Process Flow
PMBOK® - 3rd Edition

Initiation

INTEGRATION
4.1 - Develop Project Charter

.1 Inputs
.1 Contract (when applicable)
.2 Project statement of work
.3 Enterprise environmental factors
.4 Organizational process assets
.2 Tools and Techniques
.1 Project selection methods
.2 Project management methodology
.3 Project management information system
.4 Expert judgment
.3 Outputs
.1 Project Charter

INTEGRATION
4.2 - Develop Preliminary Project Scope Statement

.1 Inputs
.1 Project Charter
.2 Project statement of work
.3 Enterprise environmental factors
.4 Organizational process assets
.2 Tools and Techniques
.1 Project management methodology
.2 Project management information system
.3 Expert judgment
.3 Outputs
.1 Preliminary project scope statement

Process Planning

INTEGRATION
4.3 - Develop Project Management Plan

.1 Inputs
.1 Preliminary project scope statement
.2 Project management processes
.3 Enterprise environmental factors
.4 Organizational process assets
.2 Tools and Techniques
.1 Project management methodology
.2 Project management information system
.3 Expert judgment
.3 Outputs
.1 Project management plan

SCOPE
5.1 - Scope Planning

.1 Inputs
.1 Enterprise environmental factors
.2 Organizational process assets
.3 Project Charter
.4 Preliminary project scope statement
.5 Project management plan
.2 Tools and Techniques
.1 Expert judgment
.2 Templates, forms, standards
.3 Outputs
.1 Project scope management plan

SCOPE
5.2 - Scope Definition

.1 Inputs
.1 Organizational process assets
.2 Project Charter
.3 Preliminary project scope statement
.4 Project scope management plan
.5 Approved change requests
.2 Tools and Techniques
.1 Product Analysis
.2 Alternatives identification
.3 Expert judgment
.4 Stakeholder Analysis
.3 Outputs
.1 Project scope statement
.2 Requested changes
.3 Project scope management plan (updates)

SCOPE
5.3 - Creat WBS

.1 Inputs
.1 Organizational process assets
.2 Project scope statement
.3 Project scope management plan
.4 Approved change requests
.2 Tools and Techniques
.1 Work breakdown structure templates
.2 Decomposition
.3 Outputs
.1 Project scope statement (updates)
.2 Work breakdown structure
.3 WBS Dictionary
.4 Scope baseline
.5 Project scope management plan (updates)
.6 Requested changes

RISK
11.1 - Risk Management Plan

.1 Inputs
.1 Enterprise environmental factors
.2 Organizational process assets
.3 Project scope statement
.4 Project management plan
.2 Tools and Techniques
.1 Planning meetings and analysis
.3 Outputs
.1 Risk Management Plan

RISK
11.2 - Risk Identification

.1 Inputs
.1 Enterprise environmental factors
.2 Organizational process assets
.3 Project scope statement
.4 Risk management plan
.5 Project management plan
.2 Tools and Techniques
.1 Documentation reviews
.2 Information gathering techniques
.3 Checklist analysis
.4 Assumptions analysis
.5 Diagramming techniques
.3 Outputs
.1 Risk register

RISK
11.3 - Qualitative Risk Analysis

.1 Inputs
.1 Organizational process assets
.2 Project scope statement
.3 Risk management plan
.4 Risk register
.2 Tools and Techniques
.1 Risk probability and impact assessment
.2 Probability and impact matrix
.3 Risk data quality assessment
.4 Risk Categorization
.5 Risk urgency assessment
.3 Outputs
.1 Risk register (updates)

RISK
11.4 - Quantitative Risk Analysis

.1 Inputs
.1 Organizational process assets
.2 Project scope statement
.3 Risk management plan
.4 Risk register
.5 Project management plan
. Project Schedule management plan
. Project cost management plan
.2 Tools and Techniques
.1 Data gathering and representation techniques
.2 Quantitative risk analysis and modeling techniques
.3 Outputs
.1 Risk register (updates)

PROCUREMENT
12.1 - Plan Purchases and Acquisitions

.1 Inputs
.1 Enterprise environmental factors
.2 Organizational process assets
.3 Project scope statement
.4 Work breakdown structure
.5 WBS Dictionary
.6 Project management plan
. Risk register
. Risk-related contractual agreements
. Resource requirements
. Project schedule
. Activity cost estimates
. Cost Baseline
.2 Tools and Techniques
.1 Make-or-buy analysis
.2 Expert judgment
.3 Contract types
.3 Outputs
.1 Procurement management plan
.2 Contract statement of work
.3 Make-or-buy decisions
.4 Requested changes

