









Lecture 02 : Project Scope Management Contents

Part-1 (Fast Review)

- 1 Plan Scope Management
- **2** Collect Requirements
- 3 Define Scope
- 4 Create WBS
- **5** Validate Scope
- 6 Control Scope

Part-2

<u>Planning</u>



M&C

5.1. Plan Scope Management

Inputs

- .1 Project charter
- .2 Project management plan
 - Quality management plan
 - Project life cycle description
 - · Development approach
- .3 Enterprise environmental factors
- .4 Organizational process assets

Tools & Techniques

- .1 Expert judgment
- .2 Data analysis
 - · Alternatives analysis
- .3 Meetings

Outputs

- .1 Scope management plan
- .2 Requirements management plan

TT: Alternatives analysis:

- Various ways of collecting requirements,
- Creating the product,
- Validating the scope,
- Controlling the scope are evaluated.
- TT: MEETINGS: Project Manager
 Project sponsor and selected team members

❖ IN: The project charter documents:

- The Project Purpose
- High-level project description
- Assumptions, constraints
- High-level requirements.

❖ IN: Enterprise environmental factors:

- Organization's culture
- Infrastructure
- Marketplace conditions

❖ IN: Organizational process assets

- Policies and procedures.
- lessons learned repositories

- ❖ O: Scope Management Plan. is a <u>component</u> of the project management plan that describes how the scope will be <u>defined</u>, developed, monitored, controlled, and <u>validated</u>.
 - Process for preparing a project scope statement.
 - Process that enables the creation of the WBS.
 - Process that establishes how the scope baseline will be approved.
 - Process that specifies how formal acceptance of the completed project deliverables will be obtained.
- ❖ O: Requirements Management Plan. is a <u>component</u> of the project management plan that describes how project and product requirements will be <u>analyzed</u>, documented, and <u>managed</u>.

By: Elsayed Mohsen

5.2. Collect Requirements

Inputs

- .1 Project charter
- .2 Project management plan
- Scope management plan
- Requirements management
- Stakeholder engagement
- .3 Project documents
- Assumption log
- · Lessons learned register
- Stakeholder register
- .4 Business documents
- · Business case
- .5 Agreements
- .6 Enterprise environmental factors
- .7 Organizational process assets

Tools & Techniques

- .1 Expert judgment
- .2 Data gathering
- Brainstorming
- Interviews
- Focus groups Questionnaires and survevs
- Benchmarking
- .3 Data analysis
- Document analysis
- .4 Decision making
- Voting
- Multicriteria decision analysis
- .5 Data representation
 - Affinity diagrams
 - Mind mapping
- .6 Interpersonal and team skills
- Nominal group technique
- Observation/conversation
- Facilitation
- .7 Context diagram
- .8 Prototypes

Outputs

- .1 Requirements documentation
- .2 Requirements traceability matrix

- *Business requirements
- *Stakeholder requirements
- *Solution requirements
- -Functional, nonfunctional
- -(safety)
- *Transition requirements
- (training)
- *Project requirements
- *Quality requirements.

Tools & Techniques:

Brainstorming: Generate and collect multiple ideas

Interviews: Useful for obtaining **confidential** information.

Focus groups: Bring together prequalified stakeholders an Requirements documentation: Subject matter experts to learn about their expectations

> **Benchmarking:** The comparison as basis for measuring performance and identify best practices. (internal or external)

Voting: a collective decision-making technique. Examples:

- **Unanimity**: Everyone agrees on a single course of action.
- Majority: Support from more than 50%.
- **Plurality**: The largest group even if no majority

IN: Stakeholder Register:

- Identify stakeholders who can provide information on the requirements.
- Captures requirements and expectations that stakeholders have for the project.
- **IN**: Agreements: Contain project and product requirements.

By: Elsayed Mohsen

Autocratic decision making: one individual takes the decisions

Affinity diagrams: large numbers of ideas to be classified.

Nominal Group Technique. Enhances brainstorming with a voting process used to rank the most useful ideas.

Prototypes. Working model before building (mockup).

Questionnaires and Surveys. Sets of questions to quickly accumulate information from a large no. of respondents.

