

Understanding Problem Solving in Project Management

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Quick reference guide – concise, organized, and easy to read

1. Why Problem Solving Matters in Projects

Reason	Impact on Project Success
Risk mitigation	Early detection prevents cost overruns and delays.
Stakeholder confidence	Demonstrates competence and builds trust.
Team morale	Resolving issues quickly keeps motivation high.
Quality assurance	Fixes prevent defects from propagating downstream.

2. Core Problem Solving Process (5-Step Cycle)

Step	Objective	Key Activities	Typical Tools
1. Identify & Define	Pinpoint the exact issue.	• Gather data (reports, logs) • Clarify scope & boundaries • Write a clear problem statement • Ask “5 Whys”	Issue logs, RACI matrix, Fishbone diagram
2. Analyze Root Causes	Discover why the problem occurred.	• Perform cause and effect analysis • Validate with data • Brainstorm with the team	Fishbone, Pareto chart, Fault Tree Analysis
3. Generate Alternatives	Create possible solutions.	• Use mind maps or SCAMPER • Prioritize ideas (feasibility, impact)	Mind mapping software, Decision matrix

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Step	Objective	Key Activities	Typical Tools
		• Evaluate against criteria (cost, time, risk)	
4. Select & Plan	Choose the best solution and design implementation.	• Draft an action plan (tasks, owners, timeline) • Obtain stakeholder approval • Deploy solution	Decision matrix, Gantt chart, RACI
5. Implement & Review	Execute the fix and verify results.	• Monitor KPIs • Conduct post? implementation review	Kanban board, KPI dashboard, Lessons? learned register

Repeat the cycle as needed – problems often reveal deeper issues.

3. Common Problem Solving Techniques

Technique	When to Use	Quick Steps
Pareto Analysis	When many minor issues exist; focus on the vital few.	1. List problems 2. Quantify frequency/impact 3. Rank & address top 20%
Root Cause Analysis (RCA)	Persistent or recurring problems.	1. Define problem 2. Collect data 3. Use “5?Whys” or Fishbone 4. Verify cause
SWOT/Force Field Analysis	Strategic decisions affecting project scope or resources.	1. List strengths, weaknesses, opportunities, threats 2. Identify driving & restraining forces
Decision Matrix (Pugh Matrix)	Multiple alternatives with several criteria.	1. List options & criteria 2. Assign weights 3. Score each option 4. Choose highest total

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Technique

When to Use

Quick Steps

Monte Carlo Simulation

High uncertainty, quantitative risk scenarios.

Model variables

2. Run thousands of simulations
3. Analyze probability distribution of outcomes

4. Integrating Problem Solving with Project Management Processes

PM Phase

Problem Solving Touchpoints

Initiation Define acceptance criteria ? anticipate potential blockers.

Planning Risk identification ? create contingency plans; develop issue response procedures.

Execution Daily standups &