

Process Map

	Project Management Process Groups				
Knowledge Areas	Initiating	Planning	Executing	Monitoring & Controlling	Closing
4. Project Integration Management	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Work	4.4 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 Close Project or Phase
5. Project Scope Management		5.1 Plan Scope Management 5.2 Collect Requirements 5.3 Define Scope 5.4 Create WBS		5.5 Validate Scope 5.6 Control Scope	
6. Project Time Management		6.1 Plan Schedule Management 6.2 Define Activities 6.3 Sequence Activities 6.4 Estimate Activity Resources 6.5 Estimate Activity Durations 6.6 Develop Schedule		6.7 Control Schedule	
7. Project Cost Management		7.1 Plan Cost Management 7.2 Estimate Costs 7.3 Determine Budget		7.4 Control Costs	
8. Project Quality Management		8.1 Plan Quality	8.2 Perform Quality Assurance	8.3 Control Quality	
9. Project Human Resource Management		9.1 Plan Human Resource Management	9.2 Acquire Project Team 9.3 Develop Project Team 9.4 Manage Project Team		
10. Project Communications Management		10.1 Plan Communications Management	10.2 Manage Communications	10.3 Control Communications	
11. Project Risk Management		11.1 Plan Risk Management 11.2 Identify Risks 11.3 Perform Qualitative Risk Analysis 11.4 Perform Quantitative Risk Analysis 11.5 Plan Risk Responses		11.6 Control Risks	
12. Project Procurement Management		12.1 Plan Procurement Management	12.2 Conduct Procurements	12.3 Control Procurements	12.4 Close Procurements
13. Project Stakeholder Management	13.1 Identify Stakeholders	13.2 Plan Stakeholder Management	13.3 Manage Stakeholder Engagement	13.4 Control Stakeholder Engagement	

Integration Management

Process Name	Inputs	Tools & Techniques	Outputs
Develop Project charter (Initiating)	Project statement of Work	Expert Judgment	Project charter
	Business case	Facilitation techniques	
	Agreements		
	Enterprise Environmental Factors		
	Organizational Process Assets		
Develop Project management plan (Planning)	Project charter	Expert Judgment	Project Management Plan
	Outputs from other Processes	Facilitation techniques	
	Enterprise Environmental Factors		
	Organizational Process Assets		
Direct and manage project Work (Executing)	Project Management Plan	Expert Judgment	Deliverables
	Approved Changed Requests	Project Mgmt Information System	Work Performance data
	Enterprise Environmental Factors	Meetings	Change Requests
	Organizational Process Assets		Project Management Plan updates
			Project Document updates
Monitor and Control Project Work (M&C)	Project Management Plan	Expert Judgment	Change Requests
	Schedule forecasts	Analytical techniques	Work Performance reports
	Cost forecasts	Project Mgmt Information System	Project Management Plan updates
	Validated changes	Meetings	Project Document updates
	Work Performance Information		
	Enterprise Environmental Factors		
	Organizational Process Assets		
Perform Integrated Change Control (M&C)	Project Management Plan	Expert Judgment	Approved Change Requests
	Work Performance reports	Meetings	Change log
	Change Requests	Change Control Tools	Project Management Plan updates
	Enterprise Environmental Factors		Project Document updates
	Organizational Process Assets		
Close Project or Phase (Closing)	Project Management Plan	Expert Judgment	Final Product, services or results transition
	Accepted Deliverables	Analytical techniques	Organizational Process Assets updates
	Organizational Process Assets	Meetings	

Scope Management

Process	Inputs	Tools & Techniques	Outputs
Plan Scope Management (Planning)	Project Management Plan	Expert Judgment	Scope Management Plan
	Project Charter	Meetings	Requirements management plan
	Enterprise environmental factors		
	Organizational Process Assets		
Collect Requirements (Planning)	Scope management plan	Interviews	Requirements Documentation
	Requirements management plan	Focus groups	Requirements Traceability Matrix
	Stakeholder management plan	Facilitated Workshops	
	Project Charter	Group Creativity Techniques	
	Stakeholder register	Group Decision Making Techniques	
		Questionnaires and Surveys	
		Observations	
		Prototypes	
		Benchmarking	
		Context diagrams	
	Document Analysis		
Define Scope (Planning)	Scope management plan	Expert Judgment	Project Scope Statement
	Project Charter	Product Analysis	Project Document updates
	Requirements Documentation	Alternatives generation	
	Organizational Process Assets	Facilitated Workshops	
Create Work Breakdown Structure (Planning)	Scope management plan	Decomposition	Scope Baseline
	Project Scope Statement	Expert Judgment	Project Document updates
	Requirements Documentation		
	Enterprise environmental factors		
Validate Scope (M&C)	Project Management Plan	Inspection	Accepted Deliverables
	Requirements Documentation	Group Decision Making Techniques	Change Requests
	Requirements Traceability Matrix		Work Performance Information
	Verified Deliverables		Project Document Updates
	Work performance data		
Control Scope (M&C)	Project Management Plan	Variance Analysis	Work Performance Information
	Requirements Documentation		Change Requests
	Requirements Traceability Matrix		Project Management Plan Updates
	Work Performance data		Project Document Updates
	Organizational Process Assets		Organizational process assets updates

