High	High
5	Project Steering Committee	Project management	Support the Project Manager and the team in project planning and the implementation of the project.	Project completion	Successful completion within the available time, cost, scope.	Meetings, emails, reports	High	High
6	Ministry of Finance and Planning	Revenues	none	Project completion	Project completion	Reports	High	Medium

ID	Stakeholder	Functional area	Roles-responsibilities	Main Expectations	Main Requirements	Type of Communication	Influence (L-M-H)	Impact (L-M-H)
7	Customs Authority	Customs Revenues	Support in project execution	Project completion	Access to the data the system will generate, and that the system will provide interconnectivity to Asycuda World.	Meetings, emails, reports	High	High
8	Maritime Authority	Maritime	Support in project execution	That the system will aid the authority in complying with international agreements.	Access to the data the system will generate, and that the system will provide the agency with appropriate data	Reports, meetings	Medium	High

ID	Stakeholder	Functional area	Roles-responsibilities	Main Expectations	Main Requirements	Type of Communication	Influence (L-M-H)	Impact (L-M-H)
9	Port Operators	Port user	Support in project execution. Granting access to their systems for PCS system to make connectivity	That the system will aid the port in improving the port processes effectively and efficiently.	That the system is secure and that the project is completed on time. That the system will facilitate interconnectivity to their systems.	Meetings	Medium	Medium
10	Port Workers	Other	none	None	None	Meetings, bulletin	Low	Low
11	PCS Developers	Developers		That the system is user-friendly, secure and meets the requirements of the Client.	That they can deliver a system complying to the requirements	Meetings, emails, reports	Medium	High

ID	Stakeholder	Functional area	Roles-responsibilities	Main Expectations	Main Requirements	Type of Communication	Influence (L-M-H)	Impact (L-M-H)
					as set by the Client			
12	Consultants	Needs analysis and requirements	Provide support to the Project Manager and his team	Receive appropriate compensation	That the consultants provide sufficient technical specification for a PCS applicable to the Surinamese situation	Meetings, emails, reports	Medium	High
13	Shipping agencies	Other	none	That the system will accelerate processes at the port.	That the system works.	Meetings, emails	Low	Medium
14	Truckers/truckdrivers	Other	none	none	none	Meetings, bulletin	Low	Low

ID	Stakeholder	Functional area	Roles-responsibilities	Main Expectations	Main Requirements	Type of Communication	Influence (L-M-H)	Impact (L-M-H)
15	Importers/ Exporters	End-user	none	Port processes to be accelerated.	That the system is working	Meetings, emails, bulletin	Low	Low
16	Broker Agents	Other	none	none	none	Bulletin	Low	Low
17	Suriname Business Association	Other	none	That the business community will reap the benefits of the improved port processes.	That the system will improve the port processes with efficiency in mind.	Meetings, bulletin	Low	Low

(Source: Amat, 2022)

#### 4.10.4 Analysis of the Stakeholders

Upon completing the stakeholders register, the program manager can analyze each stakeholder involved in the PCS Paramaribo project individually to warrant successful stakeholder engagement and in the end to have a project completed successfully. Each stakeholder has power and interest in the completion of the project, these are however not uniformly for each stakeholder. A power/interest classification matrix will first be constructed as can be seen in Chart 51. The Power Interest Matrix, as illustrated in Figure 42, for the PCS Paramaribo project is developed, based upon the classification matrix.

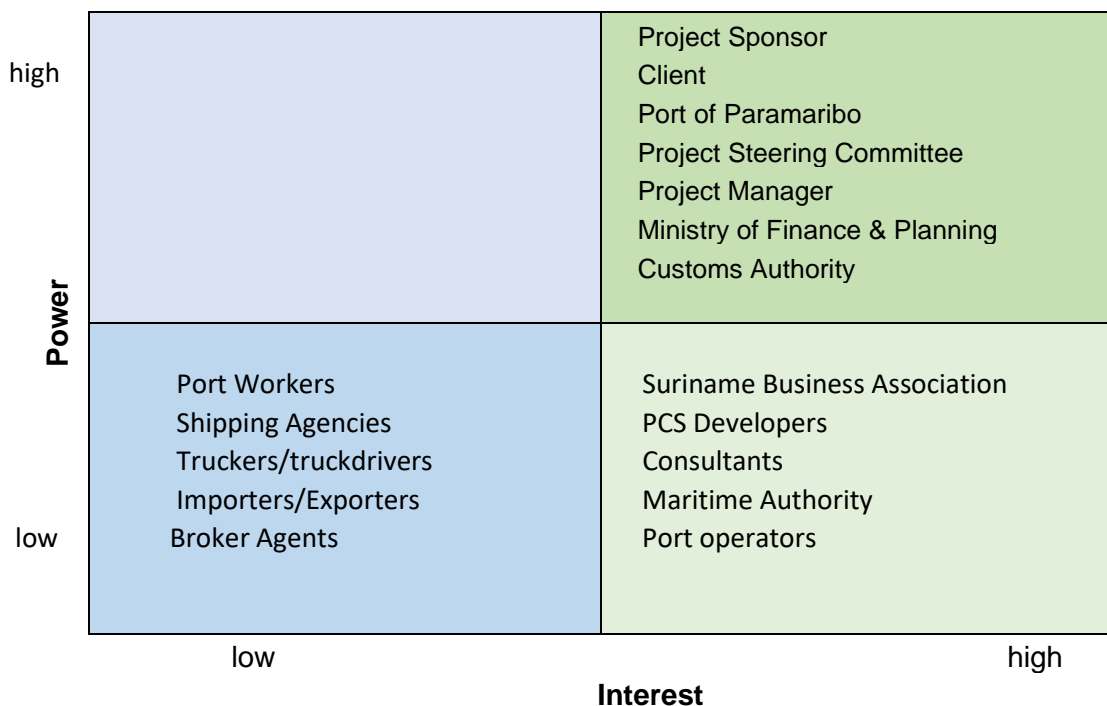
**Chart 51 Stakeholder Power Interest Classification Matrix PCS Paramaribo**

ID	Stakeholders	Classification	
		Power (Low/High)	Interest (Low/High)
1	Project Sponsor	High	High
2	Client	High	High
3	Port of Paramaribo	High	High
4	Project manager	High	High
5	Project Steering Committee	High	High
6	Ministry of Finance & Planning	High	High
7	Customs Authority	High	High
8	Maritime Authority	Low	High
9	Port Operators	Low	High
10	Port Workers	Low	Low
11	PCS Developers	Low	High
12	Consultants	Low	High
13	Shipping agencies	Low	Low
14	Truckers/truckdrivers	Low	Low
15	Importers/Exporters	Low	Low

ID	Stakeholders	Classification	
		Power (Low/High)	Interest (Low/High)
16	Broker Agents	Low	Low
17	Suriname Business Association	Low	High

(Source: Amat, 2022)

**Figure 42 Power Interest Matrix PCS Paramaribo**



*Note: Amat, 2022*

Following the identification and the analysis of the stakeholders, and the Power/Interest Matrix, it is possible to identify the most influential and impacted stakeholder group in the PCS Paramaribo project. As such the level of engagement and the stakeholder management strategy and plan can be created and implemented. As stated in the PMBOK Guide (2017), Plan Stakeholder Engagement is the process of developing appropriate strategies to effectively involve stakeholders, based on the analysis of their needs, interests and potential impact on

project success. This process offers an actionable plan to engage effectively with the stakeholders and should be carried out periodically by the Project Manager during the project life cycle. The engagement level will vary as the project evolves. At the beginning of the project some stakeholders may be reluctant to participate in the project as they may be reluctant to share information, even if the project is of importance to them. According to PMBOK Guide (2017), there are 5 levels of engagement classified: Unaware, Resistant, Neutral, Supportive and Leading. Based on interviews and in applying these engagement levels to the PCS Paramaribo project, the stakeholder engagement matrix is derived as captured in Chart 52. C represents the Current engagement level and D represents the Desired engagement level for the PCS Paramaribo project. The Project Manager should utilize this tool in creating support for the project with respect to the stakeholders that have a current engagement level of Unaware, Resistant and Neutral, to achieve project support and project success.

**Chart 52 Stakeholder Engagement Matrix PCS Paramaribo**

ID	Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading
1	Project Sponsor					C, D
2	Client					C, D
3	Port of Paramaribo					C, D
4	Project Manager					C, D
5	Project Steering Committee					C, D
6	Ministry of Finance & Planning			C	D	
7	Customs Authority				C	D
8	Maritime Authority			C		D
9	Port Operators			C	D	
10	Port Workers	C			D	
11	PCS Developers				C D	



ID	Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading
12	Consultants			C D		
13	Shipping agencies			C	D	
14	Truckers/truckdrivers	C			D	
15	Importers/Exporters		C		D	
16	Broker Agents			C	D	
17	Suriname Business Association			C	D	

*Note.* Adapted from - “A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition”. Project Management Institute, 2017 Figure 13-6, p.522. Copyright 2017 by PMI Inc. Permission not sought

#### **4.10.5 Managing stakeholder engagement**

Managing stakeholder engagement according to PMBOK Guide (2017) is the process of communicating and working with stakeholders to meet their needs and expectations, address issues, and promote stakeholder involvement in achieving project success. As previously stated, the Project Manager should utilize every tool and techniques available to foster stakeholder involvement in achieving support and minimize resistance for the PCS Paramaribo project to be successfully implemented. The Project Manager should be able to assess that every stakeholder has to be approached differently to foster meaningful engagement.