QUALITY
8.1 – Quality Planning

.1 Inputs
.1 Enterprise environmental factors
.2 Organizational process assets
.3 Project scope statement
.4 Project management plan
.2 Tools and Techniques
.1 Cost-benefit analysis
.2 Benchmarking
.3 Design of experiments
.4 Cost of quality (COQ)
.5 Additional quality planning tools
.3 Outputs
.1 Quality management plan
.2 Quality metrics
.3 Quality checklists
.4 Process improvement plan
.5 Quality baseline
.6 Project management plan (updates)

COMMUNICATIONS
10.1 - Communications Planning

.1 Inputs
.1 Enterprise environmental factors
.2 Organizational process assets
.3 Project scope statement
.4 Project management plan
. Constraints
. Assumptions
.2 Tools and Techniques
.1 Communications requirements analysis
.2 Communications technology
.3 Outputs
.1 Communications management plan

RISK
11.5 - Risk Response Planning

.1 Inputs
.1 Risk management plan
.2 Risk register
.2 Tools and Techniques
.1 Strategies for negative risk or threats
.2 Strategies for positive risks or opportunities
.3 Strategy for both threats and opportunities
.4 Contingent response strategy
.3 Outputs
.1 Risk register (updates)
.2 Project management plan (updates)
.3 Risk-related contractual agreements

PROCUREMENT
12.2 - Plan Contracting

.1 Inputs
.1 Procurement management plan
.2 Contract statement of work
.3 Make-or-buy decisions
.4 Project management plan
. Risk register
. Risk-related contractual agreements
. Resource requirements
. Project schedule
. Activity cost estimates
. Cost Baseline
.2 Tools and Techniques
.1 Standards forms
.2 Expert judgment
.3 Outputs
.1 Procurement documents
.2 Evaluation criteria
.3 Contract statement of work (updates)

TIME
6.3 – Activity Resource Estimating

.1 Inputs
.1 Enterprise environmental factors
.2 Organizational process assets
.3 Activity list
.4 Activity attributes
.5 Resource availability
.6 Project management plan
.2 Tools and Techniques
.1 Expert judgment
.2 Alternatives analysis
.3 Published estimating data
.4 Project management software
.5 Bottom-up estimating
.3 Outputs
.1 Activity resource requirements
.2 Activity attributes (updates)
.3 Resource breakdown structure
.4 Resource calendars (updates)
.5 Requested changes

COST
7.1 – Cost Estimating

.1 Inputs
.1 Enterprise environmental factors
.2 Organizational process assets
.3 Project scope statement
.4 Work breakdown structure
.5 WBS Dictionary
.6 Project management plan
. Schedule management plan
. Staffing management plan
. Risk register
.2 Tools and Techniques
.1 Analogous estimating
.2 Determine resource cost rates
.3 Bottom-up estimating
.4 Parametric estimating
.5 Project management software
.6 Vendor bid analysis
.7 Reserve analysis
.8 Cost of quality
.3 Outputs
.1 Activity cost estimates
.2 Activity cost estimate supporting detail
.3 Requested changes
.4 Cost management plan (updates)

COST
7.2 – Cost Budgeting

.1 Inputs
.1 Project scope statement
.2 Work breakdown structure
.3 WBS Dictionary
.4 Activity cost estimates
.5 Activity cost estimate supporting detail
.6 Project schedule
.7 Resource Calendars
.8 Contract
.9 Cost management plan
.2 Tools and Techniques
.1 Cost aggregation
.2 Reserve analysis
.3 Parametric estimating
.4 Funding limit reconciliation
.3 Outputs
.1 Cost baseline
.2 Project funding requirements
.3 Cost management plan (updates)
.4 Requested changes

HUMAN RESOURCES
9.1 – Human Resource Planning

.1 Inputs
.1 Enterprise environmental factors
.2 Organizational process assets
.3 Project management plan
. Activity resource requirements
.2 Tools and Techniques
.1 Organization charts and position descriptions
.2 Networking
.3 Organizational Theory
.3 Outputs
.1 Roles and responsibilities
.2 Project organization charts
.3 Staffing management plan

TIME
6.1 – Activity Definition

.1 Inputs
.1 Enterprise environmental factors
.2 Organizational process assets
.3 Project scope statement
.4 Work breakdown structure
.5 WBS Dictionary
.6 Project management plan
.2 Tools and Techniques
.1 Decomposition
.2 Templates
.3 Rolling wave planning
.4 Expert judgment
.5 Planning component
.3 Outputs
.1 Activity list
.2 Activity attributes
.3 Milestone list
.4 Requested changes

