PTCL OPTICAL FIBER

Project Management Report

SEPTEMBER 2, 2021

PTCL

Contents

Project Charter

Project Name: PTCL Optical Fibers Connection	**Project Number: 1**
Date: August 23, 2021	**Revision Number: 0**

1. Key Schedule Milestones

The key schedule milestones are as follow:

(a) Procurement of devices to be installed to be completed by 3rd August 2021
(b) Complete documentation of project by 1st September 2021
(c) Installation of Connection points in designated city by 1st September 2021
(d) Working connections on minimum of 10 houses by 15th September 2021
(e) All 128 connections to be installed by 30th October 2021

2. Project Manager

Name: Mr. Akhtar Mehmood
Email: Akhtar.mehmood@ptcl.net.pk

3. Budget Information

For our project, total of Rs10 million is allocated and more will be granted if needed. Majority of the allocated fund will be used for material procurement.

4. Project Objectives

The main objective is to install optical fiber in order to improve internet connectivity speed in the area. In long run, it will help to gain more customers by providing better connectivity then competitors. The goal is to install 128 connections in the area by 15th October 2021

5. Project Success Criterias

(a) The project meets all the criteria described in the scope document
(b) It stays within defined budget
(c) It meets the timeline set for its completion
(d) The main objective is achieved which is to improve the speed of internet
(e) The project will be approved by the all the stakeholders involved

6. Approach

The approach to be used is as follow:

(a) Complete all documentation like Scope document, Gantt Chart and Work Breakdown Structure which points out the work to be done
(b) Perform cost analysis to point out the cost required to finish the project
(c) Try to complete project on time

7. Roles and Responsibilities

The key stakeholders in this project are given below:

Name	Role	Position
Mr. Akhtar Mehmood	Project Manager	Project Supervisor
Cantonment Board	Responsible for maintaining road infrastructure	Project Co- Supervisor

8. PROJECT AUTHORIZATION

Approved by:	Business Manager	Date
Approved by:	Project Manager	Date

Scope Document

Introduction

The Project Scope Statement serves as the baseline that will help in defining the scope of the work to be done in Optical Fiber project, identifying the work deliverables that is the work to be done in order to complete the project. It is written in a way that all stakeholders find it easy to understand the work to be done in order to complete the project. All the work that is to be done in the project should be completed by staying in the limits of scope statement. The completion date for project is 15th October 2021

Project Purpose and Justification

The Optical Fiber installation project has been approved and initiated in order to improve the connectivity issues of the area and to provide better internet speed to their clients. The project is approved to plan the project, mark the site prepare feasibility report to check whether the fiber can be laid or not and then install them. PTCL has generally been criticized for slow internet connection but this project can be a real game changer for the company and will help to improve the image in general public.

By providing optical fiber connection, the internet speed can be improved drastically which will reduce majority of the complaints that users have regarding the institution. Fiber optics increases both the download and upload speed. The successful implementation of this project is expected to reduce client dropouts, bring in new clients and knock out any existing or new competitor in the region.

Scope Description

The scope of the PTCL project is to plan and implement the Optical Fiber connections in Kharian Cantonment which will help to improve internet speed in the city. Access to various sections of the PTCL exchange would be granted to required personnel under the supervision of existing staff in order to protect important machinery that is being installed.

The installation of project would be carried out in different phases. Stage 1 is to install DPs in different areas. Stage 2 would be to connect fiber cables to these DPs. Stage 3 which is the final stage is to provide connections to the selected houses from these DPs to make this project work.

The scope of this project includes all requirements gathering, planning, design, development, and implementation of PTCL Optical Fiber project.

High Level Requirements

The Fiber Optics installation has been approved to meet a business need for PTCL. In order to meet this business need there are several requirements which must be met as part of the successful execution of this project. The following high level requirements have been identified for the Fiber Optics Installation Project:

- Internet modems to support optical fiber cable
- Ability to maintain connections internally without contract support

Boundaries

The PTCL Optical Fiber project involve all the tasks connected with planning and implementing the Optical Fiber Project. This include gathering and co-operating with all the concerned departments in order to carry out this project. The things not included in the project is existing work carrying out in the region on other lines, all the department work that is being carried out in the backend in order to complete this project.