From the stakeholder analysis it is concluded that most of the direct stakeholders of the PCS Paramaribo project have high power and high interest; therefore, the success of the project will also depend on their active involvement in the project and their willingness to share data required for the Port Community System. This group of stakeholders needs to be managed closely, through collaboration and consultation. The stakeholders that are classified as low power and high interest should be kept informed through consultation and timely information sharing. The stakeholders’ group that is classified as low power and low interest need to be

monitored by providing information on a timely basis. As the Project Manager seeks to establish support for the project this group's interest should be improved. The level of engagement for some groups requires to be maintained as is whilst others require to be increased. Figure 43 depicts the stakeholder engagement matrix, which will require to be updated during the project life cycle.

**Figure 43 Stakeholder Engagement Matrix PCS Paramaribo**

<b>Stakeholder Power</b>	high	<b>Keep Satisfied</b>	<b>Manage Closely</b> Project Sponsor Client Port of Paramaribo Project Steering Committee Project Manager Ministry of Finance & Planning Customs Authority
	low	<b>Monitor</b> Port Workers Shipping Agencies Truckers/truckdrivers Importers/Exporters Broker Agents	<b>Keep informed</b> Suriname Business Association PCS Developers Consultants Maritime Authority Port operators
		low	high

**Stakeholder Interest**

*Note: Amat, 2022*

#### 4.10.6 Stakeholder Management Plan and Change Process

Monitor Stakeholder Engagement is the process of monitoring relationships and designing strategies for engaging the stakeholders through modification of engagement strategies and plans (PMI, 2017). The aim is to maintain or increase the efficiency and effectiveness of stakeholders' engagement activities as the project evolves and the project environment changes.

During the project execution the stakeholders' interest may change, requiring the Project Manager to update the Stakeholder Engagement Matrices.

Any modification to the Stakeholder register is only possible through the Change Management Process (Integrated Change Control Process). The Change Application Form as illustrated in Figure 24 should be used to request change. The Change Management Process as depicted in Figure 23 shall apply to all change requests received. During Project implementation, not only may the Stakeholders' interest change, but also the category of stakeholder. This means that the Project Manager should continuously monitor the stakeholders in the PCS Paramaribo project.

Based on the information received through personal interviews and meetings with the stakeholders, the Project Manager should be able to create a Stakeholder Engagement Plan. From the analysis gathered from the Stakeholder Register, the role of each stakeholder, Stakeholders' needs and expectations, their power/interest, influence/impact, and the classification of the engagement assessment the Project Manager should be able to assess which type of engagement strategy should be applied per stakeholder.

Elements of the stakeholder engagement plan may include:

- Categories or groups of stakeholders
- Stakeholders likely impacts or benefits, interest: positive or negative
- Characteristics, degree of influence, location
- How the project anticipates engaging with each of the different groups: what venues or formats to use. For example, for public meetings, the Project Manager may opt to use flyers with "clear and understandable" information to invite the public for a public meeting. The facility for the event should accommodate all invitees.

Chart 53 illustrates the content of a stakeholder engagement plan.

Chart 53 Stakeholder Engagement Plan PCS Paramaribo

Stakeholder	Contactinfo.	Role	Requirement (needs)	Expectation	Power	Interest	Influence	Impact	Category Stakeholder Engagement Assessment Matrix	Engagement Strategy
Project Sponsor	Telephone, Email address	Provides overall support. Sponsorship	Project to be finished within time, budget and scope and according to the policies.	Project completion	High	High	High	High	Leading	Weekly, Monthly meetings, Reports, Appeals
Client	Telephone, Email address	Provide support during the planning and execution. Contribution may be in kind and in supplemental funding. Sponsorship	Successful completion within the available time, cost, scope.	Project completion	High	High	High	High	Leading	Weekly, Monthly meetings, Reports, Appeals
Beneficiary	Telephone, Email address	Provide support to the Project Manager	Successful completion of the project to comply with globalizing port community requirements such as IPCSA	Project completion	Medium/Moderate	High	High	High	Supportive	Weekly, Monthly meetings, Reports, Appeals
Project Steering Committee	Telephone, Email address	Support the Project Manager and the team in project planning and the implementation of the project.	Successful completion within the available time, cost, scope.	Project completion	High	High	High	High	Supportive	Monthly meetings
Ministry of Finance & Planning	Telephone, Email address	Supportive (to none)	Project Completion	Successful project completion	High	High	High	Medium/Moderate	Neutral	Reports
Customs Authority	Telephone, Email address	Support in data gathering, project execution	Access to the data the system will generate, and that the system will provide interconnectivity to Asycuda world.	Project completion	High	High	High	High	Supportive	Progress meetings
Maritime Authority	Telephone, Email address	Support in project execution	Access to the data the system will generate, and that the system will provide the agency with appropriate data	That the PCS system will aid the Maritime Authority in complying with international agreements	Low	High	Medium/Moderate	Medium/Moderate	Supportive	Progress meetings
Port Operators	Telephone, Email address	Support in project execution. Granting access to their systems for PCS system to make connectivity	That the system is secure and that the project is completed on time. That the system will facilitate interconnectivity to their systems.	That the system will aid the port in improving the port processes effectively and efficiently.	Low	High	Medium/Moderate	Medium/Moderate	Supportive	Group meetings
Port Workers	WhatsApp	none	none	none	Low	Low	Low	Indifferent	Unaware	Public meetings
PCS Developers	Telephone, Email address	Provide support and knowledge regarding PCS systems	That they can deliver a system complying to the requirements as set by the Client	That the system is user-friendly, secure and meets the requirements of the Client.	Medium/Moderate	High	Medium/Moderate	Medium/Moderate	Supportive	Progress meetings
Consultants	Telephone, Email address	Provide support and knowledge regarding PCS systems	Receive appropriate compensation	That the consultants provide sufficient technical specification for a PCS applicable to the Surinamese situation	Low	High	Low	Indifferent	Supportive	Progress meetings
Shipping Agencies	Telephone, Email address	none	That the system works and can be applied in the country.	That the system will accelerate processes at the port.	Medium/Moderate	Low	Low	Medium/Moderate	Resistant	Group meetings
Truckers/truck drivers	WhatsApp	none	none	Workload to be alleviated	Low	Low	Low	Indifferent	Unaware	Public meetings
Importers/Exporters	Telephone, Email address	none	Ease of retrieving shipment from the port should be improved	Processes at the port to be improved	Low	Low	Low	Low	Resistant	Group meetings
Broker Agents	Telephone, Email address	none	Ease of retrieving or delivering shipment from/to the port should be improved	Lengthy process to clear goods to be shortened.	Low	Low	Low	Low	Neutral-Resistant	Group meetings
Suriname Business Association	Telephone, Email address	none	That the system will improve the port processes with efficiency in mind.	That the business community will reap the benefits of the improved port processes.	Low	High	Low	Low	Neutral	Group meetings

Note: Amat, 2022

## 5 CONCLUSIONS

The Project Management Plan for the PCS Paramaribo Project was developed to complete the requirements of the Final Graduation Project for the Master Project Management Course. This Project Management Plan comprises the creation of the project charter and the subsidiary plans that establishes a framework for effective project definition, planning, execution, monitoring and closing by the Project Manager and its team. Based on the current situation, the nature, the complexity, and the stakeholders involved in the project, the following conclusions are made:

1. The Project Charter was created to formally authorize the existence of the project by the Client. It clearly defines the Project Managers authority in applying project resources for the project activities. The Project Charter provides high-level information on the justification of the project, its deliverables, the objectives, and goal of the project.
2. The Scope Management Plan provided the framework of the processes involved for the successful completion of the project and comprises elements such as the Work Breakdown Structure (WBS) and the WBS Dictionary. The scope management plan identified and defined the project activities and the scope requirements with the intention to avoid scope creep.
3. The developed Schedule Management Plan provided the framework of the proposed schedule for project deliverables. By applying the predictive approach, the Critical Path was generated. The Critical Path Method should be used to manage the project on the activity level, delays should be avoided and if it occurs, the necessary measures should be put in place to bring the project back on track. The schedules including the critical path were created by using Microsoft Project.

