**Project Management – Introduction & Context – Spring 2021**

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**Overview – Project Management – Spring 2021**

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| **Fundamentals – PMBOK, 6th Edition**  >Knowledge Areas (10)  Integration, Scope, Resource,  Communications, Stakeholder  Schedule, Cost, Quality, Risk,  Procurement,  >Process Groups (5)  Initiating, Planning,  Executing, Monitoring & Controlling, Closing  >Processes (49 Processes)  >ITTO  Inputs, Tools, Techniques, Outputs | **Effective Project Management – Wysocki, 8th Edition**  >Project Landscape (Four Quadrants)  Traditional, Agile, Extreme, Emertxe  >Project Management Live Cycle (PMLC)  PMLC Process Groups (5)  Scope, Plan, Launch, Monitor & Control, Close  PMLC Processes (5)  Scoping, Planning,  Launching, Executing, Closing  PMLC Models/Types (5)  Linear, Incremental,  Iterative, Adaptive,  Extreme |

**Summary of Material**

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| **Course Topics** | **Summary of Material** | |
| PMBOK Guide, Part I  Organized around  Knowledge Areas | Wysocki Text, Part II  Organized around  Five Basic Phases |
| 1. Overview & Context. | PMBOK: Ch. 1-3  Definitions, Ch. 1  Environment, Ch. 2  Project Manager, Ch. 3 | Wysocki: Ch. 1-5 |
| 2. Traditional: Qualitative. | PMBOK: Part I  Integration, Ch. 4  Scope, Ch. 5  Resource, Ch. 9  Communications, Ch. 10  Stakeholder, Ch. 13 | Wysocki: Part II  Scope, Ch. 6  Plan, Ch. 7  Launch, Ch. 8  Execute, Ch. 9  Close, Ch. 10 |
| 3. Traditional: Quantitative. | PMBOK: Part I  Schedule, Ch. 6  Cost, Ch. 7  Quality, Ch. 8  Risk, Ch. 11  Procurement, Ch. 12 | Wysocki: Part II  Scope, Ch. 6  Plan, Ch. 7  Launch, Ch. 8  Execute, Ch. 9  Close, Ch. 10 |
| 4. Complex: Agile & Extreme. |  | Wysocki: Part III  Complex, Ch. 11  Agile, Ch. 12  Extreme, Ch. 13 |
| 5. Hybrid & ECPM. |  | Wysocki: Ch. 14,15 |

**Fundamentals – PMBOK, 6th Edition**

**“A Guide to the Project Management Body of Knowledge, PMBOK GUIDE, 6th Edition”**

**PMBOK 6th Edition**

**Project Management Knowledge Areas (10)**

**Project Management Processes (49)**

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|  |  | **Process Groups (5)** | | | | |
|  | **#=Processes (49)** | **Initiating** | **Planning** | **Executing** | **Monitoring &**  **Controlling** | **Closing** |
| **Knowledge Areas (10)** | 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 |  |

**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** | |  |
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|  | | **Major Take-Aways** |
| **Knowledge Areas (10)** | Integration | Charter, Project Plan, Integrated Change Control, Close Project |
| Scope | Scope Statement, WBS (Work Breakdown Structure) |
| Schedule | Schedule, Gantt, CPM, PERT |
| Cost | Budget, EVM/EVA (Earned Value Management/Earned Value Analysis) |
| Quality | Quality Planning/Quality Assurance/Quality Control, 7 Basic Tools |
| Resource | Team Management, RAM (Responsibility Assignment Matrix), RACI Chart |
| Communications | Communications Plan, Meetings |
| Risk | Risk & Utility, Risk Register, Risk Responses |
| Procurement | Procurement Management Plan, RFP |
| Stakeholder | Stakeholder Register, Stakeholder Engagement Plan |

