**Project Scope Management, PMBOK 6th Edition**

Michael D. Harper, Ph.D.

*“Project scope management involves defining and controlling the deliverables from the project.”*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Project Scope Management** | **Process Groups** | | | | |
|  | **Major Processes** | Initiating | Planning | Executing | Monitoring &  Controlling | Closing |
|  | 1. Plan Scope Management |  | 1 |  |  |  |
|  | 2. Collect Requirements |  | 2 |  |  |  |
| 🡪 | 3. Define Scope  (Scope Statement) |  | 3 |  |  |  |
| 🡪 | 4. Create WBS  (Work Breakdown Structure) |  | 4 |  |  |  |
| 🡪 | 5. Validate Scope |  |  |  | 5 |  |
| 🡪 | 6. Control Scope |  |  |  | 6 |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Charter** | **🡪** | **Scope Statement** | **🡪** | **WBS** |
| Initiates Project |  | Defines Project |  | Identifies Work |

|  |  |
| --- | --- |
| **Define Scope**  (Project Scope Statement) | * Defines the project * Establishes the limits of the project. |

|  |  |
| --- | --- |
| **Create WBS**  **(**Work Breakdown Structure) | *The WBS identifies the work to be done in a structured manner suitable for establishing management responsibilities, generating knowledge area plans, or assigning work.* |

|  |  |
| --- | --- |
| **Validate Scope** | * Prevent Scope Creep * Stakeholder Communications * Team Motivation |

|  |  |
| --- | --- |
| **Control Scope** | * Scope Baseline * Scope Change Control |

**Define Scope**

|  |
| --- |
| **Project Scope Statement**  The project scope statement primary purposes:   * Defines the project * Establishes the limits of the project   The project scope statement can also include:  Description, background, justification, deliverables, approach, resources, constraints, stakeholders, key elements, etc. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Charter** | **🡪** | **Scope Statement** | **🡪** | **WBS** |
| Initiates Project |  | Defines Project |  | Identifies Work |

**Scope Statement Objectives**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Charter | 🡪 | Scope Statement | 🡪 | WBS |  |
| Initiates Project |  | Defines Project |  | Identifies Work |  |
|  |  | 🡪 |  |  |  |
| Charter | 🡪 | Deliverables |  |  |  |
|  |  | Solution | 🡪 | WBS | Work Breakdown Structure |
|  |  | 🡪 |  |  |  |
|  |  | In Scope | 🡪 | WBS | Work Breakdown Structure |
|  |  | Out of Scope | 🡪 | ICC | Integrated Change Control |
|  |  |  |  |  |  |

**Create Balance & Maintain Perspective**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | |  | |  | |  |
|  | **Key Stakeholders** | |  | | **Project Team** | |  |
|  | “High Scope Level” | | **<** | | “Functional Scope Level” | |  |
|  | >>>success<<< | |  | | >>>feasibility<<< | |  |
|  | Stakeholder meetings | |  | | Team Meetings | |  |
|  |  |  |  |  |  |  |  |
|  |  | |  |  |  | |  |
|  |  | **Scope Statement** | | | |  |  |
|  |  |  | | | |  |  |

|  |  |
| --- | --- |
| In Scope | Out of Scope |
| * Background * Justification * Approach * Deliverables * Approval | * Out of Scope Register * Integrated Change Control |

**In Scope:**

|  |  |
| --- | --- |
| Background   * Environment * History * Motivations * Drivers * Type of Source | Justification   * Business Value 🡪 Product Design 🡪 Project Scope * Cost/Benefit * Authority from Sponsor |
| Approach   * Process * Assumptions * Constraints * Resources * Risks | Deliverables   * Specific needs * Expectations * Success Criteria * Balance and Perspective |

**Out of Scope:**

|  |  |
| --- | --- |
| Out of Scope Register   * List * Cost * Time * Resources | Integrated Change Control   * CCB (carefully select members) * Process (completely identify steps, e.g., scope bank) * Communicate * Get Buy-in |

|  |
| --- |
| ***Key Elements of Project Scope Statement***   * Always document * Begin Communications early and include key stakeholders from the beginning * Handle ‘high scope level’ and ‘functional scope level’ issues appropriately * Maintain a ‘project focus’ |

**Create WBS**

Work Breakdown Structure (WBS)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Charter | 🡪 | Scope Statement | 🡪 | **WBS** |
| Initiates Project |  | Defines Project |  | Identifies Work |

|  |
| --- |
| *The WBS identifies the work to be done in a structured manner suitable for establishing management responsibilities, generating knowledge area plans, or assigning work.* |

***Overview***

|  |
| --- |
| **WBS (Work Breakdown Structure)**   * WBS defines the project.   + If it’s not here, it’s not part of the project.   + If it’s part of the project, it’s here. * Two types of structure or form: Hierarchical & Outline. * Decomposition: Project title, Deliverables, Work Packages. * Standard identifiers (Code of Accounts) are used to track work, time, and cost. * Approaches: Guidelines; Analogy; Top-down; Bottom-up, Mind Mapping. * Deliverables: WBS & WBS Dictionary |