4. The developed Cost Management Plan provides the budget for the project, by applying cost estimation to determine the cost estimates of the activities. Earned Value Analysis should be used to compare actual project performance against planned project performance.
5. The Quality Management Plan provided the framework to ensure project standards to be maintained throughout the project life cycle. It provides the guidance how to monitor and control the quality to meet the client's expectations  
.
6. Each project consumes resources, whether these are human resources or physical resources. The Resource Management Plan was created to provide the framework for defining the resources, how these are categorized, allocated, managed, and released to ensure that the right resources are available and are applied at the right time. An important factor in the identified human resources is the development of the project team. Through improving the competencies of the team members, the quality of the work performance can be positively influenced, hence project outcomes can be enhanced.
7. As stated in the PMBOK Guide (2017), a Project Manager spends about 90% of their time communicating about the project. A comprehensive Communication Management Plan was therefore created to provide the framework for communication between the stakeholders throughout the PCS Paramaribo project. The communication matrix as well as communication models and methods were developed to ensure that effective and efficient communication is maintained throughout the project life cycle.
8. As stated before, no project is without risk. By developing the Risk Management Plan, the identified risks, the applied qualitative analysis, the probability, and impact matrices were gathered, based upon which the risk

response strategies were designed. The risk responses are for both threats and opportunities that may arise from the risk identified and were based on the Risk Breakdown Structure developed for the PCS Paramaribo project.

9. The Procurement Management Plan was created to provide the framework for the procurement of project resources (activities), it defines the methods and processes that can be utilized for acquisitions. It provides procurement decision criteria, procurement risks and corresponding risk management strategies and procurement documentation.
10. The Stakeholder Management Plan was created to provide a framework for identification and classification of the project stakeholders. These may be direct or indirect project stakeholders. The plan represents the project stakeholders register, power interest matrix, engagement assessment matrix. It defines the Stakeholder management plan and its strategies for an effective meaningful stakeholder engagement.
11. The selected FGP project supports the concepts of Regenerative Development and the Sustainable development. The project complies to 4 of the 6 dimensions of the Regenerative Development and having a positive impact in those dimensions. The project complies with all the 16 subcategories of the P5 Impact Assessment on sustainable development.
12. Taking the above-mentioned conclusions into consideration the Final Graduation Project highlighted the comprehension of each of the 10 (ten) knowledge areas of the Project Management Body of Knowledge (PMBOK Guide), 6<sup>th</sup> edition (2017) and integrates all of these areas into one comprehensive plan to implement the project effectively and successfully.

## 6 RECOMMENDATIONS

Based on the conclusion of the Project Management Plan for the PCS Paramaribo project the following recommendations are made:

1. The Project Manager for the PCS Paramaribo project should ensure that the Project Charter should include the following: general objective, specific objectives, purpose of the project, the stakeholders whether direct or indirect, assumptions, constraints, risks, preliminary scope, and the budget. The Project Manager should ensure that the Client/Sponsor approves the Project Charter for him/her to be assigned the authority for project execution.
2. The Project Manager should use the Scope Management Plan as developed for the PCS Paramaribo project to minimize the occurrence of scope creep.
3. The Project Manager should make use of tools to trace the project schedule to ensure that the project is executed according to the planned schedule. Tools such as MS Project or Primavera can be used, but even Microsoft Excel can be helpful to aid a Project Manager to establish a realistic project schedule. The Project Manager should understand the concepts of the techniques that are available to minimize delays that may occur and be able to apply the techniques such as “crashing” and “fast tracking” to bring the project back on track. The Project Manager should understand that delay in project execution means that the project will cost more than originally planned.
4. The Project Manager should use the Cost Management Plans and the tools and techniques available to him to avoid costs overruns and keep financial track on the project.



5. The Project Manager should use the Quality Management Plan and ensure that the quality is constantly measured as the outcome project of the project depends on the quality and the capabilities of the Port Community System that will be delivered to the Port of Paramaribo.
6. To aid the Project Manager in understanding which, when and how project resources should be released, the project schedule established in MS Project can be used for this purpose. The benefit of using tools such as MS Project will enable the Project Manager to have an overview of the resources required and who is responsible. The Client/ Sponsor should ensure that the Project Manager and his team (PIU/PEU) are provided with the appropriate project resources to implement the project effectively.
7. The Project Manager should ensure that information on the project and project development is shared with the stakeholders according to a well-defined Communication Plan as created for the FGP. The Project Manger should be able to distinguish what type of information is shared with each stakeholder. The Project Manager should be pro-active in communicating project progress, but also understand the frequency of sharing information, as for some stakeholders too much information may be an overkill, resulting in loss of interest for the project. For the public a social awareness program could be explored by the Project Manager to inform the group about the PCS project and the impact it will have on trade and in the end the economy of the country.
8. The Project Manager and his team should continue to identify project risks. The Project Manager in collaboration with his team (PIU/PEU) should develop the Risk Management Plan and its strategies. The template as provided in the Project Risk Management Plan can be used.

9. The Project Manager should have a good understanding of the market situation. Carrying out a market study regarding the available products/services and systems should enable the Project Manager to develop a realistic procurement plan and assign the resources required for the acquisition of project inputs.
10. The Project Manager should develop the Stakeholder Engagement Plan with his team (PIU/PEU) to engage the project stakeholders actively and effectively throughout the project life cycle.
11. The Project Manager should ensure that change requests are timely processed, properly analyzed, addressed, and registered, and if the change request is approved that the necessary resources and project plans are amended appropriately. The Project Manager shall ensure that all change requests should follow the Integrated Control Process throughout the project life cycle. Proper documentation is important for project execution and will serve as lessons learned for future projects.
12. Provided the aftermath of the Pandemic and the impact this has on the Supply Chain across all sectors Internationally, delays in procurement processes are expected. Resources, both human and physical, have become scarce. The Project Manager should be able to assess and foresee the delay that may be incurred in both acquiring the resources and overall project execution.
13. The Project Manager should monitor that the project remains in compliance with the concepts of Regenerative Development and the categories of sustainable development. Opportunities to exploit the project ability to improve on its sustainable development should be sought out.

14. In conclusion, the Project Manager should be aware that this project entails change management, which induces resistance from society. Each stakeholder is imperative for the successful implementation of this project, and as such, this will require time, to bring around the mind shift required for PCS to be acknowledge. Hence, the Project Manager should know that time is required for stakeholders to accept the process of change management and that due to scarcity of resources, acquisition of required inputs (resources) will take longer. The Project Manager and his team should update all plans continuously during the implementation of the project.

## **7 VALIDATION OF THE FGP IN THE FIELD OF REGENERATIVE AND SUSTAINABLE DEVELOPMENT**

In order to validate that the selected FGP supports the concepts of Regenerative and Sustainable development, the FGP topic was assessed against the concepts or criteria of each separately. As stated in chapter 1, the PCS is an electronic neutral platform which connects the several systems operated by a variety of organizations that composes the community for a seaport, airport, or inland port. It enables exchanges of information between public and private stakeholders, in a secure way. As currently most of the information exchange is via hard copy and by emails, which eventually is also printed out.

### **7.1 Regenerative Development Compliance**

The 6 dimensions of Regenerative Development as stated by Eduard Müller (2017) and M. Gabel (2015) can now be applied to the selected project:

1. Environmental, focusses on regeneration of degraded ecosystems, biodiversity, and ecosystems above other interests. In relationship with the FGP topic, the implementation of the PCS would not require having printed documents as all information should be shared digitally. This would mean that eco systems can be positively affected as less paper (wood) is used. Fuel consumption may decrease as information sharing will be via the platform, as less travelling is required. Improving the logistical processes at the Port will contribute to shorter dwell time of truckers at the port, alleviation of traffic congestion. As such one could state that the FGP topic is in compliance with the environmental dimension of Regenerative Development.
2. Social, focusses on participatory, inclusiveness of the communities. For the PCS implementation to be successful the participation of all stakeholders is of eminent importance as the project will impact processes at the port,

which go beyond the boundaries of the port itself. As such the project is in compliance with this dimension of Regenerative Development.

3. Economical dimension focuses on fair and equitable economy-common good. The PCS implementation will bring about transparency within the chain from the point of origin of a product or cargo up to the destination, may it be a trader's depot. The benefits of such a system are that it specifies what the product is, the value, where it was shipped from and by whom, which ship it was shipped on, the ports it has berthed and to whom the shipment belongs to. As such calculations and inking of revenues is based on equal terms applicable to all. As such the project is in compliance with this dimension of Regenerative Development
4. The political dimension focusses on Government to participate actively in the project and is recognizing the importance of the project. The PCS will require that legislation regarding the governance and adding value to services provided should be approved by the government. As such the project is in compliance with this dimension of Regenerative Development.
5. Cultural dimension is focused on the rescue of cultural diversity and local knowledge, transforming knowledge into wisdom to assure better future with greater possibilities of adaptation. No linkage could be found between the Cultural dimension and the project.
6. The spiritual dimension is focused on values, ethics and a society that cares. No linkage could be found between the Cultural dimension and the project.

Based on the analysis on Regenerative Development it is evident that the project is in compliance with Regenerative Development as 4 out of the 6 dimensions are applicable. A better overview of the project and its relationship to Regenerative Development can be found in Chart 54.