**Effective Project Management – Wysocki, 8th Edition**

**Project Landscape & HPM (Hybrid Project Management) Framework**

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| **Project Landscape**   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | |  |  | **Solution**  Clear | **Solution**  Not Clear |  | |  | **Goal**  Not  Clear | Emertze  Projects  (Q4) | Extreme  Projects  (Q3) |  | |  | **Goal**  Clear | Traditional  Projects  (Q1) | Agile  Projects  (Q2) |  | |  |  |  |  |  |   **Traditional Project Landscape**  **&**  **Complex Project Landscape**  . . . | **HPM (Hybrid Project Management) Framework**   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | |  |  | Ideation  Phase | What will we do? |  | |  |  | ↓ |  |  | |  |  | Set-Up  Phase | How will we do it? |  | |  |  |  | |  |  | ↓ |  |  | |  |  | Execution  Phase | How well did we do? |  | |  |  |  | |  |  |  |  |  |   **Hybrid Project Management Model**  **&**  **Effective Complex Project Management**  . . . |

**Project Management Life Cycle Models (PMLC Models)**

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| |  |  | | --- | --- | | **Project Types:** | **PMLC Models:** | | Traditional Project Models (TPM) | TPM consists of Linear, Incremental | | Agile Project Models (APM) | APM consists of Iterative, Adaptive | | Extreme Project Models (xPM) | xPM consists of Extreme, Emertxe |   .   |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  |  |  |  | |  | Traditional: | Scope | 🡪 | Plan | 🡪 | Launch | 🡪 | Monitor | 🡪 | Close |  | |  |  |  |  |  |  |  |  | & Control |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |   .   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  | | | | | | | | |  |  |  | |  | Agile: | Scope |  | Plan | |  | Launch |  | Execute |  | Close | |  | Close |  | |  |  |  |  |  | |  |  |  |  |  |  | |  | Project |  | |  |  |  |  |  |  | Iterations or Cycles | | | | |  |  |  |  |  | |  |  |  |  |  | |  | 🡨 |  | 🡨 |  |  | |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |   **.**   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  | |  |  | | | | | | | |  |  |  | |  | Extreme: | Scope | |  | Plan |  | Launch |  | Execute |  | Close | |  | Close |  | |  |  |  | |  |  |  |  |  |  |  |  | |  | Project |  | |  |  |  |  | Phases | | | | | | |  |  |  |  |  | |  |  |  | |  |  |  | 🡨 |  | 🡨 |  |  | |  |  |  | |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |   . . . |

**Project Management – Introduction**

***Overview***

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| *“The art and science of transforming an idea into a product or service.”*  **What is a project?**  *“A project is a temporary endeavor undertaken to create a unique product or service.”*  **What is project management?**  *“Project management is the application of knowledge, skills, tools, and techniques*  *to project activities that fulfills the project scope on time and within budget*  *in order to meet or exceed stakeholder needs and expectations.”*  **Project Management Organizational Structure**   * *Project, Program, Portfolio, PMO*   **Stakeholders**   * *Sponsor, Project Manager, Team Members, Vendors*   **PMBoK (Project Management Body of Knowledge)**   * *Cycles, Phases, Process Groups, Knowledge Areas, ITTO*   . |
| **Project Management Checklist.**   * **Project Charter –** *Initiate the project.* * **Project Scope Statement –** *Define the project.* * **Integrated Change Control** – *Expect change & Plan for change* * **Stakeholder Analysis** – *Define, Communicate, Validate* * **Project Management Plan –** *Plan, execute, control, and close the project.*   **Project Management Extensions.**   * Agile Project Management * Extreme Project Management * Complex, International, Sustainable, & Virtual Projects   **Types of Projects.**   * Event Project Management * Construction Project Management * Information Technology Project Management * Systems Engineering Project Management * Urban Planning Project Management * Global Supply Chain Project Management   . |

**Project Management – Definitions**

*“The art and science of transforming an idea into a product or service.”*

**Origination of ideas for projects.**

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|  |  | Idea 🡪 Project | | | |  |  |
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| Need | |  | Opportunity | |  | Directive | |

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| **NEED** | **OPPORTUNITY** | **DIRECTIVE** |
| Use resources as needed | Use resource if available | Use minimum resources |
| Use most reliable solutions | Use innovative solutions | Use most direct solution |
| Achieve goal in minimum time | Achieve best goal possible | Achieve goal to just meet requirements |

**What is a project?**

“A project is a temporary endeavor undertaken to create a unique product or service.”

