

Knowledge Area	Process Name	Inputs	Tools & Techniques	Outputs
Project Integration Management	Develop Project Charter	Project statement of work Business case Agreements Enterprise environmental factors Organizational process assets	Expert judgment Facilitation techniques	Project charter
	Develop Project Management Plan	Project charter Outputs from other processes Enterprise environmental factors Organizational process assets	Expert judgment Facilitation techniques	Project management plan
	Direct and Manage Project Work	Project management plan Approved change requests Enterprise environmental factors Organizational process assets	Expert judgment Project management information system Meetings	Deliverables Work performance data Change requests Project management plan updates Project documents updates
	Monitor and Control Project Work	Project management plan Schedule forecasts Cost forecasts Validated changes Work performance information Enterprise environmental factors Organizational process assets	Expert judgment Analytical techniques Project management information system Meetings	Change requests Work performance reports Project management plan updates Project documents updates
	Perform Integrated Change Control	Project management plan Work performance reports Change requests Enterprise environmental factors Organizational process assets	Expert judgment Meetings Change control tools	Approved change requests Change log Project management plan updates Project documents updates
	Close Project or Phase	Project management plan Accepted deliverables Organizational process assets	Expert judgment Analytical techniques Meetings	Final product, service, or result transition Organizational process assets updates
	Knowledge Area	Process Name	Inputs	Tools & Techniques
Project Scope Management	Plan Scope Management	Project management plan Project charter Enterprise environmental factors Organizational process assets	Expert judgment Meetings	Scope management plan Requirements management plan
	Collect Requirements	Scope management plan Requirements management plan Stakeholder management plan Project charter Stakeholder register	Interviews Focus groups Facilitated workshops Group creativity techniques Group decision-making techniques Questionnaires and surveys Observations Prototypes	Requirements documentation Requirements traceability matrix

			Benchmarking Context diagrams Document analysis	
Define Scope	Scope management plan Project charter Requirements documentation Organizational process assets	Expert judgment Product analysis Alternatives generation Facilitated workshops		Project scope statement Project documents updates
Create WBS	Scope management plan Project scope statement Requirements documentation Enterprise environmental factors Organizational process assets	Decomposition Expert judgment		Scope baseline Project documents updates
Validate Scope	Project management plan Requirements documentation Requirements traceability matrix Verified deliverables Work performance data	Inspection Group decision-making techniques		Accepted deliverables Change requests Work performance information Project documents updates
Control Scope	Project management plan Requirements documentation Requirements traceability matrix Work performance data Organizational process assets	Variance analysis		Work performance information Change requests Project management plan updates Project documents updates Organizational process assets updates
Knowledge Area	Process Name	Inputs	Tools & Techniques	Outputs
Project Time Management	Plan Schedule Management	Project management plan Project charter Enterprise environmental factors Organizational process assets	Expert judgment Analytical techniques Meetings	Schedule management plan
	Define Activities	Schedule management plan Scope baseline Enterprise environmental factors Organizational process assets	Decomposition Rolling wave planning Expert judgment	Activity list Activity attributes Milestone list
	Sequence Activities	Schedule management plan Activity list Activity attributes Milestone list Project scope statement Enterprise environmental factors Organizational process assets	Precedence diagramming method (PDM) Dependency determination Leads and lags	Project schedule network diagrams Project documents updates
	Estimate Activity Resources	Schedule management plan Activity list Activity attributes Resource calendars	Expert judgment Alternative analysis Published estimating data Bottom-up estimating	Activity resource requirements Resource breakdown structure Project documents updates