**Chart 54 Regenerative Development Compliance**

Dimension	Relationship/ Compliance	Effects	Mitigation measures	Indicators
Environmental	Yes	Positive		<ul style="list-style-type: none"> <li>• % of improved logistical processes.</li> <li>• Travel time on the adjacent road network improved, cue time from 60 minutes 20 minutes</li> </ul>
Social	Yes	Positive		<ul style="list-style-type: none"> <li>• Improved stakeholders' engagement</li> </ul>
Economical	Yes	Positive		<ul style="list-style-type: none"> <li>• % of revenue earned</li> </ul>
Political	Yes	Positive		<ul style="list-style-type: none"> <li>• Law on digitalization accepted and implemented and digital data</li> </ul>

Dimension	Relationship/ Compliance	Effects	Mitigation measures	Indicators
				information is accepted
Cultural	No	none	none	none
Spiritual	No	none	none	none

(Source: Amat, 2022)

## 7.2 Sustainable Development Compliance

To assess if the project is in compliance with sustainable development objectives, the P5 impact analyses was used to determine its compliance. The P5™ Impact Assessment is used to identify how the project activities impact the sustainability of the product, process, economic, environmental, and social territory (Carboni et al, 2018). The P5 is not a methodology, but a tool in aiding the alignment of portfolio's, programs or projects with a sustainable organizational strategy to focus on the impacts that project process and deliverables may have on the environment, the society(community), the company's growth, and the local economy.

There are 5 categories of impacts to be addressed for the assessment:

1. Product Impacts: Which focusses on the product life span and the product servicing (maintenance). The product life span is assured during the project life cycle. As the ultimate product is a system that requires to be updated at certain intervals and depending on the version for the organization. A warranty can be requested from the vendor/supplier for an x period of time, providing the organization sufficient time to gather resources after the warranty period has elapsed. As such the product life span and servicing is guaranteed.

2. **Process Impacts:** Focusses on the processes applied which should be effective, efficient, and fair. By applying PMI standards to be followed in the project, effective and efficient project processes can be achieved. The applied project processes such as procurement processes should be fair and equal for all eligible parties. By ensuring that the project processes have considered effectiveness, efficiency, and fairness the Process impacts will have a positive impact on the environment and the community.
  
3. **People (Social) Impacts:** The design of the project addresses the people (social) category of sustainability concerns the project may have on individuals and society. These include training and education, diversity and equal opportunity and local competence development.

Focuses on sub-categories:

- **Labor practices and decent work:** The project will improve the port process at the port, which should result in shorter waiting time for truckers. Not also impacting the on and off loading of the vessels, resulting in shorter turn-around time at the port. People will be required to be trained in improving the practices at the port.
- **Society and customers:** the PCS is a neutral platform, the data stored is not visible to everyone. Each port operator is assured that his company information will not be visible to his competitors. As a result, support from the port community can be gained in successful implementation of the project.
- **Human rights:** For the operation of the PCS a PCS unit will be required to manage the daily operations of the PCS. This will ensure job creation based on non- discriminatory rules.
- **Ethical Behavior:** Procurement practices should be unbiased, open and fair, by deploying anti-corruption practices and ensuring fair competition within the processes and procedures used for the execution of the project.



4. Planet (environmental) Impacts: Focusses on the sub-categories:
  - Transport: The PCS aims at improving logistics and process at the port. This should ensure that the cost for fuel should decrease, impacting the CO2 emissions and Greenhouse Gas (GHG).
  - Energy: Improved processes at the port facility should lead to a decrease of fuel consumption, which means that there are savings received due to the afore mentioned.
  - Land, air, and water. Due to decrease of fuel consumption, air quality should improve, and also impacting land and water.
  - Consumption: decrease of fuel consumption.
5. Prosperity (economic) Impacts: Focusses on 3 sub-categories:
  - Business Case Analysis: The Port of Paramaribo should focus on the Return of investment, the present value of the investment for the PCS. This is impacted positively as the government has committed itself to implement a PCS at the port facilities.
  - Business Agility. The PCS project will enable the Port of Paramaribo and the Government of Suriname to comply with several international agreements that are impacting international trade and maritime industry.
  - Economic Stimulation: The PCS project will bring transparency on the shipments coming into and departing the port. Underbilling practices(anti-corruption) will be stopped, as such the government will earn the actual revenues it is entitled to.

Based on the P5 assessment on sustainable development, it is evident that the project is in compliance with all of the 16 subcategories. A better overview of the project and its relationship to Sustainable Development can be found in Chart 55.

**Chart 55 Sustainable Development (P5) Compliance**

<b>Categories</b>	<b>Element</b>	<b>Relationship/ Compliance</b>	<b>Effects (Positive or negative)</b>	<b>Mitigation measures</b>	<b>Indicators</b>
Product Impacts	Lifespan of the product	Yes	Positive during the project life cycle	--	<ul style="list-style-type: none"> <li>Product life span of x years.</li> </ul>
	Servicing of product	Yes	Negative, the system will require maintenance and updates.	Warranty to be requested for x years	<ul style="list-style-type: none"> <li>Product updates, % of new applications or connections.</li> <li>Maintenance budget to be secured.</li> </ul>
Process Impacts	Effectiveness of project processes	Yes	Positive, PMI Standards to be applied	--	<ul style="list-style-type: none"> <li>% of project completion,</li> <li>Visible reduction of dwell time truckers</li> </ul>
	Efficiency of project processes	Yes	Positive, PMI Standards to be applied	--	<ul style="list-style-type: none"> <li>Paperwork is limited to identification.</li> </ul>

Categories	Element	Relationship/ Compliance	Effects (Positive or negative)	Mitigation measures	Indicators
	Fairness of project processes	Yes	Positive, Accountability and transparency in processes such as procurement.	--	<ul style="list-style-type: none"> <li>• Procurements are published.</li> <li>• No. of complaints received regarding local participation.</li> </ul>
People (Social) Impacts	Labor Practices and Decent Work	Yes	Positive, Less travel and wait time	--	<ul style="list-style-type: none"> <li>• No. of people trained</li> </ul>
	Society and Customers	Yes	Positive, Different stakeholders are consulted and partake	--	<ul style="list-style-type: none"> <li>• Policy reforms to be implemented</li> </ul>
	Human Rights	Yes	Positive, Fair hiring of personnel (job creation)	--	<ul style="list-style-type: none"> <li>• Hiring of fully dedicated personnel to operate the PCS system</li> </ul>
	Ethical Behavior	Yes	Positive,	--	<ul style="list-style-type: none"> <li>• Procurement should</li> </ul>

Categories	Element	Relationship/ Compliance	Effects (Positive or negative)	Mitigation measures	Indicators
			Procurement processes should be fair		provide equal opportunities for vendors. <ul style="list-style-type: none"> <li>• Supplier selection should be unbiased.</li> </ul>
Planet(environment) Impacts	Transport	Yes	Positive, Fuel consumption will decrease, less waiting and travel time	--	<ul style="list-style-type: none"> <li>• % decrease of GHG.</li> <li>• air quality improved</li> </ul>
	Energy	Yes	Positive, Decrease in fuel consumption	--	<ul style="list-style-type: none"> <li>• % decrease of GHG.</li> <li>• Financial expenditure used for petrol decreased.</li> </ul>
	Land, air and water	Yes	Positive. Due to decrease CO2	--	<ul style="list-style-type: none"> <li>• Better use of port facilities</li> </ul>

Categories	Element	Relationship/ Compliance	Effects (Positive or negative)	Mitigation measures	Indicators
	Consumption	Yes	Positive, Due to decrease fuel consumption	--	<ul style="list-style-type: none"> <li>Transport companies will require less budget for fuel</li> </ul>
Prosperity (Economic) Impacts	Business Case Analysis	Yes	Positive	--	<ul style="list-style-type: none"> <li>Government commitment to deploy PCS</li> </ul>
	Business Agility	Yes	Positive	--	<ul style="list-style-type: none"> <li>PCS will enable the government to comply with international agreements</li> </ul>
	Economic Stimulation	Yes	Positive	--	<ul style="list-style-type: none"> <li>% of increased revenues earned</li> </ul>

(Source: Amat, 2022)

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## 9 APPENDICES

**Appendix 1: FGP Charter****CHARTER OF THE PROPOSED  
FINAL GRADUATION PROJECT (FGP)**

1. Student name

Sitih Marianie Amat

2. FGP name

Project Management Plan for the Implementation of a new Port  
Community System in the Port of Paramaribo, Suriname.

3. Application Area (Sector or activity)

IT/Trade/Logistics

4. Student signature



5. Name of the Graduation Seminar facilitator

Róger Valverde Jiménez

6. Signature of the facilitator



7. Date of charter approval

04 September 2022

## 8. Project start and finish date

18 July 2022

TBD

## 9. Research question

What elements are required to implement a new Port Community System (PCS) in the Port of Paramaribo, Suriname?

## 10. Research hypothesis

Is it possible to implement a new Port Community System successfully in the Port of Paramaribo, Suriname?

## 11. General objective

To develop a comprehensive project management plan, within the framework of the standards set by the Project Management Institute, to implement a new Port Community System in the Port of Paramaribo effectively and efficiently.

## 12. Specific objectives

1. To create a project charter to formally approve the new Port Community System project and authorize the project manager to use project resources efficiently.