Deliverables

There are several deliverables which will be produced as a result of the successful completion of the PTCL Optical Fiber Project. If all of the following deliverables are not met then the project will not be considered successful. The Project Manager is responsible for ensuring the completion of these deliverables.

1. **Deliverable 1** – Installation of new modems in the houses where connections are installed.
2. **Deliverable 2** – A feasibility report to ensure that project can be carried out smoothly.
3. **Deliverable 3** – A document that covers all the aspect related to managerial work like Scope Document and Human Resource Management
4. **Deliverable 4**- Up and running internet connections

Acceptance Criteria

Acceptance criteria have been established for the PMD Project to ensure thorough vetting and successful completion of the project. The acceptance criteria are both qualitative and quantitative in nature. All acceptance criteria must be met in order to achieve success for this project:

1. All deliverables are completed on time and within the allocated budget.
2. Increase the number of new internet connection requests by 15%
3. Improve internet connectivity speed by 20%
4. Accomplish an overall performance improvement in program metrics
5. After the installation of hardware, the software configuration is done as planned and there is no human error in the system during the initial trial run.

Work Breakdown Structure

Work Breakdown help to breakdown the whole project in small tasks and activities so that it is easy to understand the whole project and to assign resources accordingly.

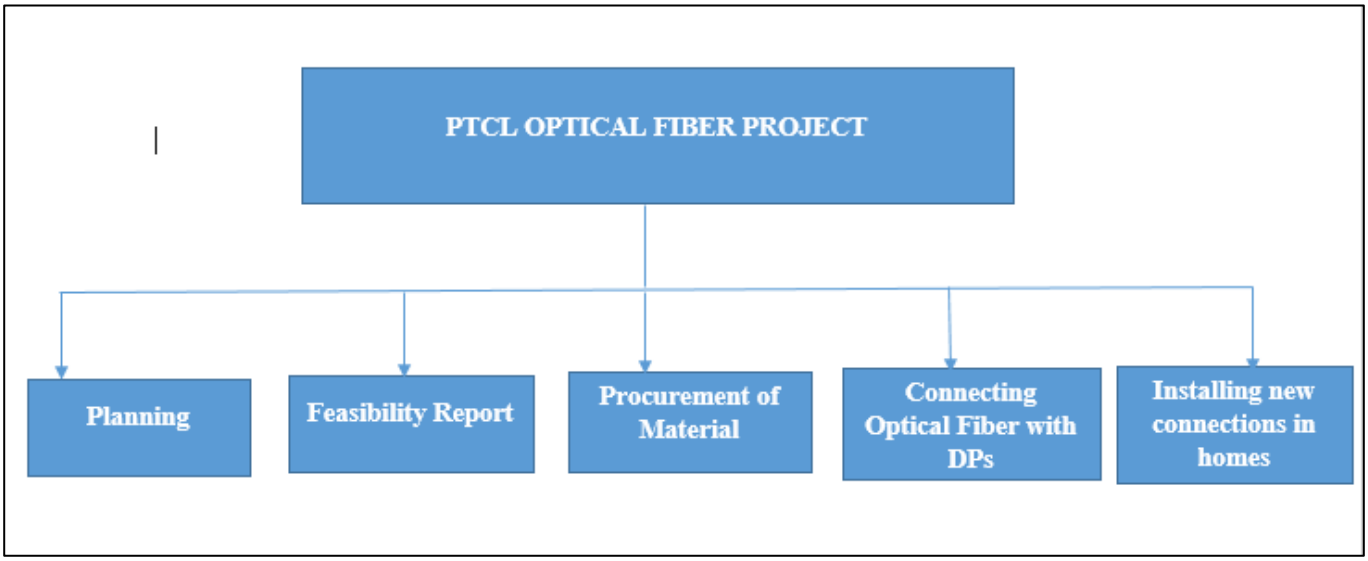


Figure 1: WBS of Project

STAKEHOLDER MANAGEMENT PLAN

Introduction

This stakeholder management plan will help in identifying and find out stakeholders for this project. It will also help in identifying their influence and impact on the project and the means of communication between them. This will help the project in achieving its objectives and utilize its resources in maximum possible way.

The identification of stakeholders and the mod of communication between them is very important to be cleared in the early stage of the project as it has a direct relationship with the success of the project. The lack of communication or timely communication can result in missing requirements which can affect the scope and overall working of the project. It is very important to point out stakeholders who have interest in the project because if you keep on communicating with the wrong person who has no impact on the project it can be very harmful for you down the lane.

