

9 Knowledge Areas

Integration, Scope, Time, Cost, Quality, HR, Communication, Procurement, Risk

5 Process Groups

Initiation, Planning, Execution, Controlling & Monitoring, Closing

42 Processes

Each process has Input, Tools & Technique and Output

Project Baseline

Scope baseline, Schedule Baseline, Cost Baseline

KSF (Key Success Factor)

Time, Cost, Quality

Integration Management	
Develop Project Charter	Initiation
Develop Project Management Plan	Planning
Direct and Manage Project Execution	Execution
Monitor and Control Project Work	M&C
Perform Integrate Change Control	M&C
Close Project or Phase	Closing
Scope Management	
Collect Requirement Interviewing Focus Group Facilitated Workshop Delphi Brainstorming Nominal Group Mind Map Affinity Diagrams Questionnaires and Surveys Observation Prototypes • Requirement Traceability Matrix	Planning
Define Scope Project Scope Statement	Planning
Create WBS Work Package (4 to 40 hours long) Control Account (Cost Estimation as higher level) WBS Dictionary	Planning
Control Scope	M&C
Verify Scope	M&C
Time Management	
Define Activities Decompose WBS	Planning
Sequence Activities	Planning

<p>Dependency: Mandatory Discretionary External</p> <p>Relationships: Finish-to-start Start-to-start Finish-to-finish</p> <p>Lead (start before preceding activity finished) Lag (wait after preceding activity finished)</p>	
<p>Estimate Activity Resource Resource Availability</p>	Planning
<p>Estimate Activity Duration Analogous Parametric PERT $((P + 4M + O) / 6)$</p> <p>Contingency Reserve, Management Reserve</p> <p>“Padding is not allowed”</p>	Planning
<p>Develop Schedule Critical Path Method ES-EF, LS-LF Total Float Free Float</p> <p>Schedule Compression Fast Tracking (parallel activity) Crashing (add resources/cost)</p> <p>Milestone Chart Gantt Chart</p>	Planning
Control Schedule	M&C
Cost Management	
<p>Estimated Cost Rough Order of Magnitude (+/- 50%) Budget (-10 to +25%) Definitive (+/-10%)</p> <p>Analogous Parametric PERT $((P + 4M + O) / 6)$</p> <p>Variable Cost/Fixed Cost</p>	Planning

Direct Cost/Indirect Cost	
Determine Budget Management Reserve + Cost Baseline + Contingency Reserve + Project Estimation	Planning
Control Cost EVM = Earned Value Management Cost Variance = EV - AC Schedule Variable = EV - PV Cost Performance Index = EV / AC Schedule Performance Index = EV / PV EAC = AC + (BAC - EV) = No variance EAC = AC + ((BAC - EV) / (CPI*SPI)) - variance	M&C
Quality Management	
Plan Quality Joseph Juran: 80/20 Principle, top management involvement, fitness of use Edward Deming: Plan-Do-Check-Act Philip Crosby: prevention over inspection, zero defect Continuous Improvement (Keizen) Total Quality Management (TQM) Six Sigma Cost Benefit Analysis COQ Control Chart Benchmarking Design of experiments Statistical Sampling Flowchart Cause and Effect Diagram	Planning
Perform Quality Assurance	Executing
Perform Quality Control Control Chart Histogram Pareto Chart Cause and Effect (Ishikawa, Fishbone) Run Chart Scatter Diagram	M&C
Human Resource Management	

Develop Human Resource RACI chart Staffing Management Plan (Where, When, How long, Training, Rewards, Compliance, Safety)	Planning
Acquire Project Team Preassignment Negotiation Virtual Team Halo Effect	Execution
Develop Project Team Forming Storming Norming Performing Adjourning Training Ground Rules Co-location	Execution
Manage Project Team Observation and Conversation Project Performance Appraisals Issue Log Powers Legitimate Reward Penalty Referent Expert Conflict Management Confronting Compromise Withdrawal Smoothing Forcing Collaborating Motivational Theory McGregor's Theory of X and Y Maslow's Hierarchy of Needs (Physiological, Safety, Social, Esteem, Self Actualization) McClelland's Theory of Needs (Need for Achievement, Need for Affiliation, Need for Power) Herzberg's Theory (Hygiene Factors, Motivating Agents)	Execution

Communication Management	
Identify Stakeholders Stakeholder Analysis Stakeholder Register Stakeholder Management Strategy	Initiation
Plan Communication Formal Written Formal Verbal Informal Written Informal Verbal Method: Interactive Communication Push Communication Pull Communication Communication Channel (N(N-1)/2)	Planning
Distribute Information When, What, Who, Whom, How	Execution
Manage Stakeholder expectation	Execution
Report Performance Status Report: where the project stands regarding the performance baseline Progress Report: What has been accomplished Trend Report: Project results over time to see performance Forecasting Report: predicted future project status and performance Variance Report: Variance report compares actual results to baseline	M&C
Procurement Management	
Plan Procurement	Planning
Conduct Procurement	Execution
Administer Procurement	M&C
Close Procurement	Closing
Risk Management	
Plan Risk Management Risk Categories, Source of Risk	Planning
Identify Risk Document Reviews Information Gathering SWOT Analyses Checklist Analyses Assumption Analyses Diagraming	Planning
Perform Qualitative Risk Analysis Probability and Impact Analysis	Planning

Risk Data Quality Assessment Risk Categorization Risk Assessment	
Perform Quantitative Risk Analysis EMV (Expected Monetary Value Analysis) Monte Carlo Analysis Decision Tree	Planning
Plan Risk Response Threat (Avoid, Mitigate, Transfer, Accept) Opportunity (Exploit, Enhance, Share, Accept) Residual Risk Secondary Risk	Planning
Monitor and Control Risk Workarounds, Risk Reassessment, Risk Audits	M&C
Other	
Organization Structure (Functional, Projectized, Matrix)	
Organization Assets	
Enterprise Environment	
PMO (Project Management Office)	
Lessons Learned	

Functional: Department by specialization and project within department

Projectize: No home after project is done.

Matrix: Two bosses