TIME
6.4 – Activity Duration Estimating

.1 Inputs
.1 Enterprise environmental factors
.2 Organizational process assets
.3 Project scope statement
.4 Activity list
.5 Activity attributes
.6 Activity resource requirements
.7 Resource calendars
.8 Project management plan
. Risk register
. Activity cost estimates
.2 Tools and Techniques
.1 Expert judgment
.2 Analogous estimating
.3 Parametric estimating
.4 Three-point estimates
.5 Reserve analysis
.3 Outputs
.1 Activity duration estimates
.2 Activity attributes (updates)

TIME
6.2 – Activity Sequencing

.1 Inputs
.1 Project scope statement
.2 Activity list
.3 Activity attributes
.4 Milestone list
.5 Approved change requests
.2 Tools and Techniques
.1 Precedence diagramming method (PDM)
.2 Arrow diagramming method (ADM)
.3 Schedule network templates
.4 Dependency determination
. Applying leads and lags
.3 Outputs
.1 Project schedule network diagrams
.2 Activity list (updates)
.3 Activity attributes (updates)
.4 Requested changes

TIME
6.5 – Schedule Development

.1 Inputs
.1 Organizational process assets
.2 Project scope statement
.3 Activity list
.4 Activity attributes
.5 Project schedule network diagrams
.6 Activity resource requirements
.7 Resource Calendars
.8 Activity duration estimates
.9 Project management plan
.2 Tools and Techniques
.1 Schedule network analysis
.2 Critical path method
.3 Schedule compression
.4 What-if scenario analysis
.5 Resource Leveling
.6 Critical chain method
.7 Project management software
.8 Applying calendars
.9 Adjusting leads and lags
.10 Schedule model
.3 Outputs
.1 Project schedule
.2 Schedule model data
.3 Schedule baseline
.4 Resource requirements (updates)
.5 Activity attributes (updates)
.6 Project calendar (updates)
.7 Requested changes
.8 Project management plan (updates)
. Schedule management plan (updates)

Execution

INTEGRATION
4.4 - Direct and Manage Project Execution

.1 Inputs
.1 Project management plan
.2 Approved corrective actions
.3 Approved preventive actions
.4 Approved change requests
.5 Approved defect repair
.6 Validated defect repair
.7 Administrative closure procedure
.2 Tools and Techniques
.1 Project management methodology
.2 Project management information system
.3 Outputs
.1 Deliverables
.2 Requested changes
.3 Implemented change requests
.4 Implemented corrective actions
.5 Implemented preventive actions
.6 Implemented defect repair
.7 Work performance information

QUALITY
8.2 – Perform Quality Assurance

.1 Inputs
.1 Quality management plan
.2 Quality metrics
.3 Process improvement plan
.4 Work performance information
.5 Approved change requests
.6 Quality control measurements
.7 Implemented change requests
.8 Implemented corrective actions
.9 Implemented defect repair
.10 Implemented preventive actions
.2 Tools and Techniques
.1 Quality planning tools and techniques
.2 Quality audits
.3 Process analysis
.4 Quality control tools and techniques
.3 Outputs
.1 Requested changes
.2 Recommended corrective actions
.3 Organizational process assets (updates)
.4 Project management plan (updates)

HUMAN RESOURCES
9.2 – Acquire Project Team

.1 Inputs
.1 Enterprise Environmental Factors
.2 Organizational process assets
.3 Roles and responsibilities
.4 Project organization charts
.5 Staffing management plan
.2 Tools and Techniques
.1 Pre-assignment
.2 Negotiation
.3 Acquisition
.4 Virtual teams
.3 Outputs
.1 Project staff assignments
.2 Resource availability
.3 Staffing management plan (updates)

HUMAN RESOURCES
9.3 – Develop Project Team

.1 Inputs
.1 Project staff assignments
.2 Staffing management plan
.3 Resource availability
.2 Tools and Techniques
.1 General management skills
.2 Training
.3 Team-building activities
.4 Ground rules
.5 Co-location
.6 Recognition and rewards
.3 Outputs
.1 Team Performance Assesment

PROCUREMENT
12.3 - Request Seller Responses

.1 Inputs
.1 Organizational process assets
.2 Procurement management plan
.3 Procurement documents
.2 Tools and Techniques
.1 Bidder conferences
.2 Advertising
.3 Develop qualified sellers list
.3 Outputs
.1 Qualified sellers list
.2 Procurement document package
.3 Proposals