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| Projects | |  | 🡨 🡪 | |  | Ongoing  Operations | |
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| Time | |  | Uniqueness | |  | Objectives | |

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|  | **Project vs. Operations** | | |  |
|  | Projects | ↔ | Ongoing Operations |  |
| Time | Short-term  Fixed  Success | ↔ | Long-term  Continual  Resilient |  |
| Uniqueness | Deliverable  Process  Stakeholders  Timing (Resources,Assets) | ↔ | Family of Products/Services  Continual Improvement  Business Goals  Growth |  |
| Objectives | Stakeholder-focused | ↔ | Business-focused |  |
|  |  |  |  |  |

**Project vs. Operations**

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| --- | --- | --- |
| Logistics for the  next monthly board meeting | vs | Logistics for a week retreat  in the mountains for the executive board |
| Replace light bulbs  in conference room | vs | Install new lighting  in conference room |
| Insuring successful upgrade  of software on all computers | vs | Develop new software  for inclusion in next product offering |
| Evaluate international  vendor performance | vs | Conduct international  vendor search |

**Feasibility**

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| Create a summit conference on critical issues to your company  of all industry leaders including your competitors |
| Design and install conference room  with leading edge lighting technology |
| Develop artificial intelligence software  to learn from users the best way to do their job  and then implement learned behavior |
| Expand global influence of supply chain  to effect political stability in host countries |

**What is project management?**

“Project management is the application of knowledge, skills, tools, and techniques

to project activities that fulfills the project scope on time and within budget

in order to meet or exceed stakeholder needs and expectations.”

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|  | “Project management is the |  |
| Integration | application of  ***knowledge, skills, tools, and techniques*** | PMBOK |
| Flexibility | to project *activities* that fulfills the  ***project scope on time and within budget*** | Triple Constraint |
| Focus | in order to meet or exceed  ***stakeholder*** needs and expectations.” | Success |

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**Wysocki Scope Triangle**

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| Risk |  |  |  |  |  |  | Risk | |
|  |  | 🡨 ----------Time---------- 🡪 | Scope  & Quality | | 🡨 ----------Cost---------- 🡪 |  | |  |
|  |  |  |  |  |  |  |  | |
| Risk |  |  | 🡨 --------Resource & Availability-------- 🡪 |  |  |  | Risk | |
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***Key Project Management Terms***

**Project Management Checklist.**

* **Project Charter –** *Initiate the project.*
* **Project Scope Statement –** *Define the project.*
* **Integrated Change Control** – *Expect change & Plan for change*
* **Stakeholder Analysis** – *Define, Communicate, Validate*
* **Project Management Plan –** *Plan, execute, control, and close the project.*

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| **Project Management Life Cycles – PMBoK** | | |
|  | Traditional Project Management |  |
|  |  |  |
| Scope 🡪 Plan 🡪 Launch 🡪 Monitor & Control 🡪 Close | | |

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| **Project Management Life Cycles – Wysocki** | | | | | |
|  | | Traditional Linear | |  | |
|  | | Traditional Incremental | |  | |
|  | | Agile Iterative | |  | |
|  | | Agile Adaptive | |  | |
|  | | Extreme (Emertxe) | |  | |
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| Scope 🡪 Plan 🡪 Launch 🡪 Monitor & Control 🡪 Close 🡪 Next 🡪 Close | | | | | |
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**Life Cycles**

