**Project Management – PMBOK Content, 6th Edition**

Michael D. Harper, Ph.D.

**PMBOK: Project Management Body of Knowledge**

**Reference:** A Guide to the Project Management Body of Knowledge, (PMBOK), 6th Edition, 2017, Project Management Institute, Inc., ISBN: 9781628251845

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| **PMBOK – Cycles, Phases, Process Groups, Knowledge Areas, ITTO**   * Cycles * Product Life Cycle   + Introduction, Growth, Maturity, Decline * Project Life Cycle   + Initiating, Planning, Executing, Monitoring, Controlling, Closing * Phases.   + Project Life Cycle Phases.     - Concept, Development, Implementation, Close-out   + Project Time Phases.     - Sequential, Overlapping, Iterative   + Product Life Cycle Phases.     - Design, Prototype, Final Assembly * Process groups.   + Initiating Process Group. Processes needed to start the project.   + Planning Process Group. Processes needed to determine what is to be done in the project.   + Executing Process Group. Processes needed to do the project.   + Monitoring and Controlling Process Group. Processes needed to manage the project.   + Closing Process Group. Processes needed to finalize the project when done. * Knowledge areas.   + Project Integration Management   + Project Scope Management   + Project Schedule Management   + Project Cost Management   + Project Quality Management   + Project Resource Management   + Project Communications Management   + Project Risk Management   + Project Procurement Management   + Project Stakeholder Management * ITTO.   + Inputs, Tools, Techniques, Outputs   . |
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PMBOK 6th Edition

**Project Management Knowledge Areas (10)**

**Project Management Processes (49)**

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| --- | --- |
| Project Integration Management   1. Develop Project Charter 2. Develop Project Management Plan 3. Direct and Manage Project Work 4. Manage Project Knowledge 5. Monitor and Control Project Work 6. Perform Integrated Change Control 7. Close Project or Phase   Project Scope Management   1. Plan Scope Management 2. Collect Requirements 3. Define Scope 4. Create WBS 5. Validate Scope 6. Control Scope   Project Schedule Management   1. Plan Schedule Management 2. Define Activities 3. Sequence Activities 4. Estimate Activity Durations 5. Develop Schedule 6. Control Schedule   Project Cost Management   1. Plan Cost Management 2. Estimate Costs 3. Determine Budget 4. Control Costs   Project Quality Management   1. Plan Quality Management 2. Manage Quality 3. Control Quality | Project Resource Management   1. Plan Resource Management 2. Estimate Activity Resources 3. Acquire Resources 4. Develop Team 5. Manage Team 6. Control Resources   Project Communications Management   1. Plan Communications Management 2. Manage Communications 3. Monitor Communications   Project Risk Management   1. Plan Risk Management 2. Identify Risks 3. Perform Qualitative Risk Analysis 4. Perform Quantitative Risk Analysis 5. Plan Risk Responses 6. Implement Risk Responses 7. Monitor Risks   Project Procurement Management   1. Plan Procurement Management 2. Conduct Procurements 3. Control Procurements   Project Stakeholder Management   1. Identify Stakeholders 2. Plan Stakeholder Engagement 3. Manage Stakeholder Engagement 4. Monitor Stakeholder Engagement |

**Project Management Process Groups (5)**

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| Chapter 3 (PMBOK 5th Edition)   1. Initiating 2. Planning 3. Executing 4. Monitoring and Controlling 5. Closing |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Monitoring and Controlling | | | | | | |  |  |
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|  |  |  |  | Planning | | |  |  |  |  |
|  | Initiating | | 🡪 | 🡪 |  | 🡪 | 🡪 | Closing | |  |
|  |  |  |  | Executing | | |  |  |  |
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**Interrelationship between:**

* **Project Management Knowledge Areas (10)**
* **Project Management Processes (49)**
* **Project Management Process Groups (5)**

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|  |  | Process Groups | | | | |
|  | **Processes** | Initiating | Planning | Executing | Monitoring &  Controlling | Closing |
| Knowledge Areas | Integration | 1 | 2 | 3,4 | 5,6 | 7 |
| Scope |  | 1,2,3,4 |  | 5,6 |  |
| Schedule |  | 1,2,3,4,5 |  | 6 |  |
| Cost |  | 1,2,3 |  | 4 |  |
| Quality |  | 1 | 2 | 3 |  |
| Resource |  | 1,2 | 3,4,5 | 6 |  |
| Communications |  | 1 | 2 | 3 |  |
| Risk |  | 1,2,3,4,5 | 6 | 7 |  |
| Procurement |  | 1 | 2 | 3 |  |
| Stakeholder | 1 | 2 | 3 | 4 |  |