2. To develop a project scope management plan to aide in the description of the scope of the new Port Community System in defining, developing, monitoring, and controlling to meet stakeholders' requirements and avoid scope creep.
3. To create a schedule management plan to establish how the project schedule will be created, monitored, and controlled for the implementation of the new Port Community System within an approved reasonable time.
4. To develop a cost management plan, how the costs will be planned, structured, managed and controlled to complete the new Port Community System project within the available budget.
5. To create a quality management plan to establish the guidelines, policies, and procedures to be implemented in achieving the quality objectives of the Port of Paramaribo (client), within the triple constraint of time, scope, and cost.
6. To create a resource management plan to establish how the resources will be categorized, allocated, managed, and released to complete the new Port Community System project successfully.
7. To create a communication management plan to establish how information regarding the new Port Community System project will be communicated to all stakeholders involved, on a timely and appropriate manner to ensure that effective communication during the Port Community System project is implemented.
8. To create a risk management plan to establish how risk management activities will be formulated and performed for the new Port Community System project.
9. To create a procurement management plan to define which approaches, processes and procedures appropriate goods and services will be

acquired to ensure that the new Port Community System project is completed on time.

10. To create a stakeholder management plan to define the strategies and actions to promote stakeholder engagement in the decision-making and execution of the new Port Community System project.
11. To assess if the implementation of the new Port Community system is in compliance with regenerative development and the sustainable development goals.

### 13. FGP purpose or justification

The Port of Paramaribo, also known as the Jules Sedney Terminal, is responsible for handling 90% of Suriname's sea trade and the only port to manage containerized cargo. The port is managed by N.V. Havenbeheer Suriname (Suriname Port Management Company) and it operates the port with two private terminal operators via a lease and rental agreement. There are several smaller and private ports in the country, but the Jules Sedney Terminal is the country's main port. N.V.Havenbeheer is also the Port Authority in Suriname, responsible for all government owned ports.

Due to absence of a unified coordination system between the stakeholders (public and private) in the port and the Port Authority, inefficient customs clearance process, absence of automated processes for documentation and compliance, there is an inefficiency in managing the import process at the port. The current system does not allow to interconnect with the systems as used by the port stakeholders, and as such administrative processes are mainly paper based, which is time consuming and lengthy in the approval process chain for the supply chain within and outside the port. The average wait time (Deloitte,2018) of trucks for the import process can total up to six hours, which

adds to the transport cost at the Port of Paramaribo, resulting as a liability on logistic costs for economic activities and affecting the ease of trade at the port. According to the International Port Community System Association (IPCSA), a PCS is an electronic neutral platform, which connects the several systems operated by a variety of organizations that compose the community for a seaport, airport or inland port. This platform enables exchanges of information between public and private stakeholders in a secure manner. With a PCS at Jules Sedney Terminal, the port and logistic process can be optimized and automated through a single submission of data and connecting transport and logistic chains. This should result in shorter wait time of trucks and import process of fewer than 2 hours. This system will also provide transparency of the vessels and the type of cargo that is being imported or exported, which eventually translates into revenues that can be accrued by the government.

14. Work Breakdown Structure (WBS) in table form, describing the main deliverable as well as secondary products or services to be created by the FGP.

1. FGP: Port Community System in the Port of Paramaribo
1.1. Graduation Seminar
1.1.1. FGP Deliverables
1.1.1.1. Charter
1.1.1.2. WBS
1.1.1.3. Chapter I. Introduction
1.1.1.4. Chapter II. Theoretical framework
1.1.1.5. Chapter III. Methodological framework
1.1.1.6. Appendices
1.1.1.6.1. Bibliography
1.1.1.6.2. Schedule
1.1.2. Graduation Seminar Approval
1.2. Tutoring Process
1.2.1. Tutor
1.2.1.1. Tutor assignment

1.2.1.2. Communication
1.2.2. Adjustments of previous chapters (if required)
1.2.3. Chapter IV. Development (results)
1.2.3.1. Signed charter
1.2.3.2. Scope management plan
1.2.3.3. Schedule management plan
1.2.3.4. Cost management plan
1.2.3.5. Quality management plan
1.2.3.6. Resource management plan
1.2.3.7. Communications management plan
1.2.3.8. Risk management plan
1.2.3.9. Procurement management plan
1.2.3.10. Stakeholder management plan
1.2.3.11. Sustainability assessment
1.2.4. Chapter V. Conclusions
1.2.5. Chapter VI. Recommendations
1.3. Readings by Reviewers
1.3.1. Reviewers' assignment request
1.3.1.1. Assignment of two reviewers
1.3.1.2. Communication
1.3.1.3. FGP Submissions to reviewers
1.3.2. Reviewers' work
1.3.2.1. Reviewer 1
1.3.2.1.1. FGP Reading
1.3.2.1.2. Reader 1 report
1.3.2.2. Reviewer 2
1.3.2.2.1. FGP Reading
1.3.2.2.2. Reader 2 report
1.4. Adjustments and Modifications
1.4.1. Report for reviewers
1.4.2. FGP Update
1.4.3. Second review by reviewers
1.5. Presentation to the Board of Examiners
1.5.1. Final review by Board
1.5.2. FGP grade report

### 15. FGP budget

Detail the budget that you estimate is necessary to develop your FGP document (relevant costs).

Description	Cost
Travelling costs for interviews	\$ 100.00

Data for international calls (12 weeks)	\$ 300.00
Printing/binding services of the Final FGP report in Costa Rica	\$ 80.00
Total	\$ 480.00

#### 16. FGP planning and development assumptions

The following assumptions are made:

1. It is assumed that all information to finalize the FGP are readily available or accessible for the student.
2. It is assumed that the assigned tutor is available and provides effective and timely feedback to the student to finalize the FGP.
3. It is assumed that the student allocates sufficient time i.e., 18 hours a week (including weekends) to finalize the deliverables of the FGP.
4. It is assumed that the reading by reviewers will start in the second week of January 2023, provided that the FGP has been submitted by December 16, 2022.

#### 17. FGP constraints

The following constraints are identified:

1. Limited human resources, only 1 person to complete all management plans.
2. The allotted time for finalizing the FGP is set at 12 weeks.



3. No field trips can be carried out to get familiarized with an actual PCS given the post-pandemic situation and that face-to-face meetings can take place.
4. Time difference between the country where the student resides and the tutor may affect the communication time during the tutoring process.

#### 18. FGP development risks

The following risks are identified:

1. If the student misses a deadline in submitting a deliverable this will cause a delay in the final delivery of the FGP.
2. If a natural disaster or a third Covid-19 wave occurs, causing countries to close, the student may be impeded in submitting the hardcopy of the FGP.
3. If the student gets ill, it may cause the student not to finish the FGP on time or not at all.
4. If one of the reviewers is replaced during the process of FGP Reading by reviewers, the final FGP may not be finalized on time for graduation in May 2023.

#### 19. FGP main milestones

<b>Deliverable</b>	<b>Start estimated date</b>	<b>Finish estimated date</b>
1.1 Graduation Seminar	July 18, 2022	September 4, 2022
1.1.1 FGP Deliverables (FGP Charter, WBS, Chapter I, II and III, Appendices)	July 18, 2022	September 4, 2022

<b>Deliverable</b>	<b>Start estimated date</b>	<b>Finish estimated date</b>
1.1.2. Graduation Seminar Approval	August 29, 2022	September 4, 2022
1.2 Tutoring process	September 19, 2022	December 12, 2022
1.2.1. Tutor	September 19, 2022	September 23, 2022
1.2.2. Adjustments of previous chapters (if needed)	September 24, 2022	October 3, 2022
1.2.3. Chapter IV. Development (results)	September 27, 2022	November 24, 2022
1.2.3.1. Signed charter	September 27, 2022	October 6, 2022
1.2.3.2. Scope management plan	September 27, 2022	October 6, 2022
1.2.3.3. Schedule management plan	October 6, 2022	October 13, 2022
1.2.3.4. Cost management plan	October 15, 2022	October 21, 2022
1.2.3.5. Quality management plan	October 22, 2022	October 28, 2022
1.2.3.6. Resource management plan	October 29, 2022	November 4, 2022
1.2.3.7. Communication management plan	November 5, 2022	November 11, 2022
1.2.3.8. Risk Management Plan	November 12, 2022	November 18, 2022
1.2.3.9. Procurement management plan	November 18, 2022	November 24, 2022
1.2.3.10. Stakeholder management plan	September 27, 2022	October 6, 2022
1.2.3.11. Sustainability assessment (RD)	November 28, 2022	December 3, 2022
1.2.4. Chapter V. Conclusions (incl. corrections)	December 4, 2022	December 10, 2022
1.2.5. Chapter VI. Recommendations (incl. corrections)	December 11, 2022	December 16, 2022
1.3. Reading by reviewers	January 9, 2023	January 23, 2023
1.4. Adjustments and modifications	January 24, 2023	February 12, 2023

<b>Deliverable</b>	<b>Start estimated date</b>	<b>Finish estimated date</b>
1.5. Board of examiners evaluation	February 13,2023	February 17, 2023

## 20. Theoretical framework

### 20.1 Estate of the “matter”

As Suriname was a Dutch colony, all port activities were carried out by the “Royal Dutch Steamboat Company”, which was an Amsterdam based Dutch shipping company. However, successive governments realized that a national port was required and by national ordinance the government approved to construct an own port. In November 1971, the port of Paramaribo was established.