5.3. Define Scope

Inputs

- .1 Project charter
- .2 Project management plan
 - · Scope management plan
- .3 Project documents
 - Assumption log
 - Requirements documentation
 - Risk register
- .4 Enterprise environmental factors
- .5 Organizational process assets

Tools & Techniques

- .1 Expert judgment
- .2 Data analysis
 - · Alternatives analysis
- .3 Decision making
 - Multicriteria decision analysis
- .4 Interpersonal and team skills
 - Facilitation
- .5 Product analysis

Outputs

- .1 Project scope statement
- .2 Project documents updates
 - Assumption log
 - Requirements documentation
 - Requirements traceability matrix
 - · Stakeholder register



Project scope description (progressively elaborated)

Acceptance criteria

Project deliverables

Project exclusions

Project constraints

Project assumptions

Define Scope is the process of developing a detailed description of the project and product.

Acceptance criteria: A set of conditions that is required to be met before deliverables are accepted.

Exclusion: Identifies what is excluded from the project (A roof-top swimming pool is not included)

Deliverables: Include the House, keys for the doors, Windows, cupboards and drawers.

Constraint: The cost should not exceed \$100K.

e of the project.

Assumption: The site would receive uninterrupted electricity and water supply during the course of the project.

5.4. Create WBS

Inputs

- .1 Project management plan
 - Scope management plan
- .2 Project documents
 - Project scope statement
 - Requirements documentation
- .3 Enterprise environmental factors
- .4 Organizational process assets

Tools & Techniques

.1 Expert judgment .2 Decomposition

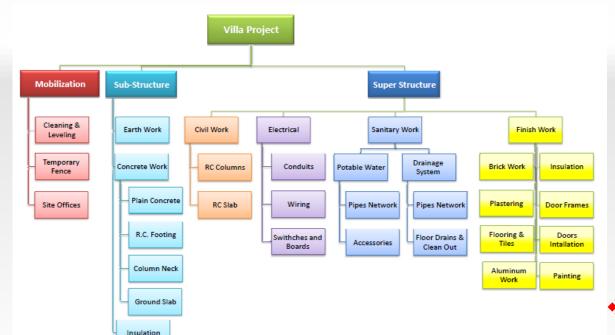
- Outputs
- .1 Scope baseline
- .2 Project documents updates
 - Assumption log
 - Requirements documentation

The process of **subdividing** project deliverables and project work into **smaller**, more **manageable** components.

TT: <u>Decomposition</u>: <u>Dividing</u> and <u>subdividing</u> project <u>scope</u> and project <u>deliverables</u> into smaller, more <u>manageable parts</u>.

O: **Scope baseline**: is the approved version of:

- ✓ Scope statement.
- ✓ WBS.
- ✓ WBS dictionary.



WBS: 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.

WBS Dictionary: is a document that provides detailed deliverable, activity, and scheduling information about each component in the WBS.

The lowest level of the WBS is a work package.

5.5. Validate Scope

Inputs

- .1 Project management plan
 - Scope management plan
 - Requirements management plan
 - Scope baseline
- .2 Project documents
 - Lessons learned register
 - Quality reports
 - Requirements documentation
 - Requirements traceability matrix
- .3 Verified deliverables
- .4 Work performance data

Tools & Techniques

- .1 Inspection
- .2 Decision making
 - Voting



Outputs

- .1 Accepted deliverables
- .2 Work performance information
- .3 Change requests
- .4 Project document updates
 - Lessons learned register
 - Requirements documentation
 - Requirements traceability matrix

The process of formalizing acceptance of the completed project deliverables.

IN: Verified deliverables:

- Are project deliverables that are completed and checked for correctness through the Control Quality process.
- Is output of internal quality control process.

TT: <u>Inspection</u>: includes activities such as measuring, examining, and validating to determine whether work and deliverables meet requirements and product acceptance criteria.



O: Accepted Deliverables: Deliverables that meet the acceptance criteria are <u>formally signed off</u> and <u>approved</u> by the <u>customer</u> or <u>sponsor</u>.

O: Work performance information: Project progress, such as:

- ✓ Which deliverables have been accepted
- ✓ Which have not been accepted and the reasons why.
- ✓ This information is documented and communicated to stakeholders.

O: Change requests: The completed deliverables that have not been formally accepted are documented, Those deliverables may require a change request for defect repair.

