MODULE 5

Risk Identification and Mitigation

Week 5 · 4 lessons · ~3.5 hrs

Lessons in this module:

LESSON 5.1

Understanding project risk

A risk is an uncertain event or condition that, if it occurs, has a positive or negative effect on project objectives. Not all risks are threats — some are opportunities.

Key risk terms:

- Threat — a risk with a negative impact (delay, cost overrun)
- Opportunity — a risk with a positive impact (finishing early, saving cost)
- Risk Tolerance — the level of risk a stakeholder or organization is willing to accept
- Residual Risk — risk remaining after a response strategy is applied
- Secondary Risk — a new risk created by a risk response

LESSON 5.2

Risk identification techniques

You cannot manage risks you haven't identified. Use multiple techniques to build a comprehensive risk list.

Common risk identification tools:

- Brainstorming — team generates risks in an open session
- Risk Checklist — based on past projects in the same industry
- Cause and Effect (Ishikawa) Diagram — traces root causes of risk
- SWOT Analysis — identifies Strengths, Weaknesses, Opportunities, Threats
- Expert Judgment — consult subject matter experts
- Interviews — one-on-one sessions with key stakeholders

All identified risks are logged in the Risk Register , which tracks each risk's description, probability, impact, owner, and response plan.

LESSON 5.3

Risk analysis: qualitative and quantitative

Qualitative Risk Analysis prioritizes risks by assessing their probability and impact on a scale (e.g., Low / Medium / High), then plotting them on a Probability-Impact Matrix.

Risks in the high-probability, high-impact quadrant need immediate response strategies.

Quantitative Risk Analysis uses numerical techniques to estimate the overall effect of risk on project objectives:

- Monte Carlo Simulation — runs thousands of scenarios to produce a probability distribution of outcomes
- Expected Monetary Value (EMV) — Probability × Impact in dollars to compare risk options
- Decision Tree Analysis — maps out possible decisions and their outcomes

EMV EXAMPLE

Risk: 30% chance of a supplier delay costing $50,000. EMV = 0.30 × $50,000 = $15,000. This is how much to set aside in your contingency reserve for this risk.

LESSON 5.4

Risk response strategies

For threats (negative risks):

- Avoid — eliminate the threat by changing the plan
- Transfer — shift the impact to a third party (insurance, contracts)
- Mitigate — reduce the probability or impact
- Accept — acknowledge the risk and deal with it if it occurs (passive or active acceptance)
- Escalate — pass the risk to a higher authority if it is outside the PM's control

For opportunities (positive risks):

- Exploit — ensure the opportunity definitely happens
- Enhance — increase the probability or positive impact
- Share — partner with another party to capture the benefit
- Accept — take the opportunity if it comes