



PARSHWANATH CHARITABLE TRUST'S

# A.P. SHAH INSTITUTE OF TECHNOLOGY

Department of Computer Science and Engineering  
Data Science



## ● Project Planning

A project consists of five different phases: initiation, planning, execution, monitoring and controlling, and closure. Planning is the second phase of the project life cycle, where a plan after the initiation phase is made so the process of execution may begin. The project plan serves as a roadmap for the entire process of project management.

Project planning involves:

### Defining Objectives

The definition must include what the project is comprised of, its main aim, what it intends to accomplish, and what marks its closure

### Explaining the Scope

The explanation provides details on what the project intends to solve and who will benefit from the project

### Scheduling Tasks

Each task is given a start date, an end date, and provides an estimate of how much time a task would take to complete

### Generating Progress Reports

The document includes the work to be performed, deliverables, and the intended outcome of the project

## **Project Planning Fundamentals**

Project Planning refers to defining fundamentals such as the following:

### Determination of Scope, Cost, and Resources

The process of determining the scope, cost, and resources help estimate the time required to complete the project, the number of people needed, and the skill set required

Work Breakdown Structure (WBS) helps this process by dividing the whole task into smaller, manageable segments

### Identification of the Problem

A variety of techniques, like surveys or meetings, are used to collect information to assess problems



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There can be multiple problems; then, the project team selects the issue that requires the most immediate attention

## Identification of Stakeholders

Identification of stakeholders gives a clearer image of the real problem, specifically which function or people might be affected by the project

Stakeholders work with the project team and contribute to the project's success

## Definition of Project Objectives

A plan is made, keeping in mind the various expectations of the stakeholders

The success of the project entirely depends on how much of the expectations the project is able to meet.

## **Importance**

Project planning ensures monitoring of the budget and schedule at every step. The project plan includes a schedule that guides team members in completing their tasks and helps them in knowing which tool they will need and when. It also helps the team stay engaged for higher project performance. The project plan ensures there is the active participation of all the team members and allows them to have an opportunistic approach towards their work.

Project planning ensures timely testing of the output at every step. When successfully implemented, everyone on the project team can foresee problems before they happen. This creates efficiencies and ensures the successful execution of the plan.

Additionally, project planning helps analyze, prioritize, and ensure an appropriate plan for all kinds of risks. Proper planning ensures that if there is more than one risk, they can be prioritized and dealt with accordingly. This step ensures that nothing will fall apart and the plan makes it easy for the project team to remember all the crucial details and deadlines.

## The following are the components of project planning:

### Scope

It is one of the most important components of a project plan. The scope determines what a project team will and will not do. Defining the project's in-scope requirements make the work breakdown structure creation process easier. The project manager must define performance objectives as part of the project scope.



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## Budget

One of a project's most important components is the budget. To determine the project's cost, project managers consider the amount of labor and other resources needed to complete the project's objectives. Different phases, tasks, and activities require different budget allocations depending on their priorities and needs.

## Timeline

The term "timeline" describes how long it is anticipated for each project stage to be finished. It also entails stating how the project is broken down into tasks and subtasks. The definition of these timelines, the creation of individual and team schedules, and the selection of project milestones are all included in the timeline process.

## Project Planning Tools

Project planning tools help everyone concerned keep track of project requirements and deadlines. Some of the most popular project planning tools include the following:

### Gantt Chart

Gantt charts are an industry standard that helps in tracking both time and interdependencies between tasks

Gantt charts are an essential tool to show different phases, jobs, and resources involved in project management

### Critical Path Method (CPM)

Critical Path Method (CPM) is a crucial tool for determining the progress of the project to ensure that the project is on schedule

CPM helps in determining the essential or critical path by finding out the longest stretch of dependent tasks

### PERT Chart

The Program Evaluation and Review Technique (PERT) helps in analyzing the tasks to complete the project and the time required to complete those tasks

PERT simplifies the planning and scheduling of large and complex projects

### Work Breakdown Structure (WBS)

Work Breakdown Structure (WBS) is a process of organizing the team's work into



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manageable sections

WBS is a hierarchical structure of the deliverables needed to complete the project.