		Risk register Activity cost estimates Enterprise environmental factors Organizational process assets	Project management software	
	Estimate Activity Durations	Schedule management plan Activity list Activity attributes Activity resource requirements Resource calendars Project scope statement Risk register Resource breakdown structure Enterprise environmental factors Organizational process assets	Expert judgment Analogous estimating Parametric estimating Three-point estimating Group decision-making techniques Reserve analysis	Activity duration estimates Project documents updates
	Develop Schedule	Schedule management plan Activity list Activity attributes Project schedule network diagrams Activity resource requirements Resource calendars Activity duration estimates Project scope statement Risk register Project staff assignments Resource breakdown structure Enterprise environmental factors Organizational process assets	Schedule network analysis Critical path method Critical chain method Resource optimization techniques Modeling techniques Leads and lags Schedule compression Scheduling tool	Schedule baseline Project schedule Schedule data Project calendars Project management plan updates Project documents updates
	Control Schedule	Project management plan Project schedule Work performance data Project calendars Schedule data Organizational process assets	Performance reviews Project management software Resource optimization techniques Modeling techniques Leads and lags Schedule compression Scheduling tool	Work performance information Schedule forecasts Change requests Project management plan updates Project documents updates Organizational process assets updates
Knowledge Area	Process Name	Inputs	Tools & Techniques	Outputs
Project Cost Management	Plan Cost Management	Project management plan Project charter Enterprise environmental factors Organizational process assets	Expert judgment Analytical techniques Meetings	Cost management plan
	Estimate Costs	Cost management plan Human resource management plan Scope baseline Project schedule Risk register Enterprise environmental factors	Expert judgment Analogous estimating Parametric estimating Bottom-up estimating Three-point estimating Reserve analysis	Activity cost estimates Basis of estimates Project documents updates

		Organizational process assets	Cost of quality Project management software Vendor bid analysis Group decision-making techniques	
	Determine Budget	Cost management plan Scope baseline Activity cost estimates Basis of estimates Project schedule Resource calendars Risk register Agreements Organizational process assets	Cost aggregation Reserve analysis Expert judgment Historical relationships Funding limit reconciliation	Cost baseline Project funding requirements Project documents updates
	Control Costs	Project management plan Project funding requirements Work performance data Organizational process assets	Earned value management Forecasting To-complete performance index (TCPI) Performance reviews Project management software Reserve analysis	Work performance information Cost forecasts Change requests Project management plan updates Project documents updates Organizational process assets updates
Knowledge Area	Process Name	Inputs	Tools & Techniques	Outputs
Project Quality Management	Plan Quality Management	Project management plan Stakeholder register Risk register Requirements documentation Enterprise environmental factors Organizational process assets	Cost-benefit analysis Cost of quality Seven basic quality tools Benchmarking Design of experiments Statistical sampling Additional quality planning tools Meetings	Quality management plan Process improvement plan Quality metrics Quality checklists Project documents updates
	Perform Quality Assurance	Quality management plan Process improvement plan Quality metrics Quality control measurements Project documents	Quality management and control tools Quality audits Process analysis	Change requests Project management plan updates Project documents updates Organizational process assets updates
	Control Quality	Project management plan Quality metrics Quality checklists Work performance data Approved change requests Deliverables Project documents Organizational process assets	Seven basic quality tools Statistical sampling Inspection Approved change requests review	Quality control measurements Validated changes Validated deliverables Work performance information Change requests Project management plan updates Project documents updates Organizational process assets updates
Knowledge Area	Process Name	Inputs	Tools & Techniques	Outputs
Project Human Resource Management	Plan Human Resource Management	Project management plan Activity resource requirements Enterprise environmental factors	Organization charts and position descriptions Networking Organizational theory	Human resource management plan

		Organizational process assets	Expert judgment Meetings	
	Acquire Project Team	Human resource management plan Enterprise environmental factors Organizational process assets	Pre-assignment Negotiation Acquisition Virtual teams Multicriteria decision analysis	Project staff assignments Resource calendars Project management plan updates
	Develop Project Team	Human resource management plan Project staff assignments Resource calendars	Interpersonal skills Training Team-building activities Ground rules Colocation Recognition and rewards Personnel assessment tools	Team performance assessments Enterprise environmental factors updates
	Manage Project Team	Human resource management plan Project staff assignments Team performance assessments Issue log Work performance reports Organizational process assets	Observation and conversation Project performance appraisals Conflict management Interpersonal skills	Change requests Project management plan updates Project documents updates Enterprise environmental factors updates Organizational process assets updates
Knowledge Area	Process Name	Inputs	Tools & Techniques	Outputs
Project Communications Management	Plan Communications Management	Project management plan Stakeholder register Enterprise environmental factors Organizational process assets	Communication requirements analysis Communication technology Communication models Communication methods Meetings	Communications management plan Project documents updates
	Manage Communications	Communications management plan Work performance reports Enterprise environmental factors Organizational process assets	Communication technology Communication models Communication methods Information management systems Performance reporting	Project communications Project management plan updates Project documents updates Organizational process assets updates
	Control Communications	Project management plan Project communications Issue log Work performance data Organizational process assets	Information management systems Expert judgment Meetings	Work performance information Change requests Project management plan updates Project documents updates Organizational process assets updates
Knowledge Area	Process Name	Inputs	Tools & Techniques	Outputs
Project Risk Management	Plan Risk Management	Project management plan Project charter Stakeholder register Enterprise environmental factors Organizational process assets	Analytical techniques Expert judgment Meetings	Risk management plan