Identifying Stakeholders

Identification of stakeholders is very important step. Its importance is already discussed in the paragraph above. For this purpose a brainstorming session will be held to pin point the primary and secondary stakeholders. In order to do this, there are certain questions whose answers can help achieve this feat. Some of them are as follow:

1. Will the chosen person or organization be directly affected by the project?
2. Will the chosen person or organization has direct affect or influence on the project?
3. Does the chosen person or organization gain any benefit from the project?

Anyone who falls on the criteria of the questions given above will be considered as a stakeholder for this project.

Table 1: Stakeholders for the project

Project Sponsor	**PTCL**
Stakeholder	• Project Manager: • Cantonment Board Kharian • General Public • PTCL

Key Stakeholders

After the initial stakeholder finding session, the next task is to find the key stakeholder or those who can directly influence or change the scope of the project. These stakeholders should be under contact frequently as their involvement can change the course of the project.

The key stakeholders for our project are stated below:

Table 2: Key Stakeholders

Stakeholder	• Project Manager • General Public • Cantonment Board Kharian • PTCL

Stakeholder Analysis

After identification of the stakeholders which are involved in the project, next step is to analyze them individually. The main purpose of this analysis is to identify and categorize on basis of their influence and impact on the project.

After identification and categorization of each stakeholder, the team will then use a power-interest chart to show the possible impact a particular stakeholder may have on the project. After that the chart will be represented in the form of a matrix. On the basis of these analysis, a complete stakeholder analysis chart will be made which will show the concerns, interests, power, involvement and levels of each stakeholder. We will keep on updating the stakeholder matrix chart with the progress of project

Following is **power interest chart** for our project:

Table 3: Power Interest Chart

Key	Organization/Designation	Name	Power (1-5)	Interest (1-5)
A	Project Manager	Mr. Akhtar Mehmood	5	4
B	General Public	---	2	5
C	Cantonment Board Kharian	---	4	4
D	PTCL	Organization	5	5

