

Project Scope Management

Study Notes



Points to Note

- Please read Chapter 5 from Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc., 2013 (pages 105 to 140).
- The study notes explain topics that are important for PMP® exam preparation and you can expect several questions from these topics.
- Pay close attention to all the terms used. It is very important to understand all the concepts discussed in this chapter.
- Try to relate the concepts to real life examples.
- After reading the study notes, please answer the chapter test questions in this knowledge area. The chapter questions improve your understanding of the concepts discussed in the study notes.



What is Project Scope Management?

- *Project Scope Management includes processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully.
- Please note that “gold plating,” i.e., including features and requirements in the product or deliverable not originally planned, is not a recommended practice.
- Major scope management processes include:
 - Plan Scope Management
 - Collect Requirements
 - Define Scope
 - Create WBS
 - Validate Scope
 - Control Scope

*This definition is taken from the Glossary of the Project Management Institute, A Guide to the Project Management Body of Knowledge, (PMBOK® Guide) – Fifth Edition, Project Management Institute, Inc., 2013



Product Scope vs. Project Scope

Product Scope	Project Scope
Features and functions that characterize a product, result or service.	Work that must be done to deliver a product with the specified features and functions.
Processes, tools and techniques required vary by application area – defined as part of the product life cycle	Processes, tools and techniques required vary by application areas – defined in project life cycle
Defined in product life cycle (not defined in this chapter – differs depending on the industry)	Defined in project life cycle – discussed in this chapter
Completion of product scope measured against the product requirements	Completion of project scope measured against the project management plan
A product may have several subsidiary components with their own separate but independent product scopes	A project generally results in a single product or deliverable



Processes in Project Scope Management

- Processes in Project Scope Management are Plan Scope Management, Collect Requirements, Define Scope, Create WBS, Validate Scope, and Control Scope.
- Please refer to figure 5-1 in *PMBOK® Guide - Fifth Edition*, page 106.
 - Understand all the processes—their inputs, tools and techniques, and outputs—very well.
 - Try to relate the processes to real-life cases that you have come across in your projects.



Plan Scope Management

- Process of creating a scope management plan which documents how the project scope will be defined, validated and controlled.
- *Main benefit of this process is that it gives direction and guidance on how the project's scope will be managed through out the project.
- Outputs of this process are Scope management plan and requirements management plan.

* Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – *Fifth Edition*, Project Management Institute, Inc., 2013, Page 107



Scope Management Plan

- Includes:
 - How project scope will be defined, developed, integrated, monitored, controlled and verified
 - How the expected stability of project scope will be assessed (i.e., determining the probability for its change)
 - Process for preparing a detailed project scope statement
 - Process which enables creation of WBS
 - Process which clearly states how WBS will be maintained and approved
 - Process which states how formal acceptance of the project deliverables is obtained
 - Process to control how change requests to the detailed project scope statement will be processed
- May be formal or informal, highly detailed or broadly framed, based on the needs of the project
- Subsidiary plan of the project management plan



Collect Requirements

- *Collect Requirements process involves:
 - Determining, documenting, and managing stakeholders' needs and requirements to meet project objectives
 - Defining and managing customer expectations

- *Tools and Techniques used:
 - Interviews
 - Focus groups
 - Facilitated workshops
 - Group creativity techniques
 - Group decision-making techniques
 - Questionnaires and surveys
 - Observations
 - Prototypes
 - Benchmarking
 - Context Diagrams
 - Document Analysis

* Project Management Institute, A Guide to the Project Management Body of Knowledge, (PMBOK® Guide) – Fifth Edition, Project Management Institute, Inc., 2013, Page 110



Collect Requirements (continued...)

- Outputs are:
 - Requirements Documentation:
 - Describes how individual requirements meet the business need for the project.
 - Requirements Traceability Matrix:
 - Links product requirements from their origin to the deliverables that satisfy them .
 - Traces requirements throughout the project life cycle.



Define Scope

- Process to develop a detailed description of the project and product
- Benefits:
 - Improves accuracy of cost, duration, and resource estimates
 - Defines baseline for performance measurement and control
 - Facilitates clear responsibility assignments
- Poor scope definition results in:
 - Higher final project costs
 - Changes that disrupt the project rhythm
 - Rework
 - Increase in project time
 - Lower productivity
 - Lower morale of workforce



Product Scope Description

- Documents the characteristics of the product, result, or service described in the requirements documentation and project charter.
- Is progressively elaborated (i.e., gets better defined as the project progresses).
- Should be detailed enough to support project planning.



Product Analysis

- Involves developing a better understanding of the product of the project by asking questions about the product and forming answers to describe the use, characteristics, and other relevant aspects of the product that is going to be manufactured.
- Used as a tool in Define Scope process
- *Techniques used:
 - Product breakdown
 - Systems analysis
 - Requirements analysis
 - Systems engineering
 - Value engineering
 - Value analysis

* Project Management Institute, A Guide to the Project Management Body of Knowledge, (PMBOK® Guide) – Fifth Edition, Project Management Institute, Inc., 2013, Page 122