Time Management

Process	Inputs	Tools & techniques	Outputs
Plan Schedule Management (Planning)	Project management plan	Expert Judgment	Schedule Management plan
	Project Charter	Analytical techniques	
	Enterprise Environmental Factors	Meetings	
	Organizational Process Assets		
Define Activities (Planning)	Schedule management plan	Decomposition	Activity List
	Scope Baseline	Rolling Wave Planning	Activity Attributes
	Enterprise Environmental Factors	Expert Judgment	Milestone List
	Organizational Process Assets		
Sequence Activities (Planning)	Schedule management plan	Precedence Diagramming Method (PDM)	Project Schedule Network Diagrams
	Activity List	Dependency Determination	Project Document Updates
	Activity Attributes	Leads & Lags	
	Milestone List		
	Project Scope Statement		
	Enterprise Environmental Factors		
	Organizational Process Assets		
Estimates Activity Resources (Planning)	Schedule management plan	Expert Judgment	Activity Resource Requirements
	Activity List	Alternatives Analysis	Resource Breakdown Structure (RBS)
	Activity Attributes	Published Estimating Data	Project Document Updates
	Resource Calendar	Bottom-Up Estimating	
	Risk Register	Project Management Software	
	Activity Cost Estimates		
	Enterprise Environmental Factors		
	Organizational Process Assets		
Estimate Activity Durations (Planning)	Schedule management plan		
	Activity List	Expert Judgment	Activity Duration Estimates
	Activity Attributes	Analogous Estimating	Project Document Updates
	Activity Resource Requirements	Parametric estimating	
	Resource Calendar	Three-Point Estimating	
	Project Scope Statement	Group decision-making techniques	
	Risk Register	Reserve Analysis	
	Resource breakdown structure		
	Enterprise Environmental Factors		
Organizational Process Assets			

Time Management (Contd.)

Process	Inputs	Tools & techniques	Outputs
Develop Schedule (Planning)	Schedule management plan	Schedule Network Analysis	Schedule Baseline
	Activity List	Critical Path Method	Project Schedule
	Activity Attributes	Critical Chain Method	Schedule data
	Project Schedule Network Diagram	Resource optimization techniques	Project Calendars
	Activity Resource Requirements	Modeling techniques	Project Management Plan Updates
	Resource Calendar	Leads and Lags	Project Document Updates
	Activity Duration Estimates	Schedule Compression	
	Project Scope Statement	Scheduling Tool	
	Risk register		
	Project Staff Assignments		
	Resource breakdown structure		
	Enterprise Environmental Factors		
	Organizational Process Assets		
Control Schedule (M&C)	Project Management Plan	Performance Reviews	Work Performance Information
	Project Schedule	Project Management Software	Schedule forecasts
	Work Performance data	Resource optimization techniques	Change Requests
	Project calendars	Modeling techniques	Project Management Plan Updates
	Schedule data	Leads and Lags	Project Documents Updates
	Organizational Process Assets	Schedule Compression	Organizational process assets updates
		Scheduling Tool	

Cost Management

Process	Inputs	Tools & techniques	Outputs
Plan Cost Management (Planning)	Project Management Plan	Expert Judgement	Cost management plan
	Project Charter	Analytical techniques	
	Enterprise Environmental Factors	Meetings	
	Organizational Process Assets		
Estimate Costs (Planning)	Cost management plan	Expert Judgment	Activity Cost Estimates
	Human Resource Management Plan	Analogous Estimating	Basis of Estimates
	Scope Baseline	Parametric Estimating	Project Document Updates
	Project Schedule	Bottom-up Estimating	
	Risk Register	Three-Point Estimating	
	Enterprise Environmental Factors	Reserve Analysis	
	Organizational Process Assets	Cost of Quality	
		Project Management Software	
		Vendor Bid Analysis	
		Group decision-making techniques	
Determine Budget (Planning)	Cost management plan	Cost Aggregation	Cost Baseline
	Scope Baseline	Reserve Analysis	Project Funding Requirements
	Activity Cost Estimates	Expert Judgement	Project Documents Updates
	Basis of Estimates	Historical Relationships	
	Project Schedule	Funding Limit Reconciliation	
	Resource Calendar		
	Risk Register		
	Agreements		
	Organizational Process Assets		
Control Costs (M&C)	Project Management Plan	Earned Value Management	Work Performance Information
	Project Funding Requirements	Forecasting	Cost Forecasts
	Work Performance Data	To-Complete Performance index (TCPI)	Change Requests
	Organizational Process Assets	Performance Reviews	Project Management Plan Updates
		Project Management Software	Project Document Updates
		Reserve Analysis	Organizational Process Assets updates