**Project Life Cycle**

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| Activity |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |  |  |  |  |  | *Time* | |
| Process  Groups | Initiating | | Planning | | | Executing &  Monitoring &  Controlling | | | | | | | Closing | |

**Product Life Cycle**

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| Activity |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |  |  |  |  |  | Time | |
| Stages | Introduction | | Growth | | | Maturity | | | | | Decline | | | |

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| Project1 | Project2 | Project3 | Project4 | Project5 | Project6 | Project7 | Project8 |

**Project Management – Organizational Structure**

**General Organizational Structure**

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|  |  |  |  |  |  |  |  |  |  |  |  |
|  | Executive Management | | | | |  |  |  |  |  |  |
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|  |  |  | Administration | |  | Functional | |  | Project | |  |
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**Project Management Structure**

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|  | Project Management Office (PMO) | | | | | | | |  |
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|  |  |  | Portfolio  Management | |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
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|  |  |  |  |  | Program  Management | |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | Project  Management | |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | |  |

**Functional Organizational Chart**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | CEO | | | |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Human  Resources | |  | Finance | |  | Marketing | |  | Information  Technology | |  | Operations | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Staff | |  | Staff | |  | Staff | |  | Staff | |  | Staff | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Staff | |  | Staff | |  | Staff | |  | Staff | |  | Staff | |

**Project Organizational Chart**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | CEO | | | |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Project  Manager | |  | Project  Manager | |  | Project  Manager | |  | Project  Manager | |  | Project  Manager | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Team  Members | |  | Team  Members | |  | Team  Members | |  | Team  Members | |  | Team  Members | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Staff | |  | Staff | |  | Staff | |  | Staff | |  | Staff | |

**Matrix Organizational Chart**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | CEO | | | |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Program  Managers | |  | Finance | |  | Marketing | |  | Information  Technology | |  | Operations | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Project Manager | |  | Staff | |  | Staff | |  | Staff | |  | Staff | |
|  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Project Manager | |  | Staff | |  | Staff | |  | Staff | |  | Staff | |
|  |  |  |  |

**Matrix Organizational Chart**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | CEO | | | |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Program  Managers | |  | Finance | |  | Marketing | |  | Information  Technology | |  | Operations | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Project Manager | |  | Staff  Authority | |  | Staff | |  | Staff | |  | Staff | |
|  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Project Manager | |  | Staff | |  | Staff | |  | Staff | |  | Staff | |
|  |  |  |  |

**Organizational Authority & Coordination**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | | |  |
|  |  |  | Project Manager Authority | | |  |
|  |  |  | Low |  | High |  |
|  | Coordination | Low | Functional |  | Project |  |
|  |  |  |  |  |  |
|  | High | Weak Matrix |  | Strong Matrix |  |
|  |  |  |  |  |  |  |

|  |  |
| --- | --- |
| **Project Management Office (PMO) – PMBoK** | **Project Support Office (PSO) – Wysocki** |
| A project management office (PMO) is a management structure that standardizes the project-related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques. | A Project support office (PSO) is a temporary or permanent organizational unit that provides a portfolio of services to support project teams that are responsible for a specific portfolio of projects. |

**Functional Organizational Chart**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | CEO | | | |  | PSO | | |  |  |  |
|  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Human  Resources | |  | Finance | |  | Marketing | |  | Information  Technology | |  | Operations | |  | PSO |
|  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Staff | |  | Staff | |  | Staff | |  | Staff | |  | Staff | |  | PSO |
|  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Staff | |  | Staff | |  | Staff | |  | Staff | |  | Staff | |  |  |
|  |  |  |  |  |  |

**Project Organizational Chart**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | CEO | | | |  | PSO | | |  |  |  |
|  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Project  Manager | |  | Project  Manager | |  | Project  Manager | |  | Project  Manager | |  | Project  Manager | |  | PSO |
|  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Staff | |  | Staff | |  | Staff | |  | Staff | |  | Staff | |  | PSO |
|  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Staff | |  | Staff | |  | Staff | |  | Staff | |  | Staff | |  |  |
|  |  |  |  |  |  |