By: Elsayed Mohsen

5.6. Control Scope

Inputs

- .1 Project management plan
 - Scope management plan
 - Requirements management plan
 - Change management plan
 - Configuration management plan
 - · Scope baseline
 - Performance measurement baseline
- .2 Project documents
 - · Lessons learned register
 - Requirements documentation
 - Requirements traceability matrix
- .3 Work performance data
- .4 Organizational process assets

Tools & Techniques

- .1 Data analysis
 - Variance analysis
 - Trend analysis



Outputs

- .1 Work performance information
- .2 Change requests
- .3 Project management plan updates
 - Scope management plan
 - Scope baseline
 - Schedule baseline
 - · Cost baseline
 - Performance measurement baseline
- .4 Project documents updates
 - · Lessons learned register
 - Requirements documentation
 - Requirements traceability matrix

Definition: Control Scope is the process of monitoring the status of the project and product scope and managing changes to the scope baseline.

The key benefit : The scope baseline is maintained throughout the project. **HOW?**

✓ Controlling the project scope ensures all <u>requested changes</u> and <u>recommended corrective</u> or <u>preventive actions</u> are processed through the <u>Perform Integrated Change Control process</u>.

TT: Variance Analysis:

✓ Used to compare the baseline to the actual results and determine if the variance is within the threshold amount or if <u>corrective</u> or <u>preventive action</u> is appropriate.

TT : Trend analysis:

✓ Examines project <u>performance over time</u> to determine if performance is improving or <u>deteriorating</u>.

Gold plating Sometimes people think of a really great improvement to the product (giving extra) and go ahead and make it without even checking the impact (unsuccessful project).

Scope Creep. The uncontrolled expansion to product or project scope without adjustments to time, cost, and resources.

RMP

Questions & Answers

Project Scope Management



Q1) You have just been assigned as project manager for a large manufacturing project. You want to understand the Process for preparing a project scope statement and how formal acceptance of the completed project deliverables will be obtained. Which of the following will you have to reference?

- A- The scope management plan
- **B- The stakeholder management plan**
- C- The quality management plan
- **D- Validate Scope process**



PMBOK 137

5.1.3.1 SCOPE MANAGEMENT PLAN

The scope management plan is a component of the project management plan that describes how the scope will be defined, developed, monitored, controlled, and validated. The components of a scope management plan include:

- Process for preparing a project scope statement;
- Process that enables the creation of the WBS from the detailed project scope statement;
- Process that establishes how the scope baseline will be approved and maintained; and
- Process that specifies how formal acceptance of the completed project deliverables will be obtained.

BY: EL-Sayed Mohsen, PMP®, PMI-RMP®



Q2) The project manager has created the project charter on behalf of the project sponsor, and it is now approved. Which of the following processes should be performed next?

- **A- Identify Risks**
- **B- Create WBS**
- **C- Develop Project Charter**
- **D- Plan Scope Management**





Q3) As a project manager, in which document will you find information about project scope description, project deliverables, and project exclusions?

- A- Requirements traceability matrix
- **B- Scope baseline**
- **C- Change log**
- **D- Requirements documentation**

PMBOK 161



5.4.3.1 SCOPE BASELINE

The scope baseline is the approved version of a scope statement, WBS, and its associated WBS dictionary, which can be changed only through formal change control procedures and is used as a basis for comparison. It is a component of the project management plan. Components of the scope baseline include:

Project scope statement. The project scope statement includes the description of the project scope, major deliverables, assumptions, and constraints (Section 5.3.3.1).



Q4) As a project manager, after finalizing some activities for the project, the customer is not satisfied and complains that his requirements are not being met. in which of the following processes should the project manager have involved him to ensure approval?

- **A- Develop Project charter**
- **B- Close project or phase**
- **C- Validate scope**
- **D- Collect requirements**



PMBOK 163

5.5 VALIDATE SCOPE

Validate Scope is the process of formalizing acceptance of the completed project deliverables. The key benefit of this process is that it brings objectivity to the acceptance process and increases the probability of final product, service, or result acceptance by validating each deliverable. This process is performed periodically throughout the project as needed. The inputs, tools and techniques, and outputs of this process are depicted in Figure 5-15. Figure 5-16 depicts the data flow diagram of the process.