COMMUNICATIONS
10.2 - Information Distribution

.1 Inputs
.1 Communications management plan
.2 Tools and Techniques
.1 Communications skills
.2 Information gathering and retrieval systems
.3 Information distribution methods
.4 Lessons learned process
.3 Outputs
.1 Organization process assets (updates)
.2 Requested changes

PROCUREMENT
12.4 - Select Sellers

.1 Inputs
.1 Organizational process assets
.2 Procurement management plan
.3 Evaluation criteria
.4 Procurement document package
.5 Proposals
.6 Qualified sellers list
.7 Project management plan
. Risk register
. Risk-related contractual agreements
.2 Tools and Techniques
.1 Weighting System
.2 Independent estimates
.3 Screening System
.4 Contract negotiation
.5 Seller rating systems
.6 Expert judgment
.7 Proposal evaluation techniques
.3 Outputs
.1 Selected sellers
.2 Contract
.3 Contract management plan
.3 Resource availability
.4 Procurement management plan (updates)
.5 Requested changes

Monitor and Control

SCOPE
5.4 - Scope Verification

.1 Inputs
.1 Project scope statement
.2 WBS Dictionary
.3 Project scope management plan
.4 Deliverables
.2 Tools and Techniques
.1 Inspection
.3 Outputs
.1 Accepted deliverables
.2 Requested changes
.3 Recommended corrective actions

SCOPE
5.5 - Scope Control

.1 Inputs
.1 Project scope statement
.2 Work breakdown structure
.3 WBS Dictionary
.4 Project scope management plan
.5 Performance reports
.6 Approved change requests
.7 Work performance information
.2 Tools and Techniques
.1 Change control system
.2 Variance analysis
.3 Replanning
.4 Configuration management system
.3 Outputs
.1 Project scope statement (updates)
.2 Work breakdown structure (updates)
.3 WBS Dictionary (updates)
.4 Scope baseline (updates)
.5 Requested changes
.6 Recommended corrective action
.7 Organizational process assets (updates)
.8 Project management plan (updates)

TIME
6.6 – Schedule Control

.1 Inputs
.1 Schedule management plan
.2 Schedule baseline
.3 Performance reports
.4 Approved change requests
.2 Tools and Techniques
.1 Progress reporting
.2 Schedule change control system
.3 Performance measurement
.4 Project management software
.5 Variance analysis
.6 Schedule comparison bar charts
.3 Outputs
.1 Schedule model data (update)
.2 Schedule baseline (updates)
.3 Performance measurements
.4 Requested changes
.5 Recommended corrective actions
.6 Organizational process assets (updates)
.7 Activity list (updates)
.8 Activity attributes (updates)
.9 Project management plan (updates)

COST
7.3 – Cost Control

.1 Inputs
.1 Cost baseline
.2 Project funding requirements
.3 Performance reports
.4 Work performance information
.5 Approved change requests
.6 Project management plan
.2 Tools and Techniques
.1 Cost change control system
.2 Performance measurement analysis
.3 Forecasting
.4 Project performance reviews
.5 Project management software
.6 Variance management
.3 Outputs
.1 Cost estimate (updates)
.2 Cost baseline (updates)
.3 Performance measurements
.4 Forecasted completion
.5 Requested changes
.6 Recommended corrective actions
.7 Organizational process assets (updates)
.8 Project management plan (updates)

QUALITY
8.3 – Perform Quality Control

.1 Inputs
.1 Quality management plan
.2 Quality metrics
.3 Quality checklists
.4 Organizational process assets
.5 Work performance information
.7 Approved change requests
.8 Deliverables
.2 Tools and Techniques
.1 Cause and effect diagram
.2 Control charts
.3 Flowcharting
.4 Histogram
.5 Pareto chart
.6 Run Chart
.7 Scatter diagram
.8 Statistical sampling
.9 Inspection
.10 Defect repair review
.3 Outputs
.1 Quality control measurements
.2 Validated defect repair
.3 Quality baseline (updates)
.4 Recommended corrective actions
.5 Recommended preventive actions
.6 Requested changes
.7 Recommended defect repair
.8 Organizational process assets (updates)
.9 Validated deliverables
.10 Project management plan (updates)

HUMAN RESOURCES
9.4 – Manage Project Team

.1 Inputs
.1 Organizational process assets
.2 Project staff assignments
.3 Roles and responsibilities
.4 Project organization charts
.5 Staffing management plan
.6 Team performance assessment
.7 Work performance information
.8 Performance reports
.2 Tools and Techniques
.1 Observation and conversation
.2 Project performance appraisals
.3 Conflict management
.4 Issue log
.3 Outputs
.1 Requested changes
.2 Recommended corrective actions
.3 Recommended preventive actions
.4 Organizational process assets (updates)
.5 Project management plan (updates)