**Stakeholders**

|  |  |  |  |
| --- | --- | --- | --- |
| ***A stakeholder is anyone or anything that is involved in,***  ***has interest in, or stands to gain or lose from a project*** | | | |
|  |  |  |  |
| Stakeholder Importance:   * supports definition of project expectations * facilitates project execution and control * validates project success | | | |

|  |
| --- |
| ***Stakeholders*** |
| **Sponsor**  **Project Manager**  **Project Team Members**  **Vendors**  **Customers**  **Community**  **Environment**  **Etc.**  **---** |

|  |
| --- |
| ***Key Stakeholder*: Project Manager** |
| **The project manager is responsible for all aspect of the project.**   * **Design and Planning.** * **Internal Management & Coordination.** * **External Communication & Representation.** |
|  |
| **Project Manager Knowledge.**   |  |  |  | | --- | --- | --- | | Project Management Knowledge | vs. | Domain Knowledge |   . |
| **Project Manager Skills.**   |  |  | | --- | --- | | Communication Skills | Negotiation Skills | | Organization Skills | Leadership Skills | | Problem Solving Skills | Team Building Skills |   . |
| **Project Manager Characteristics.**   |  |  | | --- | --- | | Personality | Experience |   . |

**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

|  |
| --- |
| **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**   + **I**nputs, **T**ools, **T**echniques, **O**utputs   . |

**PMBOK 6th Edition**

**Project Management Knowledge Areas (10)**

**Project Management Processes (49)**

|  |  |
| --- | --- |
| 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)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Chapter 3 (PMBOK 6th Edition)   1. Initiating 2. Planning 3. Executing 4. Monitoring and Controlling 5. Closing |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Monitoring and Controlling | | | | | | |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | Planning | | |  |  |  |  |
|  | Initiating | | 🡪 | 🡪 |  | 🡪 | 🡪 | Closing | |  |
|  |  |  |  | Executing | | |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
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**Interrelationship between:**

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **Process Groups (5)** | | | | |
|  | **#=Processes (49)** | **Initiating** | **Planning** | **Executing** | **Monitoring &**  **Controlling** | **Closing** |
| **Knowledge Areas (10)** | 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 |  |

|  |  |  |
| --- | --- | --- |
|  | | **Major Take-Aways** |
| **Knowledge Areas (10)** | Integration | Charter, Project Plan, Integrated Change Control, Close Project |
| Scope | Scope Statement, WBS (Work Breakdown Structure) |
| Schedule | Schedule, Gantt, CPM, PERT |
| Cost | Budget, EVM/EVA (Earned Value Management/Earned Value Analysis) |
| Quality | Quality Planning/Quality Assurance/Quality Control, 7 Basic Tools |
| Resource | Team Management, RAM (Responsibility Assignment Matrix), RACI Chart |
| Communications | Communications Plan, Meetings |
| Risk | Risk & Utility, Risk Register, Risk Responses |
| Procurement | Procurement Management Plan, RFP |
| Stakeholder | Stakeholder Register, Stakeholder Engagement Plan |

**PMBoK Knowledge Areas Breakdown.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  |  | | **Knowledge**  **Area** | |  | |  |
|  | |  |  |  | |  |  |  | |  |
|  | |  |  |  | |  |  |  | |  |
| **Process** | | |  | **Process** | | | **. . .** | **Process** | | |
|  |  | |  |  |  | |  |  |  | |
|  | **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. |
| |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  | **Project Cost Management** | | | | |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  | | **Plan Cost**  **Management** | |  | **Estimate**  **Costs** | |  | **Determine**  **Budget** | | |  | **Control**  **Costs** | |  | |  |  |  |  |  |  |  |  | |  |  |  |  | |  | **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** |  |   **. . .** |
| |  | | --- | | **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 |   **. . .** |