



Module 3

Project Scope

Project scope is one of the most important factors of project and process planning, and it is a high-level deliverable that shapes specific project goals and processes in project management.

Scope encompasses the deliverables, functions, tasks, and costs that are associated with delivering a project.

Pinning down the scope early in the lifecycle will greatly impact the schedule and ensure that the project has appropriate process requirements.

For the project to be delivered successfully, it is necessary to ensure that the stages of project scope are appropriately defined.

Clearly defined scope processes will help your team avoid disagreements, manage change, and avoid scope creep that can completely derail a project if not appropriately managed.

Readings

- Lecture
- Chapter 3 in *Engineering project management*
- Project Management Institute. (2017). Part 1: A guide to the project management body of knowledge (PMBOK® guide): 5. Project scope management. In *A guide to the project management body of knowledge® (PMBOK® guide)*. (6th ed.). (pp. 129-171). PMI Publications.

Lecture

- ▼ What is a project schedule?

The timeframe by which the process of developing, maintaining, and communicating all things about the project takes place from inception to destruction.

▼ What does a project schedule need to encompass?

All the technical work required to create appropriate outputs; it will encompass all change management processes

▼ What will time estimates look like when first building schedule?

Broad estimates

▼ What is project scope?

The scope clearly defines the required work, and a statement of work, or scope statement, is created to formally state the scope.

▼ What are forecasting models?

Can be created to produce start and end dates for specific project components

▼ What can be included in project schedule?

Management activities will be included in the schedule, such as meetings, communications, quality control, and risk response.

In addition, technical aspects of the project will also be included in the schedule to ensure that all dependencies have been appropriately monitored and the timeline is met.

▼ What is a work breakdown structure or WBS document?

The work breakdown structure will appropriately identify labor resources and responsibilities of engineers and individuals.

Each piece will be scrutinized to ensure that all project dependencies have been eliminated and the different hierarchies for the technical aspects have been appropriately built and assigned for completion.

Task owners will also be assigned to ensure that all work is effectively managed and that the work will be completed according to the project schedule.

▼ What are project costs?

Costs linked to scope activities to ensure that the project can be completed within the time tables allotted and in accordance with the approved budget created in the early scope with planning phases.

Project costs and cost management are involved in the entire process of a project.

Appropriate resource planning and ensuring that future resource requirements can be met in the statement of work is key to the success of any project.

▼ When does initial resource planning begin?

It begins in the scope and inception phases in the work breakdown structure.

▼ What should you remember about cost and cost estimation?

Create multiple cost estimates that include detailed and factor estimates.

Create a successful tendering process that encompasses cost estimates, bid requests, and analysis of bids received to ensure that costs are appropriately tracked.

Facilitate the marriage of cost estimation and cost control.

Track costs during execution and link directly to estimates for increased efficiency and the reduction of errors and inappropriate expenditures.

Estimate costs for change requests that can be added to project controls (Cost Engineering, 2020).

▼ Why should project managers create synergy?

Project managers who assist and enable their subject matter experts and stakeholders to create a synergy between one another allow for the outcome of the system to be greater than its individual parts. In short, it allows them to work together better for a greater overall effect.

▼ How should project managers foster innovation and creativity?

Team members must be free to express ideas and thoughts up the chain without being stymied. This nurtures innovation and creativity as well as contributions that are unbiased.

▼ What aspects of team culture help build effective communication?

- A communications management matrix

- Short and concise messages regarding project status
 - Team meetings
 - Status reports
 - Impromptu meetings
 - An environment conducive to communication (Information that can flow up, down, and laterally is key.)
 - Flexibility for communication and change
 - Consistent encouragement for communication between team members and stakeholders.
- ▼ What is resource management?
- A method of scheduling and allocating various resources to maximize efficiency of the project.
- ▼ What is a resource?
- A resource is any item, process, material, or object needed to complete a task or project. For example, this can be anything from the skillsets of employees all the way to purchase and adoption of software for the business.
- ▼ What is a resource manager?
- A project manager is responsible for assigning an individual specifically to project resources—the resource manager—so the project can flow at optimum efficiency levels.
- The resource manager's sole duty is to allocate resources needed to make the project a success.
- ▼ What does a resource manager help with?
- Identify shortfalls, avoid waste of resources, measure efficiency of resources
- ▼ What is individual risk?
- An event or a series of circumstances that will affect the achievement of one or more project objectives.
- Spending insufficient time on one or more phases of the project.

- Leaving key information about the project out of written project documentation.
- Moving to future stages of the project without completing subsequent stages (team members or key stakeholders).

▼ What is portfolio level risk?

A risk that can affect multiple objectives and have a significant impact on the entire project.

These risks need to be recognized within the project framework and standards for risk processes.

The interdependencies between risks across the program must be identified to successfully mitigate project risk aggregation.

The wider impacts of the risks at the program level need to be effectively managed, escalated as needed, and designated for action.

This ensures the sanctity and safety of the project components, the opportunity for effective change management activities, and the mitigation of cumulative risk through the application of standard risk management processes