HBS is headed by a Managing Director with the support of 6 divisions. The personnel consist of 188 employees (133 men and 55 women).

The port is a tidal port requiring the port to execute its services within one tide, requiring a high level of efficiency of service and effective logistics.

The port has no automated system to communicate properly, transparently and effectively with all the port stakeholders. The possession of a port community system should make it possible to improve logistics and services offered to the community.

This would also enable the port to improve its services and position in the Caribbean region.

### 20.2 Basic conceptual framework

List of the basic concepts to be included in the document.

Project management, Project management plan, Sustainable development, Port Community, Port Community system

## 21. Methodological framework

Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions
1. To create a project charter to formally approve the Port Community System project and authorize the project manager to use project resources efficiently.	Project Charter	Secondary:  Primary:	Analytical Research Method	Bibliographic files (PMBOK Guide 6 <sup>th</sup> and 7 <sup>th</sup> edition)  Templates	Limited time. Few books within the restricted time limit that may be used for the FGP.
2. To develop a project scope manage-	Scope Management Plan	Secondary: • PMBOK Guide 6 <sup>th</sup> edition	Analytical Research Method	Bibliographic files (PMBOK Guide 6 <sup>th</sup> and 7 <sup>th</sup> edition)  Templates	Limited time. Few books within the restricted time-limit that may be

Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions
<p>ment plan to aide in the description of the scope of the Port Community System in defining, developing, monitoring, and controlling to meet stakeholder requirements and avoid scope creep</p>		<ul style="list-style-type: none"> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility Studies</li> <li>• Journals</li> <li>• Articles</li> </ul> <p>Primary:</p> <ul style="list-style-type: none"> <li>• Personal communication</li> <li>• Interviews.</li> </ul>			used for the FGP
<p>3. To create a schedule management plan to</p>	Schedule Management Plan	<p>Secondary:</p> <ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> </ul>	Analytical Research Method	<p>Bibliographic files (PMBOK Guide 6<sup>th</sup> and 7<sup>th</sup> edition)</p> <p>Templates</p>	<p>Limited time. Few books within the restricted time limit that may be used for the FGP</p>

Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions
<p>establish how the project schedule will be created, monitored, and controlled for the implementation of the Port Community System within an approved reasonable time</p>		<ul style="list-style-type: none"> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• <i>Practice standard for scheduling</i></li> <li>• Feasibility Studies</li> <li>• Journals</li> <li>• Articles</li> </ul> <p>Primary:</p> <ul style="list-style-type: none"> <li>• Personal communication</li> <li>• Interviews</li> </ul>			
<p>4. To develop a cost management plan, to establish how the costs will be</p>	<p>Cost Management Plan</p>	<p>Secondary:</p> <ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility Study</li> </ul>	<p>Analytical Research Method</p>	<p>Bibliographic files (PMBOK Guide 6<sup>th</sup> and 7<sup>th</sup> edition)</p> <p>Literature</p> <p>Templates</p>	<p>Limited time. Few books within the restricted time limit that may be used for the FGP</p>

Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions
planned, structured, managed and controlled to complete the Port Community System project within the available budget		<ul style="list-style-type: none"> <li>• Journals</li> <li>Articles</li>   <li>Primary:</li> <li>• Personal communication</li> <li>• Interviews</li> </ul>			
5. To create a quality management plan to establish the guidelines, policies, and procedures to be implemented in achieving	Quality management plan	Secondary: <ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility Study</li> <li>• Journals</li> <li>• Articles</li> </ul> Primary: <ul style="list-style-type: none"> <li>• Personal communication</li> </ul>	Analytical research method	Bibliographic files (PMBOK Guide 6 <sup>th</sup> and 7 <sup>th</sup> edition)  Templates	Limited time. Few books within the restricted time limit that may be used for the FGP

Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions
the quality objectives of the Port of Paramaribo (client), within the triple constraints of time, scope, and costs		<ul style="list-style-type: none"> <li>• Interviews</li> </ul>			
6. To create a resource management plan to establish how the resources will be categorized, allocated, managed, and released	Resource Management Plan	Secondary: <ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility Study</li> <li>• Journals</li> <li>• Articles</li> </ul> Primary: <ul style="list-style-type: none"> <li>• Personal communication</li> <li>• Interviews</li> </ul>	Analytical research method	Bibliographic files (PMBOK Guide 6 <sup>th</sup> and 7 <sup>th</sup> edition)  Templates	Limited time. Few books within the restricted time limit that may be used for the FGP



Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions
to complete the new Port Community System project successfully					
7. To create a communication management plan to establish how information regarding the new Port Community System project will be communicated to	Communication Management Plan	Secondary: <ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility Study</li> <li>• Journals</li> <li>• Articles</li> </ul> Primary: <ul style="list-style-type: none"> <li>• Personal communication</li> <li>• Interviews</li> </ul>	Analytical Research Method	Bibliographic files (PMBOK Guide 6 <sup>th</sup> and 7 <sup>th</sup> edition)  Templates	Limited time. Few books within the restricted time limit that may be used for the FGP

Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions
<p>all stakeholders involved, on a timely and appropriate manner to ensure that effective communication during the Port Community System project is implemented</p>					
<p>8. To create a risk management plan to establish how risk management</p>	<p>Risk Management Plan</p>	<p>Secondary:</p> <ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility study</li> <li>• Journals</li> </ul>	<p>Analytical research method</p>	<p>Bibliographic files (PMBOK Guide 6<sup>th</sup> and 7<sup>th</sup> edition)</p> <p>Templates</p>	<p>Limited time. Few books within the restricted time limit that may be used for the FGP</p>

Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions
activities will be formulated and performed for the new Port Community System project.		<ul style="list-style-type: none"> <li>• Articles</li> </ul> Primary: <ul style="list-style-type: none"> <li>• Personal communication</li> <li>• Interviews</li> </ul>			
9. To create a procurement management plan to define which approaches, processes and procedures appropriate goods and services will be	Procurement Management Plan	Secondary: <ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility Study</li> <li>• Journals</li> <li>• Articles</li> </ul> Primary: <ul style="list-style-type: none"> <li>• Personal communication</li> <li>• Interviews</li> </ul>	Analytical research method	Bibliographic files (PMBOK Guide 6 <sup>th</sup> and 7 <sup>th</sup> edition)  Templates	Limited time. Few books within the restricted time limit that may be used for the FGP

Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions
acquired to ensure that the new Port Community System project is completed on time.					
10. To create a stakeholder management plan to define the strategies and actions to promote stakeholder engagement in the decision-making	Stakeholder management plan	Secondary: <ul style="list-style-type: none"> <li>• PMBOK Guide 6<sup>th</sup> edition</li> <li>• PMBOK Guide 7<sup>th</sup> edition</li> <li>• Feasibility study</li> <li>• Journals</li> <li>• Articles</li> </ul> Primary: <ul style="list-style-type: none"> <li>• Personal communication</li> <li>• Interviews</li> </ul>	Analytical research method	Bibliographic files (PMBOK Guide 6 <sup>th</sup> and 7 <sup>th</sup> edition)  Templates	Limited time.  Few books within the restricted time limit that may be used for the FGP

Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions
and execution of the new Port Community System project					
11. To assess if the implementation of the Port Community system is in compliance with regenerative development and the sustainable development goals	Sustainability assessment	Secondary: <ul style="list-style-type: none"> <li>• The GPM P5™ Standard for Sustainability in Project Management</li> <li>• Sustainable (or green) project management</li> <li>• Research papers on regenera</li> </ul>	Analytical research method	<ul style="list-style-type: none"> <li>• P5 Ontology</li> <li>• GPM Reference Guide</li> <li>• Regenerative development guides</li> <li>• Microsoft Word</li> </ul>	Limited time. Few books within the restricted time limit that may be used for the FGP

Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions
		<p>tive devel- opment.</p> <p>Primary: Interviews</p>			

22. Validation of the work in the field of regenerative and sustainable development.

The FGP topic was first assessed on the six dimensions of regenerative development, and based on the fact that the project topic complies with 4 of the 6 dimensions, it was derived that the FGP topic complies with regenerative development. The 4 dimensions the FGP topic complies with are:

- Environmental, with an indicator of % of improved logistical processes,
- Social, with a measurable indicator of improved stakeholder engagement leading to short decision-making time.
- Economic, with a measurable indicator of % of revenue earned
- Political, with a measurable indicator of legislation on digitization accepted and implemented and digital data information accepted

The FGP topic complies with all of the 16 subcategories of the 5 categories of product, process, people, planet and prosperity impacts. Some of the measurable indicators related to the categories as per P5 are:

- Product impacts: product updates, % of new applications or connections.
- Process impacts: visible reduction of wait time of truckers.
- People (Social) impacts: Hiring of fully dedicated personnel to operate the PCS system
- Planet (environment) impacts: % decrease of GHG
- Prosperity impacts: PCS will enable the government to comply with international agreements.