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|  |  | Examples of Output | | |
| Knowledge Areas | Integration | Charter |  | Project Plan |
| Scope | Scope Statement |  | WBS |
| Schedule | Schedule |  | Gantt, CPM, PERT |
| Cost | Budget |  | EVM/EVA |
| Quality | QP/QA/QC |  | 7 Basic Tools |
| Resource | RAM |  | SMP |
| Communications | Meetings |  | Communications Plan |
| Risk | Risk Register |  | Risk Responses |
| Procurement | RFP |  | Contracts |
| Stakeholder | Register |  | Stakeholder Plan |

**PMBoK Knowledge Areas Breakdown.**

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|  | |  |  |  | | **Knowledge**  **Area** | |  | |  |
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| **Process** | | |  | **Process** | | | **. . .** | **Process** | | |
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|  | **ITTO** | |  |  | **ITTO** | |  |  | **ITTO** | |
|  | **1. Inputs** | |  |  | **1. Inputs** | |  |  | **1. Inputs** | |
|  | **2. Tools and**  **Techniques** | |  |  | **2. Tools and**  **Techniques** | |  |  | **2. Tools and**  **Techniques** | |
|  | **3. Outputs** | |  |  | **3. Outputs** | |  |  | **3. Outputs** | |

For example, consider the structure of the Project Cost Management knowledge area.

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|  |  |  |  | **Project Cost Management** | | | | |  |  |  |  |
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| **Plan Cost**  **Management** | |  | **Estimate**  **Costs** | |  | **Determine**  **Budget** | | |  | **Control**  **Costs** | |  |
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|  | **ITTO** |  |  | **ITTO** |  |  | **ITTO** | |  |  | **ITTO** |  |
|  | **1. Inputs** |  |  | **1. Inputs** |  |  | **1. Inputs** | |  |  | **1. Inputs** |  |
|  | **2. Tools and**  **Techniques** |  |  | **2. Tools and**  **Techniques** |  |  | **2. Tools and**  **Techniques** | |  |  | **2. Tools and**  **Techniques** |  |
|  | **3. Outputs** |  |  | **3. Outputs** |  |  | **3. Outputs** | |  |  | **3. Outputs** |  |

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| **Plan Cost Management** |
| Inputs  1. Project charter  2. Project Management Plan   * Schedule management plan * Risk management plan   **3. Enterprise environmental factors**  **4. Organizational process assets**  Tools & Techniques  1. Expert judgment  2. Data Analysis  3. Meetings  Outputs  1. Cost management plan |

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

Michael .D. Harper, Ph.D.

*“Project integration management involves coordinating all of the other project management processes and knowledge areas throughout a project’s life cycle.”*

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|  | **Project Integration Management** | **Process Groups** | | | | |
|  | **Major Processes** | Initiating | Planning | Executing | Monitoring &  Controlling | Closing |
| 🡪 | 1. Develop Project Charter | 1 |  |  |  |  |
| 🡪 | 2. Develop Project Management Plan |  | 2 |  |  |  |
|  | 3. Direct and Manage Project Work |  |  | 3 |  |  |
|  | 4. Manage Project Knowledge |  |  | 4 |  |  |
|  | 5. Monitor and Control Project Work |  |  |  | 5 |  |
| 🡪 | 6. Perform Integrated Change Control |  |  |  | 6 |  |
| 🡪 | 7. Close Project or Phase |  |  |  |  | 7 |

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| **Project Charter.** | A document, a verbal commitment, or an act that   * authorizes the project to begin * initiates the project * provides project overview |

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

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| **Project Plan** | The project plan is the primary document that   * coordinates all the work within a project and * represents the project to outside constituents |

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| **Integrated Change Control** | Integrated change control is based on:   * Expect change * Plan for change | |
|  | ***Key Elements of Integrated Change Control*** | |
|  | **Change Processes** | **CCB: Change Control Board** |