BY: EL-Sayed Mohsen, PMP®, PMI-RMP®



Q5) You are the project manager of the OQH Project and are working with the project stakeholders to determine the project requirements. Which tools and techniques can BEST use for generating and prioritizing the project requirements?

A- Nominal group technique

B- Affinity diagram

C- Mind mapping

D- Brainstorming

Generate = brainstorming

Generate & Organize & Classify OR Grouping = Affinity Diagram Generate & prioritization & Voting = Nominal group techniques





Q6) You are the Project Manager of a large and complex project. Your project team has finished creating a Work Breakdown Structure for the project. However, some of the team members are still not sure of the kind of work included in each of their work packages. Which of the following documents would you suggest they go through?

- A- The Project charter
- **B- Work Break Structure (WBS) Dictionary**
- **C- Project scope statement**

D- Project Management Plan





◆ WBS dictionary. The WBS dictionary is a document that provides detailed deliverable, activity, and scheduling information about each component in the WBS. The WBS dictionary is a document that supports the WBS. Most of the information included in the WBS dictionary is created by other processes and added to this document at a

BY: EL-Sayed Mohsen, PMP®, PMI-RMP®



Q7) A customer is validating scope towards the end of a project and finds some unexpected features added to the product. Upon discussion with the project manager, there is confusion regarding how this feature got added. Unfortunately, no document existed wherein this could be verified. Which document could have avoided this confusion?

- A- The Project charter
- B- Issue log with a record of this confusion having occurred
- C- Scope management plan explaining how confusions can be prevented
- **D- Requirements traceability matrix**





Q8) You need a public opinion as part of the requirements gathering process for your project. You selected a wide variety of people for your study and want to use a requirements gathering technique that can produce results quickly. Which technique is best suited for this scenario?

- **A- Questionnaires and Surveys**
- **B- Interview**
- **C- Brainstorming**
- **D- Observations**

PMBOK 143



◆ Questionnaires and surveys

Questionnaires and surveys are written sets of questions designed to quickly accumulate information from a large number of respondents. Questionnaires and/or surveys are most appropriate with varied audiences, when a quick turnaround is needed, when respondents are geographically dispersed, and where statistical analysis could be appropriate.

- Q9) A Project Manager has delivered a major deliverable of the project. The customer comes back a week after the release saying that he is not entirely satisfied with the deliverable. What should the Project Manager do NEXT?
- A- Do a scope verification of this deliverable to check if it satisfies project objectives
- B- Continue with the next deliverable as the project has to be finished on time
- C- Talk to the Senior Manager to discuss the customer concern and resolution
- D- Ensure that the next deliverables have the features that the customer specified and exceed his expectations



To Get the Complete Course Videos and PDF Files, Enroll Now 🖓

| PMP® Preparation Course-6th Edition- Earn 35 PDUs |

What you'll learn?

- Earn 35 PDU/Contact Hours Certificate.
- High-Quality PMP Videos-Watch over 110 videos covering every PMP topic.
- Simple, Clear, and Concise explanations that help you get ready for the exam as fast as possible.
- Learn all Project Management Knowledge areas and Explain the project management processes.
- Explain more than 300 questions on the different Knowledge areas, and I will give you the strategy of how to deal correctly
 with questions and choose the correct answer.
- You will get all the resources you need to pass the PMI PMP certification exam.
- You will be able to discuss the PMBOK Guide 6th edition with confidence.
- Calculate float for complex project network diagrams.
- Learn all Formulas Easily: EVM, Critical Path, CPI, SPI, CV, SV, Float.
- PMP Pass Guarantee: You will Pass the PMP Exam Easily on your first try!

Join the thousands of others who've completed this course and passed their PMP exam. You can do this!

www.pm-tricks.com



- **❖11** Exams by knowledge Areas
- **❖** 5 Exams By Process Groups
- **❖** 3 Full length Mocks
- **50** Qs on PMP Change management
- **❖ 50 Qs on PMP Exam Outline**
- ❖ 50 Qs on PMP Exam Math



My Website:

www.pm-tricks.com

Study Group in Facebook :-

https://www.facebook.com/groups/PMPTRICKS/

❖My YouTube Channel :-

https://www.youtube.com/channel/UCWB63onAp4wm1crrLphkNjA/playlists?view_as=subscriber