Based on the assessment that the FGP topic complies with all 16 subcategories of the P5 impact analysis, it can be derived that it complies with the sustainable development concepts.

In view of the above, it can be noted that the FGP topic complies with the concepts of regenerative and sustainable development.

## Appendix 2: FGP WBS



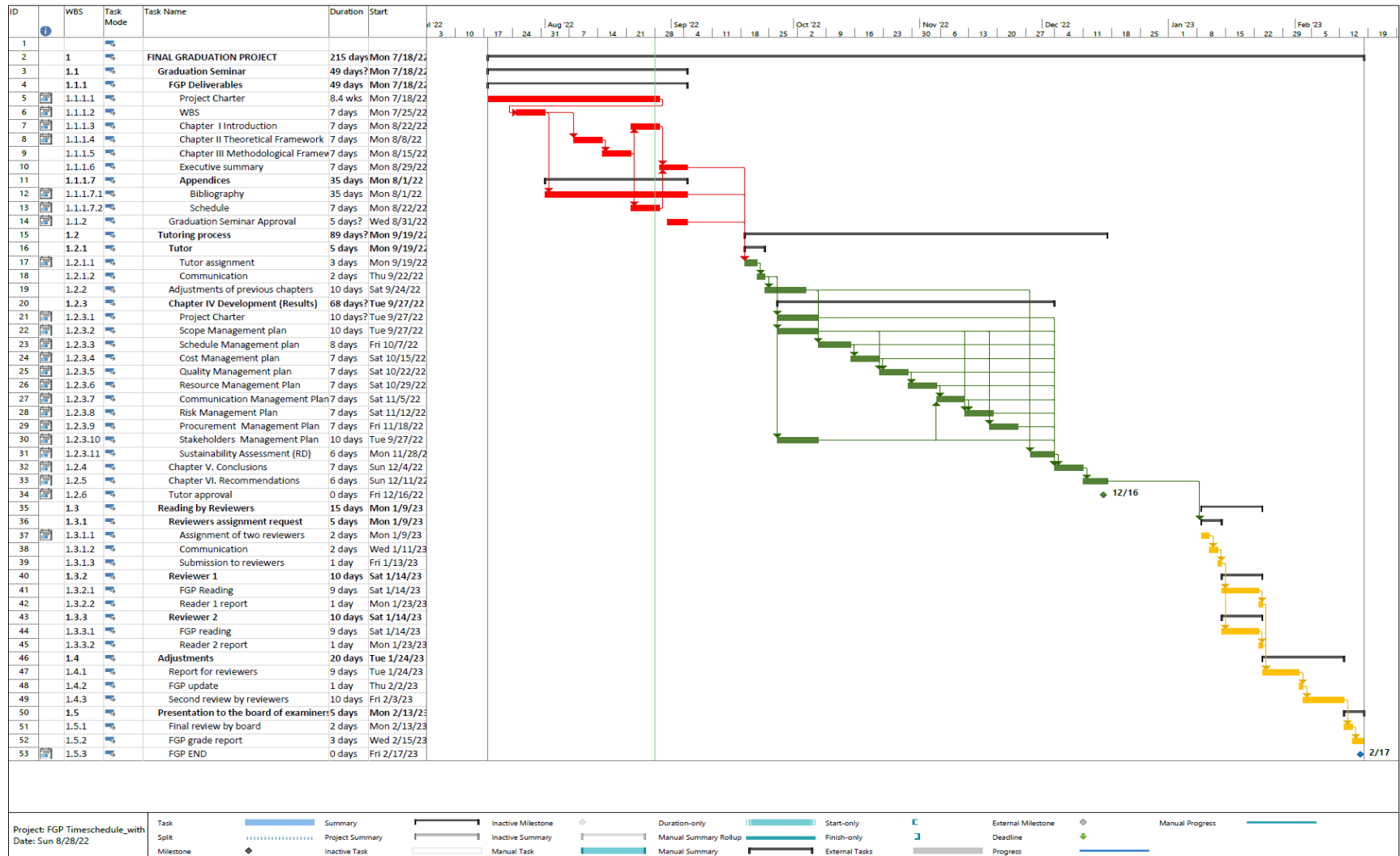


### **Appendix 3: FGP schedule**

- Must be directly related to the WBS and its work packages. Must include activities, duration, start date, finish date and resources.
- Must be created in MS Project or similar approved software.

The FGP Schedule was created in MS Project.

The time schedule can be retrieved from <https://drive.google.com/file/d/1hQGzuYTn35QhsrKebOqKmfPtwCWYaJZ/view?usp=sharing>



#### Appendix 4: Preliminary bibliographical research

Axelos (2022). *What is project management?* Retrieved from <https://www.axelos.com/certifications/prince2/what-is-project-management#:~:text=A%20project%20is%20a%20temporary,%2C%20time%2C%20deliverables%20and%20tasks.>

Justifications:

Aiding in providing the definitions applicable to a project.

Banerjee S. (2016). *Role of a project manager in managing agile projects.* Retrieved from <https://www.hilarispublisher.com/open-access/role-of-a-project-manager-in-managing-agile-projects-2167-0234-1000204.pdf>.

Justification:

Based on the FGP topic and as it regards an IT system, the appropriate approach to be used is an agile approach. This article provides practical information on the application of the agile methodology in a case study and provides useful information regarding the role of the project manager in an agile environment.

Bhasin, H. (2021). *Sources of Information. Types of Information sources.* Retrieved from <https://www.marketing91.com/sources-of-information/#:~:text=Information%20sources%2C%20as%20the%20name,in%20research%2C%20thesis%2C%20etc.>

Justification:

Provides clear understanding about sources of information, the types and how to distinguish the sources.

Boiser, L. (2018). *How poor planning can lead to project failure.* Retrieved from <https://kanbanzone.com/2019/poor-planning-can-lead-to-project-failure/>

Justification:

Understanding the essence why proper planning ensures project success.

Carboni, J., Duncan, W., Gonzalez, M., Milsom, P., Young, M. (2018).

*Sustainable Project Management: The GPM Reference Guide (2nd ed).*

GPM Global.

Daza, A., Amaya, R., Garcia G., Paternina, C., (2016) *Assessing the effect of implementing a port community system platform in the response time of an international terminal: the case of a multi-cargo facility at the Columbian Caribbean coast*. Malaysia (2016). Retrieved from [http://ieomsociety.org/ieom\\_2016/pdfs/558.pdf](http://ieomsociety.org/ieom_2016/pdfs/558.pdf)

Justification:

This paper provides insight into the effect of implementing a port community system.

Deloitte (2018). *Deliverable 2: technical studies for the improvement of the transport logistics in Dr. Jules Sedney terminal*. Retrieved from <https://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=EZSHARE-34892997-31>.

Justification:

The above document is a feasibility study, which was carried out for an overarching project, namely Improving Transport Logistics and Competitiveness in Suriname, which was financed by the IDB. This document will form the baseline for the chosen FGP project. The document provides information on the current situation and the inefficiencies at the port.

Gabel, M. (2015). *Regenerative development, going beyond sustainability*. Retrieved from <https://www.kosmosjournal.org/article/regenerative-development-going-beyond-sustainability/>

Justification:

As part of the FGP, the student is required to address the compliance of the FGP to regenerative and sustainable development. This document will serve as an input to assess the FGP's compliance to regenerative development.

Green Project Management Global (2019). *The GPM P5™ Standard for Sustainability in Project Management*. GPM Global Version 2.0 (2019).

Justification:

To be used in assessing the sustainability of the FGP compliance to sustainable and regenerative development.

Green Project Management Global (2021). *Sustainable (or green) project management*. GPM Global. Retrieved from <https://www.greenprojectmanagement.org/about/what-is-sustainable-project-management>.

Justification:

To be used in assessing the sustainability of the FGP compliance to sustainable and regenerative development.

Havenbeheer Suriname (2018). *Suriname Ports Handbook*. NV Havenbeheer Suriname Retrieved from: <https://havenbeheer.com/wp-content/uploads/2018/04/Suriname-Ports-Handbook.pdf>

Justification:

To be used for researching background information on the Port of Paramaribo.

International Maritime Organization (2022). *Single window for ship data exchange to become mandatory*. International Maritime Organization (IMO). Retrieved from <https://www.imo.org/en/MediaCentre/PressBriefings/pages/FAL-46-amendments.aspx>

Justification:

Help in understanding the different automated systems to be used in advancing ports to become smart ports.

International Port Community Systems Associations (2022). *Port community systems- general*. International Port Community Systems Association (IPCSA). Retrieved from <https://ipcsa.international/pcs/pcs-general/>

Justification

This website will be used as a base document for providing information on what a port community system is, what it entails and the environment it will impact. The implementation of a port community system has been chosen as the topic for the FGP project by the student.