## Project Planning Steps

There are seven essential project planning steps:

### 1. Identify and Meet Stakeholder

The stakeholders might include the project manager, the customer, or the team. The first step is to identify and meet the stakeholders to discuss their expectations and establish the project scope.

### 2. Define Scope

Project scope involves determining a list of specific project goals, deliverables, budgets, and deadlines. Project scope helps in establishing boundaries of the project and responsibilities of each team member.

### 3. Set and Prioritize Objectives

The objectives are set and prioritized once the expectations of stakeholders become certain. More exquisite detail to initial ideas is given, which serves as a reference point throughout the project.

### 4. Determine Deliverables

Deliverables are the reason why the projects are created. It is one of the most critical steps of the project planning to determine what these deliverables will be and how they will be delivered in time.

### 5. Create a Project Schedule

The project schedule outlines when different tasks of a project are supposed to begin and end. The project schedule helps measure the project progress and set up progress reports.

### 6. Risk Analysis

Identifying risks and considering how to deal with them is an essential step in project planning. Specific steps to prevent risks from happening or limiting their impact should be considered.

### 7. Set Progress Guidelines



There must be a communication plan to update the stakeholders regarding the project progress. This can be done monthly, weekly, or daily so that all involved members can monitor the progress.

## ● Project Charter, Project Scope

One of the most critical and essential documents for every project is the Project Charter.

It is the first document for a project and lays down the foundation for the project.

A project charter is a document which explains about the project at a very high level and highlights the stakeholders and the approach towards the project.

It introduces the Project Manager to the project.

The project sponsor owns a project charter.

Project Sponsor authorizes the Project Charter, but the Project Manager can create it.

Project Stakeholders should approve every Project Charter. Once the Project Charter is approved, it cannot be changed throughout the project life cycle.

Project charter can have:

- Project Name : Name of the Project which differentiates it from other projects.
- Project Description : A brief description of the project
- Project Scope : High:level scope of the project
- Project Stakeholders : Who are the stakeholders of this project?
- Business Case : Why is this project important?
- The value proposition of the Project Objectives : What is the objective of the project?
- Project Timeline : Start Date and End Date
- Project Deliverable : Outcome/Deliverable from the project
- Project Constraints : Various constraints faced by the project
- Assumptions : What are the assumptions made for the project during the initiation phase



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Creating a project charter involves gathering information, defining project goals, and communicating the details to stakeholders. Here are the steps to create a project charter:

**Identify the project's purpose and goals:** This is the first step in creating a project charter. Clearly define the project goals and objectives and identify how they align with the organization's overall strategy.

**Identify stakeholders:** Identify all stakeholders who will be affected by the project, including project sponsors, team members, and external stakeholders. Engage with them to understand their expectations, goals, and requirements.

**Develop a project scope statement:** Define the project's scope, including the boundaries and deliverables of the project. Identify what is included and excluded from the project, and ensure that the scope is aligned with the project goals and objectives.

**Identify project risks:** Identify any potential risks that may impact the project, and develop a risk management plan to mitigate them. This may include identifying contingency plans or alternative courses of action.

**Develop a project timeline:** Create a timeline that includes key milestones, deliverables, and deadlines. Ensure that the timeline is realistic and achievable.

**Develop a project budget:** Estimate the project's cost, including all necessary resources and materials. Develop a budget that aligns with the project goals and is acceptable to stakeholders.

**Develop a communication plan:** Define how stakeholders will be informed about project progress and how feedback will be received.

**Document the project charter:** Create a written document that includes all the above details and any other relevant information. Share the document with stakeholders to ensure agreement and understanding.

## Project Scope

Majority of the project fails because the scope of a specific project is not defined clearly.

For any project to be successful, the project scope has to be clear to all stakeholders without any assumption.

Project Scope, as the name suggests, is the boundary of the project.

Every project team is required only to deliver as defined and agreed in the Project Scope.

The information on project scope is documented in a project scope document. It is the



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foundation on which the schedule, budget is built.

As per the PMBOK : Project Scope is all the work required and only the work required to complete the project

It is crucial for every project manager to document the scope of the project and get approval from all stakeholders.

Project scope can change over a time based on the client's requirement change, business scenario change, or any other applicable reason.

Prof. Sheetal Jadhav