Quality Management

Process	Inputs	Tools & techniques	Outputs
Plan Quality (Planning)	Project Management Plan	Cost-Benefit Analysis	Quality Management Plan
	Stakeholder Register	Cost of Quality	Process Improvement Plan
	Risk Register	Seven basic quality tools	Quality Metrics
	Requirements documentation	Benchmarking	Quality Checklists
	Enterprise Environmental Factors	Design of Experiments	Project Document Updates
	Organizational Process Assets	Statistical sampling	
		Additional Quality Planning Tools	
		Meetings	
Perform Quality Assurance (Executing)	Quality Management Plan	Quality Management and control tools	Change Requests
	Process Improvement Plan	Quality Audits	Project Management Plan Updates
	Quality Metrics	Process Analysis	Project Document Updates
	Quality Control Measurements		Organizational Process Assets updates
	Project documents		
Control Quality (M&C)	Project Management Plan	Seven basic quality tools	Quality Control Measurements
	Quality Metrics	Statistical sampling	Validated Changes
	Quality Checklists	Inspection	Validated Deliverables
	Work Performance Data	Approved Change Requests Review	Work Performance information
	Approved Change Requests		Change Requests
	Deliverables		Project Management Plan Updates
	Project documents		Project Document Updates
	Organizational Process Assets		Organizational Process Assets updates

HR Management

Process	Inputs	Tools & techniques	Outputs
Plan Human Resource Management (Planning)	Project Management Plan	Organization Charts and Position Description	Human Resource Management Plan
	Activity Resource Requirements	Networking	
	Enterprise Environmental Factors	Organizational Theory	
	Organizational Process Assets	Expert Judgement	
		Meetings	
Acquire Project Team (Executing)	Human Resource management Plan	Pre-assignment	Project Staff Assignments
	Enterprise Environmental Factors	Negotiation	Resource Calendars
	Organizational Process Assets	Acquisition	Project Management Plan Updates
		Virtual Teams	
		Multi-criteria decision analysis	
Develop Project Team (Executing)	Human Resource management Plan	Interpersonal Skills	Team Performance Assessments
	Project Staff Assignments	Training	Enterprise Environmental Factors updates
	Resource Calendar	Team-Building Activities	
		Ground rules	
		Colocation	
		Recognition and Rewards	
		Personnel assessment tools	
Manage Project Team (Executing)	Human Resource management Plan		
	Project Staff Assignments	Observation and Conversation	Change Requests
	Team Performance Assessments	Project Performance Appraisals	Project Management Plan Updates
	Issue Log	Conflict Management	Project Documents updates
	Work Performance Reports	Interpersonal Skills	Enterprise Environmental Factors updates
	Organizational Process Assets		Organizational process assets updates

Communication Management

Process	Inputs	Tools & techniques	Outputs
Plan Communications Management (Planning)	Project Management Plan	Communication Requirement Analysis	Communications Management Plan
	Stakeholder Register	Communication Technology	Project Document Updates
	Enterprise Environmental Factors	Communication Models	
	Organizational Process Assets	Communication Methods	
		Meetings	
Manage Communications (Executing)	Communication management plan	Communication Technology	Project Communications
	Work Performance Reports	Communication Models	Project Management Plan Updates
	Enterprise Environmental Factors	Communications Methods	Project Document Updates
	Organizational Process Assets	Information Management systems	Organizational Process Assets updates
		Performance reporting	
Control Communications (M & C)	Project Management Plan	Information Management systems	Work Performance Information
	Project Communications	Expert Judgement	Change Requests
	Issue Log	Meetings	Project Management Plan Updates
	Work Performance Data		Project Document Updates
	Organizational Process Assets		Organizational Process Assets updates