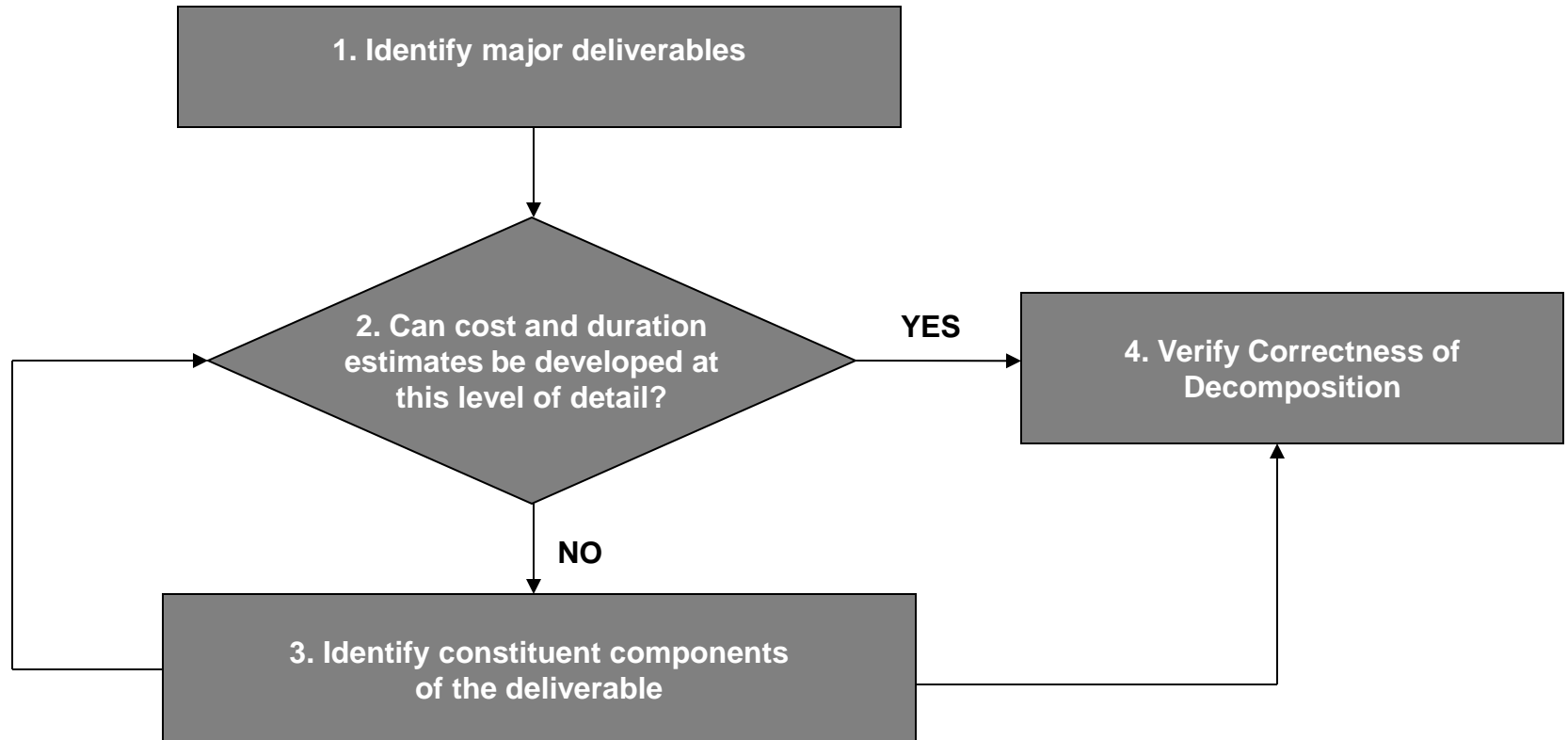
Project Scope Statement

- Contains a detailed description of the scope elements
- Contains description of the project scope, major deliverables, assumptions, and constraints.
- Provides a documented basis for making future project decisions
- Helps to develop common understanding among all stakeholders
- May need to be revised if there are scope changes
- Includes:
 - Product scope description
 - Acceptance criteria
 - Deliverable
 - Project exclusions
 - Constraints
 - Assumptions



Decomposition

- Dividing and subdividing the project scope and project deliverables into smaller, more manageable parts.
- Steps:





Work Breakdown Structures (WBS)

- Very important topic – you can surely expect some questions on WBS, WBS dictionary, and work packages.
- Definition: WBS is a hierarchical decomposition of the total scope of work to be carried out by the project team to accomplish the project objectives and create the required deliverables.
- The WBS is finalized by assigning each work package to a control account and establishing a unique identifier for that work package from a code of accounts.
- These identifiers provide a structure for hierarchical summation of costs, schedule, and resource information.
- Control accounts are placed at selected management points in the WBS.



Work Packages and WBS Dictionary

- Work packages:
 - Are the work defined at the lowest level of the WBS for which cost and duration can be estimated and managed
 - May be further decomposed into subproject work breakdown structure
- WBS dictionary:
 - Provides detailed deliverable, activity, and scheduling information about each component in the WBS
 - Supports the WBS



Inspection

- Is a tool and technique in Validate Scope process
- Is also called:
 - Review
 - Product review
 - Audit
 - Walkthrough
- Includes activities like measuring, examining, and validating to determine whether results conform to requirements



Scope Changes

- Modifications to an agreed upon project scope as defined in the WBS
- Will require adjustments to:
 - Cost
 - Time
 - Quality
 - Other project objectives
- What happens if scope changes?
 - Scope changes are fed back through the planning process
 - Technical and planning documents are updated as needed
 - Stakeholders are notified



Control Scope

- *Control Scope is a process to monitor the status of the project and product scope and manage changes to the scope baseline
- The project management plan contains the following information that is used to control scope:
 - Scope baseline
 - Scope management plan
 - Change management plan
 - Configuration management plan
 - Requirements management plan
- In variance analysis, project performance measurements are used to assess the magnitude of variation from the original scope baseline.

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