**Project Time Management**

Michael D. Harper, Ph.D.

*“Project time management involves defining and controlling the time aspects of the project.”*

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|  | **Project Time Management** | **Process Groups** | | | | |
|  | **Major Processes** | Initiating | Planning | Executing | Monitoring &  Controlling | Closing |
|  | Plan Schedule Management |  | 1 |  |  |  |
| **🡪** | Define Activities |  | 2 |  |  |  |
| **🡪** | Sequence Activities |  | 3 |  |  |  |
| **🡪** | Estimate Activity Resources |  | 4 |  |  |  |
| **🡪** | Estimate Activity Durations |  | 5 |  |  |  |
| **🡪** | Develop Schedule |  | 6 |  |  |  |
| **🡪** | Control Schedule |  |  |  | 7 |  |

**Define Activities.** Determine all the activities of the project. In general,

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| **WBS** | **🡪** | **Decomposition** | **🡪** | **Activity List** |

**Sequence Activities.**

Activity List 🡪 Dependency Relationships 🡪 Project Network

[Arrow Diagramming Method (ADM) or Activity-on-Arrow (AOA)]

[Precedence Diagramming Method (PDM) or Activity-on-Node (AON)]

**Estimate Activity Resource.**

Three hierarchical breakdown structures for project planning:

* WBS Work Breakdown Structure – Defines work activities (Product view)
* RBS Resource Breakdown Structure – Defines resources (Functional view)
* OBS Organizational Breakdown Structure – Coordinates work and resources with the organizational structure (Organizational view).

**Estimate Activity Durations.** “Obtain the amount of work needed for each activity.”

Activity List 🡪 Estimation 🡪 Activity Duration List

**Develop Schedule.** “Determine the time parameters of each activity.”

Project Network 🡪 Analysis (Gantt, CPM, PERT) 🡪 Project Schedule

**Control Schedule.** “Manage the progress and changes in the project schedule.”

Project Schedule 🡪 Schedule Change Control System 🡪 Schedule Updates

[Monitoring, Crashing, Fast Tracking, Resource Allocation]

**Project Cost Management**

Michael D. Harper, Ph.D.

*“Project cost management involves defining and controlling the cost to ensure the project is completed within the approved budget.”*

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|  | **Project Cost Management** | **Process Groups** | | | | |
|  | **Major Processes** | Initiating | Planning | Executing | Monitoring &  Controlling | Closing |
|  | Plan Cost Management |  | 1 |  |  |  |
| 🡪 | Estimate Costs |  | 2 |  |  |  |
| 🡪 | Determine Budget |  | 3 |  |  |  |
| 🡪 | Control Costs |  |  |  | 4 |  |

**Estimate Costs.** .

Cost Estimates: Types, Methods, Accuracy, Time, Approach

🡪 Primary Cost, Secondary Costs

**Determine Budget.**

WBS 🡪 Cost Estimates 🡪 Cost Baselines

**Control Costs.**

Cost Baseline 🡪 Performance reports 🡪 Evaluation and action

[ Earned Value Analysis ]

Project Quality Management

Michael D. Harper, Ph.D.

“Project quality management ensures the project meets and exceeds stakeholder’s needs and expectations.”

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|  | **Project Quality Management** | **Process Groups** | | | | |
|  | **Major Processes** | Initiating | Planning | Executing | Monitoring &  Controlling | Closing |
| 🡪 | Plan Quality Management |  | 1 |  |  |  |
| 🡪 | Perform Quality Assurance |  |  | 2 |  |  |
| 🡪 | Control Quality |  |  |  | 3 |  |

Project Quality

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| Quality Management | | Project Quality Management | |
| Quality Planning | Quality Assurance (QA) | | Quality Control (QC) |
| ***Keys to Project Quality Management***  Include Team Members  Measurement – Accountability – Communication  Focus on Stakeholder Satisfaction | | | |

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| **Plan Quality Management**. “Define quality, standards, and approaches.”  Project Deliverables, Standards, Stakeholder Requirements  🡪 Quality Management Plan |
| **Perform Quality Assurance**. “Implement the quality management plan.”  Plan 🡪 Audit 🡪 Quality Results |
| **Control Quality**. “Monitor project results and improve project performance.”  Measurement 🡪 Analysis 🡪 Quality Improvement  [ QA/QC: Measurement – Topics – Tools ] |

**Project Risk Management**

Michael D. Harper, Ph.D.

*“Project risk management is concerned with identifying, analyzing, and responding to project risk.”*

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|  | **Project Risk Management** | **Process Groups** | | | | |
|  | **Major Processes** | Initiating | Planning | Executing | Monitoring &  Controlling | Closing |
| 🡪 | Plan Risk Management |  | 1 |  |  |  |
| **🡪** | Identify Risks |  | 2 |  |  |  |
| **🡪** | Perform Qualitative Risk Analysis |  | 3 |  |  |  |
| **🡪** | Perform Quantitative Risk Analysis |  | 4 |  |  |  |
| 🡪 | Plan Risk Responses |  | 5 |  |  |  |
| 🡪 | Control Risks |  |  |  | 6 |  |

**Risk & Utility**

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| Risk= [Probability & Outcome] or [Likelihood & Consequence] |
| Utility= Attitude toward risk. (Risk-neutral, Risk-averse, Risk-prone) |

**Plan Risk Management.**

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| Risk Management Plan (RBS, Approach, Components) |
| RBS: Risk Breakdown Structure (Identify Risk Categories) |

**Identify Risks**. Create a Risk Register of risk events.

**Risk Analysis.**

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| Perform Qualitative Risk Analysis. 🡪 Risk Ranking.  (Matrix, Risk Factor, Top Ten Tracking, Watch List.) |
| Perform Quantitative Risk Analysis. 🡪 Risk Evaluation.  (Stochastic Utility Analysis, Decision Analysis, PERT/CPM Analysis, Simulation.) |

**Plan Risk Responses.**

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| Risks with Positive and Negative Consequences. |
| Additional Risks and Plans. |

**Control Risks**

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| Conduct risk audits and reviews |
| Analyze triggers, trends, patterns. |

**Project Procurement Management**

Michael D. Harper, Ph.D.

*“Project procurement management is concerned with the identification and acquisition of goods and services from outside sources.”*

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|  | **Project Procurement Management** | **Process Groups** | | | | |
|  | **Major Processes** | Initiating | Planning | Executing | Monitoring &  Controlling | Closing |
| **🡪** | Plan Procurement Management |  | 1 |  |  |  |
| **🡪** | Conduct Procurements |  |  | 2 |  |  |
|  | Control Procurements |  |  |  | 3 |  |
| **🡪** | Close Procurements |  |  |  |  | 4 |

**Procurement**

[Outsourcing, Subcontracting, Purchasing, Buying, 3rd Party Sourcing]

**Plan Procurement Management**

Procurement Management Plan

Make/Buy, Contracts, Statement of Work (SOW), Request for Proposal (RFP)

**Conduct Procurements**

Distribute and collect seller documentation

Deadline, Format, Criteria, Conference vs. Mail, Open vs. Blind

Negotiate terms, select sellers, and prepare contracts.

Select sellers: Criteria, Measures, Scales, Procedure

**Close Procurements.**

Formal Close-out (Verify and communicate completed obligations)

Post Evaluation (Identify scope and quality of results)

Lessons Learned