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| **Close Project** | **Close**. Attain adequate and complete closure of project operations.   * Internal – Administrative, Deliverables, Resources * External – Procurement, Stakeholders, Communications * Lessons Learned – Assets, Stakeholders, Motivation |

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

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

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|  | **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 |  |

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

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

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| **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.* |

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

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

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

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*“Project resource management includes processes to identify, acquire and manage resources needed for the successful completion of the project.”*

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|  | **Project Resource Management** | **Process Groups** | | | | |
|  | **Major Processes** | Initiating | Planning | Executing | Monitoring &  Controlling | Closing |
| 🡪 | 1. Plan Resource Management |  | 1 |  |  |  |
|  | 2. Estimate Activity Resources |  | 2 |  |  |  |
| 🡪 | 3. Acquire Resources |  |  | 3 |  |  |
| 🡪 | 4. Develop Team |  |  | 4 |  |  |
| 🡪 | 5. Manage Team |  |  | 5 |  |  |
|  | 6. Control Resources |  |  |  | 6 |  |

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| **Background** | * Virtual Teams * Agile Teams |

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| **Plan Resource Management** | * Organizational Breakdown Structure (OBS) * Resource Breakdown Structure (RBS) * Responsibility Assignment Matrix (RAM) |

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| **Acquire Resources** | * Project Team |

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| **Develop Team** | * Tuckman model * Myers-Briggs Type Indicator * Wilson Learning Social Styles Profile |

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| **Manage Team** | * Conflict Resolution |

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

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*“Project communication management includes processes to ensure generation, collection, dissemination, storage, and disposition of project information.”*

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|  | **Project Communications Management** | **Process Groups** | | | | |
|  | **Major Processes** | Initiating | Planning | Executing | Monitoring &  Controlling | Closing |
|  | 1. Plan Communications Management |  | 1 |  |  |  |
|  | 2. Manage Communications |  |  | 2 |  |  |
|  | 3. Monitor Communications |  |  |  | 3 |  |

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| ***Keys Statements on Project Communications*** |
| |  | | --- | | ***Most frequent cause of project failure is poor communications.*** | | ***Good communications can save a bad project. Bad communications can jeopardize a good project.*** | | ***Every successful project requires inclusive communications internally and externally.*** | | ***Approximate amount of time a project manager spends on communication is 90%.*** |   . |

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| **Background** | * Communication Channels/Nodes * Communication Models * Communication Technology |

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| **Plan Communication Management** | * People * Process * Purpose * Plan   (Who,What,When,How,Why) |

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| **Manage Communications** | *Ensure the communications plan is implemented correctly.* |
| * Maintain Consistency * Document * Meetings |

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| **Monitor Communications** | *Ensure the communications plan meets objectives.* |
| * Report * Audit * Update |

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

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*“Project stakeholder management includes processes to identify stakeholders, analyze stakeholders, communicate with stakeholders, and manage stakeholder impact on the project.”*

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|  | **Project Stakeholder Management** | **Process Groups** | | | | |
|  | **Major Processes** | Initiating | Planning | Executing | Monitoring &  Controlling | Closing |
|  | Identify Stakeholders | 1 |  |  |  |  |
|  | Plan Stakeholder Engagement |  | 2 |  |  |  |
|  | Manage Stakeholder Engagement |  |  | 3 |  |  |
|  | Monitor Stakeholder Engagement |  |  |  | 4 |  |

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| ***Keys Statements on Stakeholder Management*** |
| |  | | --- | | *Success of project planning, execution, and control depend on stakeholder engagement.* | | *Although objectives of stakeholder engagement may remain constant, manner of stakeholder engagement will vary over time and will vary between stakeholders.* | | *Engage stakeholders throughout the entire project.* | | *The primary responsibility of the project manager is stakeholder engagement.* |   . |

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| **Identify Stakeholders** | * Stakeholder Analysis * Stakeholder Register |

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| **Plan Stakeholder Engagement** | * Project & Business Needs and Expectation Assessment * Stakeholder Engagement Assessment Matrix * Stakeholder Engagement Plan |

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| **Manage Stakeholder Engagement** | * Consistent & Appropriate * Flexible & Focused * Meetings |

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| **Monitor Stakeholder Engagement** | * Change Management * Updates * Lessons Learned |