Power Interest Matrix

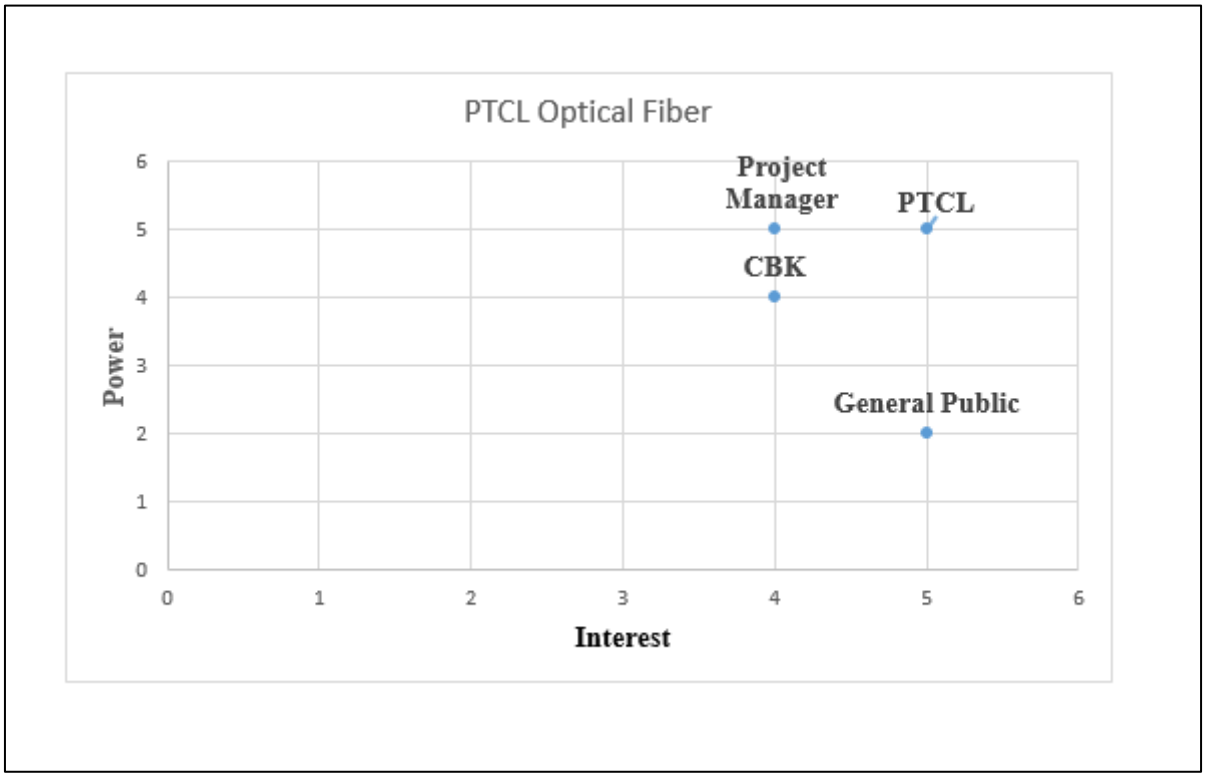


Figure 2: Power Interest Matrix

STATEMENT OF WORK

Scope of Work

The purpose of the project is to install optical fiber cable in Kharian Cantt in order to improve the connectivity issues in the area. For trial bases, total of 128 connections will be installed and then monitored in order to better understand the result and to check if there are any new issues that would occur.

Generally, PTCL is known for slow internet connections and hence this project will be a game changer which help to improve the perception of the company in eye of general public and would help to eliminate any existing competitors along with making it difficult for new competitors to provide same level of service with same if not less cost in the region.

Location of Work

The location of work depends upon the type of work we want to carry out. We cannot define a fix place for all activities for our project. So the location of work for our project are as followed:

1. A conference room to conduct discussions with the superior and brief him/ her on the progress that has been done in the field
2. Sites marked to lay down optical fiber cables

Period of Performance

The project evaluation is divided into 2 phases. It is to be started in 1st week of September. All other information is given below:

1. First evaluation in 3rd week of September with 30% of connections installed
2. Second Evaluation in last week of October with 100% work connections to be installed
3. 8 hours a day with 6 days a week to be given on the project.

Risk Management Plan

Introduction

Risk management is an important factor while selecting a project to work on. Whenever a company start working on the project and select a venture, it has certain risks involved in it. This is where **Risk Management Plan** comes in handy as this plan covers the risks involved, the methodology to covert these issues. The plan helps to understand the risk involved, the methodology used to find out risks in the project. For our project, there are certain risks that can result in cost overrun as well as making project go overtime.

Top Risks Involved

There are different level of risks involved in a project. Some are mild which do not cause any serious harm to the project then there are some who needs to be identified and corrected as they may affect the working of the project in an adverse way. Following are some risks that can have an adverse effect on our project and ways should be considered to tackle them.

1. **Faulty Modems:** This issue can rise due to the fact that there may be some faulty modems that get damaged either during transportation or they were faulty from the start. This can put the project in jeopardy of finishing on time as some designated clients may not be able to get connections.
2. **Poor weather:** Poor weather like extreme hotness or rain may halt the people from working on the project that is to lay cables and connecting them. Again this will result delay in the project.
3. **Shortage of Manpower:** This risk has direct link with timeframe of our project. The less the manpower, the more burden on rest of the staff which may result in poor quality of work and project completing on time. The workers may go on uninformed leave.