INTEGRATION
4.5 - Monitor and Control Project Work

.1 Inputs
.1 Project management plan
.2 Work performance information
.3 Rejected change requests
.2 Tools and Techniques
.1 Project management methodology
.2 Project management information system
.3 Earned Value technique
.4 Expert judgment
.3 Outputs
.1 Recommended corrective actions
.2 Recommended preventive actions
.3 Forecasts
.4 Recommended defect repair
.5 Requested changes

INTEGRATION
4.6 - Integrated Change Control

.1 Inputs
.1 Project management plan
.2 Requested changes
.3 Work performance information
.4 Recommended preventive actions
.5 Recommended corrective actions
.6 Recommended defect repair
.7 Deliverables
.2 Tools and Techniques
.1 Project management methodology
.2 Project management information system
.3 Expert judgment
.3 Outputs
.1 Approved change requests
.2 Rejected change requests
.3 Project management plan (updates)
.4 Project scope statement (updates)
.5 Approved corrective actions
.6 Approved preventive actions
.7 Approved defect repair
.8 Validated defect repair
.9 Deliverables

COMMUNICATIONS
10.3 - Performance Reporting

.1 Inputs
.1 Work performance information
.2 Performance measurements
.3 Forecasted completion
.4 Quality control measurements
.5 Project management plan
. Performance measurement baseline
.6 Approved change requests
.7 Deliverables
.2 Tools and Techniques
.1 Information presentation tools
.2 Performance information gathering and compilation
.3 Status review meetings
.5 Time reporting systems
.6 Cost reporting systems
.3 Outputs
.1 Performance reports
.2 Forecasts
.3 Requested changes
.4 Recommended corrective actions
.5 Organization process assets (updates)

COMMUNICATIONS
10.4 - Manage Stakeholders

.1 Inputs
.1 Communications management plan
.2 Organizational process assets
.2 Tools and Techniques
.1 Communications methods
.2 Issue logs
.3 Outputs
.1 Resolved issues
.2 Approved change requests
.3 Approved corrective actions
.4 Organization process assets (updates)
.5 Project management plan (updates)

RISK
11.6 - Risk Monitoring and Control

.1 Inputs
.1 Risk management plan
.2 Risk register
.3 Approved change requests
.4 Work performance information
.5 Performance reports
.2 Tools and Techniques
.1 Risk reassessment
.2 Risk audits
.3 Variance and trend analysis
.4 Technical performance measurement
.5 Reserve analysis
.6 Status meetings
.3 Outputs
.1 Risk register (updates)
.2 Requested changes
.3 Recommended corrective actions
.4 Recommended preventive actions
.5 Organizational process assets (updates)
.6 Project management plan (updates)

PROCUREMENT
12.5 - Contract Administration

.1 Inputs
.1 Contract
.2 Contract management plan
.3 Selected sellers
.4 Performance reports
.5 Approved change requests
.6 Work performance information
.2 Tools and Techniques
.1 Contract change control system
.2 Buyer-conducted performance review
.3 Inspections and audits
.4 Performance reporting
.5 Payment System
.6 Claims administration
.7 Records management system
.8 Information technology
.3 Outputs
.1 Contract documentation
.2 Requested changes
.3 Recommended corrective actions
.4 Organizational process assets (updates)
.5 Project management plan (updates)
. Procurement management plan
. Contract management plan

Closure

INTEGRATION
4.7 - Close Project

.1 Inputs
.1 Project management plan
.2 Contract documentation
.3 Enterprise environmental factors
.4 Organizational process assets
.5 Work performance information
.6 Deliverables
.2 Tools and Techniques
.1 Project management methodology
.2 Project management information system
.3 Expert judgment
.3 Outputs
.1 Administrative closure procedure
.2 Contract closure procedure
.3 Final product, service, or result
.4 Organization process assets (updates)

PROCUREMENT
12.6 - Contract Closure

.1 Inputs
.1 Procurement management plan
.2 Contract management plan
.3 Contract documentation
.4 Contract closure procedure
.2 Tools and Techniques
.1 Procurement audits
.2 Records management system
.3 Outputs
.1 Closed contracts
.2 Organizational process assets (updates)

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PROJECT MANAGEMENT PROCESSES

Based on PMBOK GUIDE 3rd edition – English

Realization
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