

Cheat Sheet for comprehensive CompTIA Project+

Project Management Fundamentals

- **Project Definition:**

- **Purpose:** Deliver specific outcomes within constraints (scope, time, cost, quality).
- **Characteristics:** Temporary, unique, progressive elaboration.

- **Project Life Cycle:**

- **Initiation:** Define project goals, scope, stakeholders.
- **Planning:** Develop detailed plans (scope, schedule, budget).
- **Execution:** Implement plans, manage resources, monitor progress.
- **Monitoring & Controlling:** Track performance, make adjustments.
- **Closure:** Finalize deliverables, document lessons learned.

Project Stakeholders

- **Identification:**

- **Primary:** Sponsor, project manager, team members, customers.
- **Secondary:** Suppliers, regulatory bodies, community.

- **Engagement:**

- **Communication Plan:** Define methods, frequency, content.
- **Stakeholder Analysis:** Assess influence, interest, impact.

Project Scope Management

- **Scope Definition:**

- **Project Scope Statement:** Detailed description of deliverables.
- **Work Breakdown Structure (WBS):** Hierarchical breakdown of work.

- **Scope Control:**

- **Change Management:** Formal process for scope changes.
- **Scope Verification:** Ensure deliverables meet requirements.

Project Time Management

- **Scheduling:**
 - **Activity List:** Detailed tasks required to complete the project.
 - **Network Diagram:** Visual representation of task dependencies.
 - **Critical Path Method (CPM):** Longest path determining project duration.
- **Time Estimation:**
 - **PERT:** $(\text{Optimistic} + 4 * \text{Most Likely} + \text{Pessimistic}) / 6$
 - **Gantt Chart:** Visual timeline of tasks and milestones.

Project Cost Management

- **Budgeting:**
 - **Cost Estimation:** Bottom-up, top-down, parametric.
 - **Cost Baseline:** Authorized budget for the project.
- **Cost Control:**
 - **Earned Value Management (EVM):**
 - **EV (Earned Value):** Budgeted cost of work performed.
 - **PV (Planned Value):** Budgeted cost of work scheduled.
 - **AC (Actual Cost):** Actual cost of work performed.
 - **CV (Cost Variance):** $EV - AC$
 - **SV (Schedule Variance):** $EV - PV$
 - **CPI (Cost Performance Index):** EV / AC
 - **SPI (Schedule Performance Index):** EV / PV

Project Quality Management

- **Quality Planning:**
 - **Quality Standards:** Industry standards, customer requirements.
 - **Quality Metrics:** Specific criteria for measuring quality.
- **Quality Assurance:**

- **Process Reviews:** Ensure processes meet quality standards.
- **Quality Audits:** Independent assessment of project processes.
- **Quality Control:**
 - **Inspections:** Check deliverables against quality standards.
 - **Testing:** Ensure functionality meets requirements.

Project Risk Management

- **Risk Identification:**
 - **Risk Register:** Document potential risks, impact, probability.
 - **SWOT Analysis:** Strengths, Weaknesses, Opportunities, Threats.
- **Risk Analysis:**
 - **Qualitative:** Assess impact and probability.
 - **Quantitative:** Numerical analysis (Monte Carlo simulation).
- **Risk Response Planning:**
 - **Mitigation:** Reduce likelihood or impact.
 - **Avoidance:** Change plans to eliminate risk.
 - **Transfer:** Shift risk to another party (insurance).
 - **Acceptance:** Acknowledge risk without action.

Project Communication Management

- **Communication Planning:**
 - **Stakeholder Needs:** Identify information needs, preferred methods.
 - **Communication Matrix:** Map stakeholders to communication channels.
- **Communication Execution:**
 - **Meetings:** Regular status updates, decision-making.
 - **Reports:** Status reports, progress reports, issue logs.

Project Procurement Management

- **Procurement Planning:**

- **Procurement Management Plan:** Define how procurement will be managed.
- **Request for Proposal (RFP):** Solicit detailed proposals from vendors.
- **Procurement Execution:**
 - **Contract Management:** Monitor vendor performance, ensure compliance.
 - **Payment Management:** Track invoices, payments, and deliverables.

Project Closure

- **Administrative Closure:**
 - **Final Deliverables:** Ensure all deliverables are accepted.
 - **Lessons Learned:** Document successes, failures, improvements.
- **Contract Closure:**
 - **Vendor Finalization:** Close out contracts, settle payments.
 - **Documentation:** Archive project documents, records.

Tools & Techniques

- **Project Management Software:**
 - **MS Project:** Comprehensive tool for scheduling, resource management.
 - **JIRA:** Agile project management, issue tracking.
 - **Trello:** Visual task management, Kanban boards.
- **Collaboration Tools:**
 - **Slack:** Team communication, integration with other tools.
 - **Confluence:** Documentation, knowledge sharing.
 - **Google Workspace:** Collaboration, document sharing.

Tips & Tricks

- **Time Management:**
 - **Pomodoro Technique:** 25-minute focused work intervals.
 - **Time Blocking:** Allocate specific time slots for tasks.
- **Stakeholder Engagement:**

- **Regular Updates:** Keep stakeholders informed, manage expectations.
- **Feedback Loops:** Actively seek and incorporate feedback.
- **Risk Management:**
 - **Proactive Monitoring:** Regularly review and update risk register.
 - **Contingency Planning:** Develop backup plans for high-impact risks.
- **Quality Assurance:**
 - **Continuous Improvement:** Implement PDCA (Plan-Do-Check-Act) cycle.
 - **Root Cause Analysis:** Identify and address underlying issues.

Examples

- **Project Charter:**
 - **Project Name:** New Product Launch
 - **Project Manager:** Jane Doe
 - **Objectives:** Launch product within 6 months, achieve 10% market share.
 - **Scope:** Design, develop, test, and market the product.
- **Gantt Chart:**
 - **Task:** Market Research
 - **Start Date:** Jan 1, 2023
 - **End Date:** Jan 15, 2023
 - **Dependencies:** None
- **Risk Register:**
 - **Risk:** Supply Chain Disruption
 - **Impact:** High
 - **Probability:** Medium
 - **Response:** Develop alternative suppliers.

Key Formulas

- **Cost Variance (CV):** $EV - AC$

- **Schedule Variance (SV):** $EV - PV$
- **Cost Performance Index (CPI):** EV / AC
- **Schedule Performance Index (SPI):** EV / PV
- **Estimate at Completion (EAC):** BAC / CPI (if current trend continues)

Conclusion

- **Best Practices:**
 - **Document Everything:** Comprehensive documentation for transparency.
 - **Regular Reviews:** Conduct periodic reviews to stay on track.
 - **Flexibility:** Be prepared to adapt to changes and unforeseen challenges.
- **Final Thoughts:**
 - **Continuous Learning:** Stay updated with industry trends and best practices.
 - **Team Collaboration:** Foster a collaborative environment for successful project execution.

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