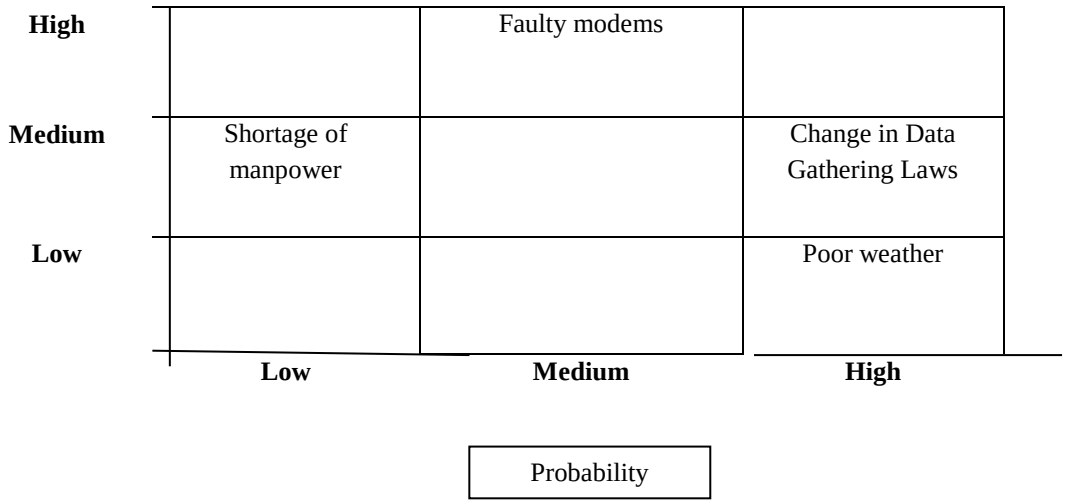
Risks Identification

Risk identification is an integral part of Risk Management Plan as it helps to point out risks that can affect the working of the system. There are various techniques that we can use to find out potential risks for our system.

1. **Delphi Technique:** The main idea of Delphi technique is to reach consensus among the panel of experts on a particular topic. The Delphi technique uses repeated rounds of questioning and written responses, including feedback to responses in earlier rounds, to take advantage of group input while avoiding the possible biasing effects of oral panel deliberations
2. **Review of Similar Projects:** In this technique, we will study literature of related systems along with the research papers on machine learning techniques used in our project. In this way we can make some predictions about the type of errors we can encounter in our system.

Risk Qualification and Prioritization

After identifying risks, the next step is to prioritize risks based on the impact they can have on the working of the project. To do this we will use **Probability Impact M**



On **X-Axis: Probability of risk to occur**
On **Y-Axis: Impact it has on the project**

Risk Mitigation and Avoidance

The project manager has driven the project group in creating reactions to each identified risk. As more risks are recognized, they will be qualified, and the group will make avoidance and mitigation techniques. These risks will likewise be added to the Risk Register and the project intend to guarantee that they are checked at proper times and are reduced.

Human Resource Plan

Introduction

Human Resource Plan is an important part of any project as it enables you to have a look on your human resource and optimize the task division for better and timely results. The plan will include following tasks:

1. Division of Roles and Responsibilities
2. Skills required
3. Reporting Relationships
4. Organizational Chart

The purpose of this document is to clearly define the type of human resource required and the skills the acquired personnel should have in order to effectively work on this project.

Roles and Responsibilities

For better results, it is important that all the stakeholders involved must know their roles and responsibilities before working on the project so that they know what is expected of them. For this to happen, it is important that each and every member should be assigned their roles and responsibilities. They should know what skill they require to carry out the task

Project Supervisor: Project Supervisor ensures the success of the project. He works as an intermediary between the top management and the team working on the project. His role is to guide the team to achieve the output and provide an end product covering all the features defined in the scope document and finishing in time. Moreover, he ensures that the groups working should be provided with the required assistance and resources.

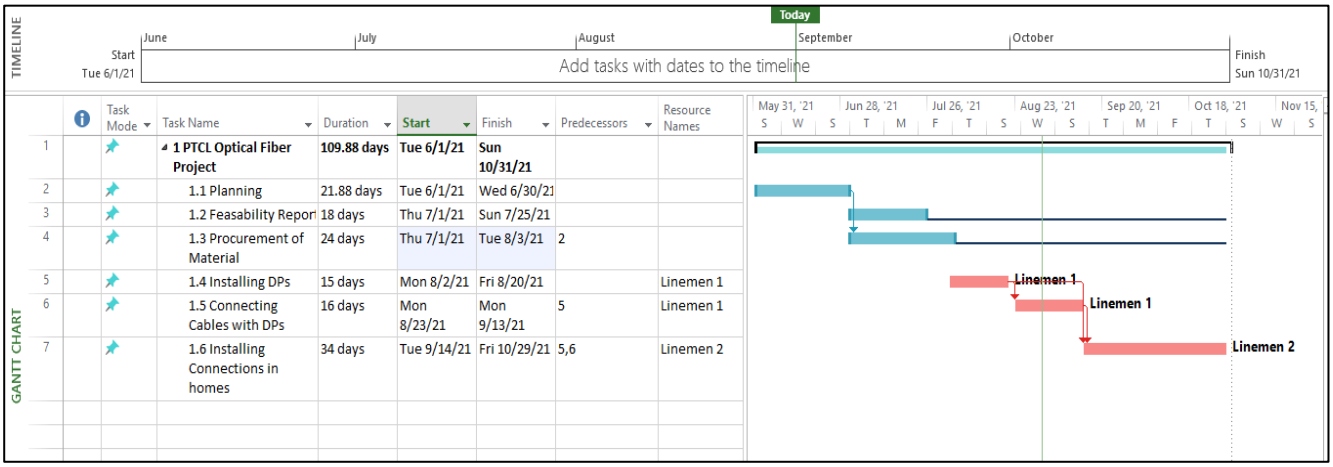
Installation Team: The installation team will work on the project. They will ensure that the project is completed on time and has all the features as prescribed in the scope document. They would work in the field laying cables and installing connections in the houses of designated clients.