Identify Risks	Risk management plan Cost management plan Schedule management plan Quality management plan Human resource management plan Scope baseline Activity cost estimates Activity duration estimates Stakeholder register Project documents Procurement documents Enterprise environmental factors Organizational process assets	Documentation reviews Information gathering techniques Checklist analysis Assumptions analysis Diagramming techniques SWOT analysis Expert judgment	Risk register	
Perform Qualitative Risk Analysis	Risk management plan Scope baseline Risk register Enterprise environmental factors Organizational process assets	Risk probability and impact assessment Probability and impact matrix Risk data quality assessment Risk categorization Risk urgency assessment Expert judgment	Project documents updates	
Perform Quantitative Risk Analysis	Risk management plan Cost management plan Schedule management plan Risk register Enterprise environmental factors Organizational process assets	Data gathering and representation techniques Quantitative risk analysis and modeling techniques Expert judgment	Project documents updates	
Plan Risk Responses	Risk management plan Risk register	Strategies for negative risks or threats Strategies for positive risks or opportunities Contingent response strategies Expert judgment	Project management plan updates Project documents updates	
Control Risks	Project management plan Risk register Work performance data Work performance reports	Risk reassessment Risk audits Variance and trend analysis Technical performance measurement Reserve analysis Meetings	Work performance information Change requests Project management plan updates Project documents updates Organizational process assets updates	
Knowledge Area	Process Name	Inputs	Tools & Techniques	Outputs
Project Procurement Management	Plan Procurement Management	Project management plan Requirements documentation Risk register Activity resource requirements Project schedule Activity cost estimates Stakeholder register Enterprise environmental factors	Make-or-buy analysis Expert judgment Market research Meetings	Procurement management plan Procurement statement of work Procurement documents Source selection criteria Make-or-buy decisions Change requests Project documents updates

		Organizational process assets		
	Conduct Procurements	Procurement management plan Procurement documents Source selection criteria Seller proposals Project documents Make-or-buy decisions Procurement statement of work Organizational process assets	Bidder conference Proposal evaluation techniques Independent estimates Expert judgment Advertising Analytical techniques Procurement negotiations	Selected sellers Agreements Resource calendars Change requests Project management plan updates Project documents updates
	Control Procurements	Project management plan Procurement documents Agreements Approved change requests Work performance reports Work performance data	Contract change control system Procurement performance reviews Inspections and audits Payment systems Claims administration Records management system Performance reporting	Work performance information Change requests Project management plan updates Project documents updates Organizational process assets updates
	Close Procurements	Project management plan Procurement documents	Procurement audits Procurement negotiations Records management system	Closed procurements Organizational process assets updates
Knowledge Area	Process Name	Inputs	Tools & Techniques	Outputs
Project Stakeholder Management	Identify Stakeholders	Project charter Procurement documents Enterprise environmental factors Organizational process assets	Stakeholder analysis Expert judgment Meetings	Stakeholder register
	Plan Stakeholder Management	Project management plan Stakeholder register Enterprise environmental factors Organizational process assets	Expert judgment Meetings Analytical techniques	Stakeholder management plan Project documents updates
	Manage Stakeholder Engagement	Stakeholder management plan Communications management plan Change log Organizational process assets	Communication methods Interpersonal skills Management skills	Issue log Change requests Project management plan updates Project documents updates Organizational process assets updates
	Control Stakeholder Engagement	Project management plan Issue log Work performance data Project documents	Information management systems Expert judgment Meetings	Work performance information Change requests Project management plan updates Project documents updates Organizational process assets updates