Risk Management

Process	Inputs	Tools & techniques	Outputs
Plan Risk Management (Planning)	Project Management Plan	Analytical techniques	Risk Management Plan
	Project Charter	Expert Judgment	
	Stakeholder Register	Meetings	
	Enterprise Environmental Factors		
	Organizational Process Assets		
Identify Risks (Planning)	Risk Management Plan	Documentation Review	Risk Register
	Cost Management Plan	Information Gathering Techniques	
	Schedule Management Plan	Checklist Analysis	
	Quality Management Plan	Assumptions Analysis	
	Human Resource Management Plan	Diagramming Techniques	
	Scope Baseline	SWOT Analysis	
	Activity Cost Estimates	Expert Judgment	
	Activity Duration Estimates		
	Stakeholder Register		
	Project Documents		
	Procurement documents		
	Enterprise Environmental Factors		
	Organizational Process Assets		
Perform Qualitative Risk Analysis (Planning)	Risk Management Plan	Risk Probability and Impact Statement	Project Documents updates
	Scope Baseline	Probability and Impact Matrix	
	Risk Register	Risk Data Quality Assessment	
	Enterprise Environmental Factors	Risk Categorization	
	Organizational Process Assets	Risk Urgency Assessment	
Perform Quantitative Risk Analysis (Planning)	Risk Management Plan	Data Gathering & Representation Technique	Project Documents updates
	Cost Management Plan	Quantative Risk Analysis & Modeling Technique	
	Schedule Management Plan	Expert Judgment	
	Risk Register		
	Enterprise Environmental Factors		
Organizational Process Assets			

Risk Management (Contd.)

Process	Inputs	Tools & techniques	Outputs
Plan Risk Responses (Planning)	Risk Management Plan	Strategies for Negative Risks or Threats	Project Management Plan Updates
	Risk Register	Strategies for Positive Risks or Opportunities	Project Document Updates
		Contingent Response Strategies	
		Expert Judgment	
Control Risks (M&C)	Project Management Plan	Risk Reassessment	Work Performance Information
	Risk Register	Risk Audits	Change Requests
	Work Performance Data	Variance and Trend Analysis	Project Management Plan Updates
	Work Performance Reports	Technical Performance Measurements	Project Document Updates
		Reserve Analysis	Organizational Process Assets updates
		Meetings	

Procurement Management

Process	Inputs	Tools & techniques	Outputs
Plan Procurement Management (Planning)	Project Management Plan	Make-or-Buy Analysis	Procurement Management Plan
	Requirements Documentation	Expert Judgment	Procurement Statement of Work
	Risk Register	Market Research	Procurement Documents
	Activity Resource Requirements	Meetings	Source Selection Criteria
	Project Schedule		Make-or-Buy Decision
	Activity Cost Estimates		Change Requests
	Stakeholder register		Project Document Updates
	Enterprise Environmental Factors		
	Organizational Process Assets		
Conduct Procurements (Executing)	Procurement Management Plan	Bidder Conference	Selected Sellers
	Procurement Documents	Proposal Evaluation Technique	Agreements
	Source Selection Criteria	Independent Estimates	Resource Calendars
	Seller Proposals	Expert Judgment	Change Requests
	Project Documents	Advertising	Project Management Plan Updates
	Make-or-Buy Decisions	Analytical Techniques	Project Document Updates
	Procurement Statement of work	Procurement Negotiations	
	Organizational Process Assets		
Control Procurements (M&C)	Project Management Plan	Contract Change Control System	Work Performance Information
	Procurement Documents	Procurement Performance Reviews	Change Requests
	Agreements	Inspection & Audits	Project Management Plan Updates
	Approved Change Requests	Performance Reporting	Project Documents Updates
	Work Performance Reports	Payment System	Organizational Process Assets updates
	Work Performance Data	Claims Administration	
		Record management system	
Close Procurements (Closing)	Project Management Plan	Procurement Audits	Closed Procurements
	Procurement Documents	Procurement Negotiations	Organizational Process Assets updates

Stakeholder Management

Process	Inputs	Tools & techniques	Outputs
Identify Stakeholder (Initiating)	Project Charter	Stakeholder analysis	Stakeholder register
	Procurement Documents	Expert Judgment	
	Enterprise Environmental Factors	Meetings	
	Organizational Process Assets		
Plan Stakeholder Management (Planning)	Project Management Plan	Expert Judgment	Stakeholder management plan
	Stakeholder register	Meetings	Project documents updates
	Enterprise Environmental Factors	Analytical Techniques	
	Organizational Process Assets		
Manage Stakeholder Engagement (Executing)	Stakeholder management plan	Communication method	Issue log
	Communications management plan	Interpersonal skills	Change requests
	Change log	Management skills	Project Management Plan updates
	Organizational process assets		Project documents updates
			Organizational process assets updates
Control Stakeholder Engagement (M&C)	Project Management Plan	Information management systems	Work performance information
	Issue log	Expert Judgment	Change requests
	Work Performance data	Meetings	Project Management Plan updates
	Project documents		Project documents updates