**Suggested Hierarchical Decomposition of the WBS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Level |  | Hierarchical Decomposition |  | Description |
|  |  |  |  |  |
| 0 |  | Project |  | Complete project |
|  |  |  |  |  |
| 1 |  | Deliverable |  | Major deliverables |
|  |  |  |  |  |
| 2 |  | Sub-deliverable |  | Supporting deliverables |
|  |  |  |  |  |
| 3 |  | Lowest sub-deliverable |  | Lowest management responsibility level |
|  |  |  |  |  |
| 4 |  | Cost Account |  | Grouping of work packages for monitoring progress and responsibility |
|  |  |  |  |  |
| 5 |  | Work Package |  | Identifiable work activities |
|  |  |  |  |  |
| Lower levels of the WBS can be design to coordinate with critical project areas: | | | | |
| * Schedule * Cost baseline * Quality plan | | | | * Human resource assignments * Communication plan * Risk response plan * Procurement plan |

**WBS Example**

**Memo**

|  |
| --- |
| To: Associates  From: Corporate  Subject: Project Management  We have been asked to respond to an RFP. We will receive the RFP next week and begin the project. Tomorrow we will meet to create a project plan that will include a scope statement, WBS, schedule, and cost baseline.  For our meeting tomorrow, bring your laptop with the following WBS outline on our software for discussion and plan development. See you then. |

**Work Breakdown Structure (WBS) – Outline Form.**

|  |
| --- |
| RFP Response  1.0 Initialize  1.1 Organize RFP Requirements  1.2 Identify Internal Constraints and Capabilities  2.0 Work  2.1 Introduction  2.2 SOW (Statement of Work)  2.3 Satisfy Regulation Compliance  3.0 Closure  3.1 Prepare Document  3.2 Obtain Approvals |

**Work Breakdown Structure (WBS) – Hierarchical Form.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | RFP Response | | | | | | | | | |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 1.0 Initialize | | |  |  | 2.0 Work | | |  |  | 3.0 Closure | | |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | 1.1 Organize RFP Requirements | |  |  |  | 2.1 Introduction | |  |  |  | 3.1 Prepare Document | |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | 1.2 Identify Internal Constraints and Capabilities | |  |  |  | 2.2 SOW (Statement of Work) | |  |  |  | 3.2 Obtain Approvals | |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 2.3 Satisfy Regulation Compliance | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Approach Comments**

|  |  |
| --- | --- |
| Guidelines | If required by external source for external visibility, then ‘form’ usually more important than ‘content.’ Can create an alternative WBS for internal project management. |
| Analogy | If from past successful projects, then use to create comfort level in stakeholders and team members. Continuously tie to scope and feasibility. |
| Top-Down | Most popular in established, experienced projects. Leaving items vague or general can signal respect for individual team member’s expertise and technical experience. |
| Bottom-Up | Requires information management techniques since many constituents are involved. Can create ‘buy-in’ for politically sensitive projects. Can aid in identifying milestones and tasks for new projects. Can clarify objectives for team members in complex projects. |
| Mind Mapping | Requires facilitator knowledgeable in project objectives and justification. Can help communicate the breadth and depth of project scope to team members and stakeholders. Can aid in controlling future changes. Can communicate detail to external stakeholders. |

**Validate Scope**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Scope Validation Process** | | | | | | | | | | | | | |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | **Project Manager** | | | | | | | | | | | | | |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Inspection | | 🡪 | Stakeholder  Communication | | 🡪 | Validate  Scope? | | 🡪 | Acceptance | | 🡪 | Document | |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | **🡪** |  |  | **🡪** |  |  |  |  |  |  |  |  |
|  |  |  |  |  | Change  Verification | | 🡨 | Rejection | |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |
| --- |
| **Value of Scope Validation.**   * Prevent Scope Creep * Stakeholder Communications * Team Motivation |

**Control Scope**

**Scope Management Plan. (Identification, Acceptance, Implementation)**

|  |
| --- |
| * Identification: Procedure for submission, evaluation, and selection of changes * Acceptance: Decision process for acceptance or rejection of changes * Implementation: Configuration management |

**Scope Management Process**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Scope Statement |  |  |  |  |  |  |  |  |
| WBS |  | Scope Baseline |  | Identify  Change | Accept  Change | Implement  Change |  | New Scope  Baseline |
| WBS Dictionary |  |  |  |  |  |  |  |  |

**Key Characteristics in Scope Change Control.**

|  |
| --- |
| * Identification: “Respect for detail” & “Motivated by consequences.” * Acceptance: “Process as important as Change” * Implementation: “Communicate” & “Remain Flexible” |