Keivam, R. (2019). *Meaningful stakeholder engagement. A joint publication of the multi-lateral financial institution group on environmental and social standards*. Inter-American Development Bank (IDB). Retrieved from [https://publications.iadb.org/publications/english/document/Meaningful\\_Stakeholder\\_Engagement\\_A\\_Joint\\_Publication\\_of\\_the\\_MFI\\_Working\\_Group\\_on\\_Environmental\\_and\\_Social\\_Standards\\_en.pdf](https://publications.iadb.org/publications/english/document/Meaningful_Stakeholder_Engagement_A_Joint_Publication_of_the_MFI_Working_Group_on_Environmental_and_Social_Standards_en.pdf).

Justification:

The document provides information on core principles and good international practices about stakeholder engagement. This document can

serve as an input for the stakeholder management plan to be developed by the student.

Kissflow.com (2022). *The Basics of Project management*. Retrieved from <https://kissflow.com/project/project-management-basics/>

LISBDNETWORK (2018). *Sources of Information*. Retrieved from <https://www.lisedunetwork.com/sources-of-information/>

Justification:

Provides clear understanding of sources of information, the types and how to distinguish the sources.

Miller, D. (2022). *What is project life cycle and what are it's phases?* Retrieved from <https://www.proprofsproject.com/blog/project-life-cycle-and-its-phases/>

Justification:

Provides a clear understanding of project lifecycles.

Müller, E. (2017). *Regenerative development, the way forward to saving our civilization*. Retrieved from <https://campusuci2.com/REP/152/1523/00IUL/U2/01.pdf>

Justification:

As part of the FGP, the student is required to address the compliance of the FGP to regenerative and sustainable development. This document will serve as an input to assess the FGP's compliance to regenerative development.

National Institute for Open Schooling (n.d). *Overview of Information Sources*. Retrieved from <https://www.nios.ac.in/media/documents/SrSecLibrary/LCh-005.pdf>

Justification:

Provides clear understanding of sources of information, the types and how to distinguish the sources.

Project Management Institute (2017). *A guide to the project management body of knowledge (PMBOK Guide) - Sixth Edition*. Newtown Square, P.A. Project Management Institute (PMI), 2017.

Justification:

This document will serve as impetus to setting the standards for the project management plan for the FGP. Each knowledge area should be addressed according to the standards set by the Project Management Institute.

Project Management Institute (2019a). *Practice standard for project- estimating – Second Edition*. Newtown Square, PA. Project Management Institute (PMI).

Justification:

The practice standard for project-estimating is to be used in the knowledge area of cost management as part of the project management plan.

Project Management Institute (2019b). *Practice standard for scheduling – Third Edition*. Newtown Square, PA. Project Management Institute (PMI).

Justification:

The practice standard for scheduling is to be used in the knowledge area of schedule management as part of the project management plan

Project Management Institute & Agile Alliance (2017). *Agile practice guide*. Newton Square, PA. Project Management Institute (PMI).

Justification:

This practice guide will be used as the FGP relates to an IT system, entailing adjustments that should be possible in meeting the needs and requirements to satisfy the client. The most appropriate project lifecycle for IT systems is an agile approach.

Project Management Institute (2021). *A guide to the project management body of knowledge (PMBOK Guide) - Seventh Edition and the standard for project management*. Newtown Square, P.A. Project Management Institute (PMI), 2021.

Reference.com (2022). *What is analytical research?* Retrieved from <https://www.reference.com/business-finance/analytical-research-94534a536bf46028>.

Justification:

Aids in understanding the different research methods that are available and how to choose a research method.

Usmani, F. P. (2021). *What is work package in project management?* PM Study Circle. Retrieved from <https://pmstudycircle.com/work-package/>

Justification:

To be used as an impetus on the work package in project management for establishing the WBS required for the FGP.

World Bank (2021). *Accelerating digitalization across the maritime supply chain*. World Bank (WB). Retrieved from <https://thedocs.worldbank.org/en/doc/773741610730436879-0190022021/original/AcceleratingDigitalizationAcrossTheMaritimeSupplyChain.pdf>

Justification:

This document provides the importance of trade via the sea (water transport) and the growth in maritime volume.

World Trade Organization (2022). Trade facilitation. WTO. Retrieved from [https://www.wto.org/english/tratop\\_e/tradfa\\_e/tradfa\\_e.htm](https://www.wto.org/english/tratop_e/tradfa_e/tradfa_e.htm)

Justification:

Helps in understanding the different automated systems to be used in advancing ports to become smart ports.



**Appendix 5: Other relevant information**

Due to confidentiality of the terms of references for the consultants' services to be procured and contracted, these will not form part of this document.

## Appendix 6: FIDIC Training Schedule

<b>Understanding Disputes and Arbitration</b> Based on the Client/Consultant MODEL SERVICES AGREEMENT, FIDIC, Fifth Edition 2017	
Day 1 :	Introduction Understanding the basic concepts of the document The Contract Agreement, the General Conditions and Particular Conditions.
Day 2 :	Disputes and Arbitration Mock trial of a dispute
Day 3:	Dispute Resolution Adjudication Amicable settlement Payment, termination Mock dispute resolution

## Appendix 7: Agenda template for kick-off meeting

### PCS PARAMARIBO KICK-OFF MEETING

ATTENDEES .....  
CHAIR .....  
DATE .....

---

#### Agenda:

- Opening.....Project Manager
- Introduction of the attendees .....Project Manager
- Introduction of the project .....Project Sponsor/Client
  - Background information
  - Project Objectives
  - Deliverables
  - Stakeholders involved (Who are they and what is their role)
- Team and their responsibilities
  - Project Manager
  - Project Steering Committee
- Potential issues
  
- Question round
  
- Next Steps and when

## Appendix 8: Agenda template for Progress meeting

### PCS PARAMARIBO PROGRESS MEETING

ATTENDEES .....  
CHAIR .....  
DATE .....

---

#### Agenda:

- Opening
- General Remarks
- Review Minutes of the previous meeting and sign off
- Project Status
  - Project Progress
  - Previous Project Performance
  - Upcoming Project Performance
  - Project Schedule
  - Project Resources
  - Milestones achieved
- Issues/problems encountered
- Change request received
  - Which requests to escalate to the Sponsor
  - Impact of the change request
  - Change request accepted
- Complaints received
- Question round
- Next Meeting
- Adjourn meeting

## Appendix 9: Evaluation Criteria for the Needs Assessment

**Title:** Initial feasibility diagnosis for the creation of a Port Community System (PCS) in Suriname\_

REQUIREMENTS	Full score	Individual 1	Individual 2	Individual 3
<b>PROFESSIONAL EXPERIENCE</b>	<b>70 POINTS MAX</b>			
Minimum of ten years of work experience in the design and execution of change management and technology projects related to Ports	30			
Experience in topics related to the implementation and operation of PCS and/or single window solutions for foreign trade.	20			
Proven experience in port operations, logistics and/or trade facilitation, with a strong focus on stakeholder management and process reengineering.	20			
<b>PROFESSIONAL KNOWLEDGE</b>	<b>30 POINTS MAX</b>			
Master's Degree in Economics, Business, Law, Finance, Engineering, or related discipline (20 points)	20			
<b>Language</b>				
English (5 points); Dutch (5 points)	10			
<b>TOTAL MAX SCORE FOR CV REVIEW</b>	<b>100</b>			

**Appendix 10: Philologist Revision Dictum**

Annette Louise Tjon Sie Fat M.A.  
Teacher of English as a Foreign Language  
Sworn Translator of English and Dutch

7 December 2022

To:  
The Academic Advisor  
Master's Degree in Project Management (MPM)  
Universidad para la Cooperacion Internacional (UCI)

Dear Advisor,

**Re: thorough review and proofreading of the Final Graduation Project submitted by Sithi Marianie Amat in partial fulfilment of the requirements for the Master's Degree in Project Management**

I hereby confirm that the corrections advised by me have been made in the Final Graduation Project of Sithi Marianie Amat. In my opinion this document now meets the literary and linguistic standards expected of a student for a degree at the Master's level.

  
Annette L. Tjon Sie Fat  




## GETUIGSCHRIFT

VAN

### TOLK-VERTALER IN DE ENGELSE TAAL

**D**E commissie, waarvan de leden zijn benoemd ingevolge artikel 69 van de middelbaar-onderwijswet, in het jaar 1977 belast met het afnemen van de examens ter verkrijging van het getuigschrift van tolk-vertaler in de Engelse taal, verklaart, dat

.....  
 Annette Louise TJON SIE FAT  
 .....

geboren 5 mei 1953 te Philipsburg, St.Maarten (N.A.)  
 met gunstig gevolg heeft afgelegd het examen ter verkrijging van het getuigschrift van tolk-vertaler in de Engelse taal, waarvoor de vereisten zijn vastgesteld bij het Koninklijk besluit van 16 september 1949, Stb. J 428, ten bewijze waarvan zij de geëxamineerde dit getuigschrift van tolk-vertaler in de Engelse taal uitreikt.

.....  
 Amsterdam , 29 juni 1977  
 .....

Handtekening van de geëxamineerde:

*A. J. J. J. J.*

Namens de commissie,

*A. J. J. J.*  
 , voorzitter

*A. J. J. J.*