Software Developer: The responsibility of Software Developers starts once all the hardware has been setup and connections have been installed. They are responsible for routing the traffic and ensuring that the system does not get choked due to heavy traffic on the particular line.

Gantt Chart and Pert Analysis for Time Management

Gantt Chart

Gantt chart is used to graphically depict schedule of the project. We list down all the activities along with the time allocated to each activity. We list down both the start and finishing date.



	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1		**1 PTCL Optical Fiber Project**	**109.88 days**	**Tue 6/1/21**	**Sun 10/31/21**		
2		1.1 Planning	21.88 days	Tue 6/1/21	Wed 6/30/21		
3		1.2 Feasability Report	18 days	Thu 7/1/21	Sun 7/25/21		
4		1.3 Procurement of Material	24 days	Thu 7/1/21	Tue 8/3/21	2	
5		1.4 Installing DPs	15 days	Mon 8/2/21	Fri 8/20/21		Linemen 1
6		1.5 Connecting Cables with DPs	16 days	Mon 8/23/21	Mon 9/13/21	5	Linemen 1
7		1.6 Installing Connections in homes	34 days	Tue 9/14/21	Fri 10/29/21	5,6	Linemen 2

Figure 3: Gantt Chart for the project

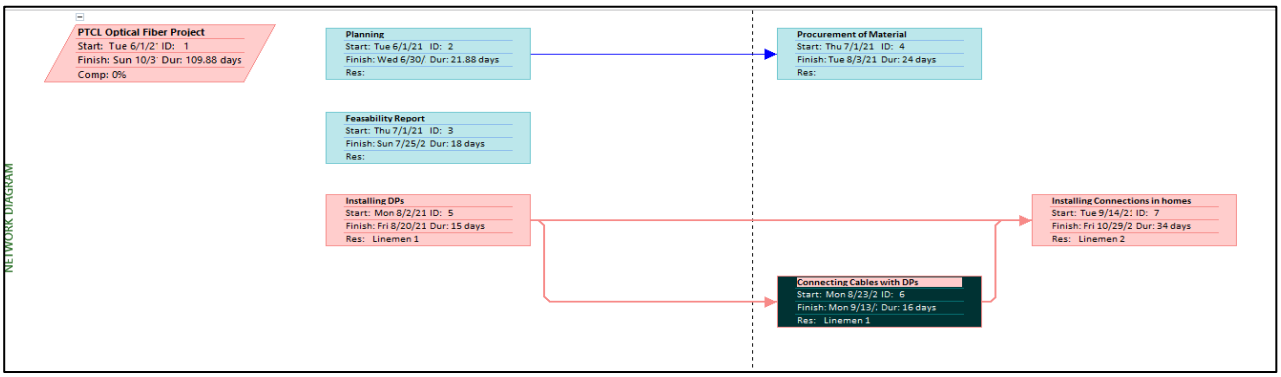


Figure 4: Network Diagram for project

Pert Analysis

Program Evaluation and Review Technique also known as PERT Analysis is used to estimate project duration when there is chance of uncertainty on some level. We do this by keeping **pessimistic time (how delayed an activity can be then real project time)** and **optimistic time (how early the activity can be completed than the projected time).**

Formula for PERT EVALUATION:

Optimistic time + 4*(most likely time) + pessimistic time/6

Calculating PERT value for our project:

The **Optimistic value** of our project is: 90 days
The **Pessimistic value** of our project is: 120 days
The **Most Likely Time** of our project is: 109 days

Plugging values in the formula:

90+ 4*(109) + 120 /6 = 107 days