Professional Certificate in Project Planning And Scheduling

Project Risk Management

A

Acceptance Criteria – The specific conditions that a deliverable must satisfy to be accepted by the stakeholder. Related terms: Deliverable, Scope. Example: A software module must process 10,000 transactions per hour before it is accepted.

Activity Risk Register – A subsidiary register that captures risks associated with individual project activities. Related terms: Risk Register, Work Breakdown Structure (WBS). Used to trace risk exposure at the task level, enabling targeted mitigation.

Aggregate Risk – The combined effect of multiple individual risks on overall project objectives. Related terms: Risk Exposure, Risk Quantification. Challenge: Correlation among risks can make aggregation complex; overly simplistic addition may misrepresent true impact.

Assumption – A factor considered to be true, real, or certain without proof, forming the basis for risk analysis. Related terms: Assumption Log, Uncertainty. Example: Assuming that a key supplier will deliver on schedule; if the assumption proves false, a risk event may occur.

Authority Matrix – A document that defines decision-making rights and responsibilities for risk responses. Related terms: Governance, Responsibility Assignment Matrix (RAM). Helps ensure that the appropriate level of management approves risk mitigation actions.

B

Baseline Risk Profile – The initial assessment of risk exposure against which future changes are measured. Related terms: Risk Baseline, Risk Monitoring. Provides a reference point for evaluating the effectiveness of risk treatment over time.

Benefit-Risk Analysis – A technique that compares the potential benefits of a risk response with its associated costs and side effects. Related terms: Cost-Benefit Analysis, Risk Response Planning. Example: Investing in a redundant system may increase reliability but also raise budget; the analysis quantifies net value.

Black-Swans – Extremely rare, high-impact events that are difficult to predict. Related terms: Tail Risk, Uncertainty. While traditional risk registers may miss them, scenario planning can help identify possible black-swans.

Bow-Tie Analysis – A visual method that maps the cause (left side) and consequences (right side) of a risk event, with preventive and mitigative controls placed in the “knot.” Related terms: Fault Tree Analysis, Event Tree Analysis. Useful for communicating complex risk pathways to stakeholders.

C

Cause-Effect Diagram – Also known as a fishbone diagram; it categorizes potential causes of a risk event. Related terms: Root Cause Analysis, Risk Identification. Helps teams explore multiple dimensions (people, process, technology) of a risk.

Change Control Board (CCB) – A formal group that reviews and approves changes, including risk-related scope or schedule adjustments. Related terms: Change Management, Risk Register. A risk-induced change request passes through the CCB for authorization.

Contingency Reserve – A budget or time buffer set aside to address identified risks that have been accepted. Related terms: Management Reserve, Risk Response. Example: Adding two extra days to a critical path activity to absorb potential delays.

Control Risk – The risk that internal controls will fail to prevent or detect a problem. Related terms: Control Effectiveness, Audit. In project risk management, weak governance can be a control risk that jeopardizes quality or compliance.

Critical Risk – A risk with a high probability of occurrence and a severe impact, often requiring immediate attention. Related terms: Risk Prioritization, Risk Owner. Example: A regulatory change that could halt project work if not addressed promptly.

Critical Path Method (CPM) – A scheduling technique that identifies the longest sequence of dependent activities; risks on the critical path have greater schedule impact. Related terms: Float, Schedule Risk Analysis.

D

Decision Tree Analysis – A quantitative technique that evaluates multiple decision paths and their associated risks, probabilities, and outcomes. Related terms: Monte Carlo Simulation, Expected Value. Useful for choosing among alternative risk responses.

Delphi Technique – An iterative expert-survey method used to achieve consensus on risk identification and probability estimates. Related terms: Expert Judgment, Risk Workshops. Anonymity reduces groupthink and bias.

Dependency Risk – The risk that a project's success is contingent on external activities or deliverables. Related terms: External Dependency, Integrated Master Schedule. Example: Reliance on a government permit that may be delayed.

Dereference Risk – The risk that a previously documented risk becomes irrelevant due to changed project conditions. Related terms: Risk Closure, Risk Review. Regular reviews help identify dereferenced risks for removal.

Discrete Risk – A risk that can be identified as a distinct event with specific causes and effects. Related terms: Event-Based Risk, Continuous Risk. Example: Equipment failure of a specific machine.

E

Emerging Risk – A risk that is newly identified or evolving, often due to changes in technology, market, or environment. Related terms: Risk Monitoring, Trend Analysis. Requires proactive scanning of external indicators.

Enterprise Risk Management (ERM) – A holistic approach that aligns project risk management with organizational risk strategy. Related terms: Strategic Risk, Corporate Governance. ERM ensures that project risks are considered within the broader risk appetite.

Event-Based Risk – A risk defined by a specific occurrence, such as a natural disaster or a supplier bankruptcy. Related terms: Discrete Risk, Continuous Risk.

Expected Monetary Value (EMV) – The product of a risk's probability and its monetary impact; used for quantitative prioritization. Related terms: Risk Quantification, Decision Tree. Example: A 20 % chance of a $50,000 cost overrun yields an EMV of $10,000.

Expert Judgment – Input from individuals with specialized knowledge, used throughout risk management processes. Related terms: Delphi Technique, Risk Identification. The reliability of expert judgment depends on experience and independence.

F

Failure Mode and Effects Analysis (FMEA) – A systematic approach to identify potential failure modes, their causes, and effects, assigning a risk priority number. Related terms: Root Cause Analysis, Risk Register. Common in engineering-focused projects.

Float (Slack) – The amount of time that a non-critical activity can be delayed without affecting the project finish date. Related terms: Critical Path, Schedule Risk. Low float activities often become focus points for risk mitigation.

Force-Field Analysis – A technique that evaluates driving and restraining forces influencing a risk or change. Related terms: Stakeholder Analysis, Risk Assessment. Helps visualize why a risk may or may not materialize.

Frequentist Probability – Probability derived from historical data or observed frequencies. Related terms: Subjective Probability, Monte Carlo Simulation. Used when sufficient empirical data exist.

G

Gate Review – A formal checkpoint where risk status, among other metrics, is evaluated before proceeding to the next project phase. Related terms: Stage-Gate Process, Risk Review.

Geopolitical Risk – Risk arising from political changes, instability, or regulatory shifts in a country or region. Related terms: External Risk, Strategic Risk. Example: Trade embargoes affecting supply chains.

Governance Framework – The set of policies, procedures, and structures that guide risk management activities. Related terms: Authority Matrix, Risk Management Plan.

H

Hazard Identification – The process of recognizing potential sources of harm that could affect project objectives. Related terms: Risk Identification, Safety Risk. Often uses checklists or brainstorming sessions.

Heat Map – A visual matrix that plots risk probability against impact, using colors to highlight high-risk areas. Related terms: Risk Matrix, Risk Prioritization. Supports quick stakeholder communication.

Historical Data Analysis – Examination of past project performance to inform probability and impact estimates. Related terms: EMV, Monte Carlo Simulation. Accuracy depends on data relevance and quality.

I

Impact – The effect a risk event would have on project objectives, typically measured in cost, schedule, quality, or scope terms. Related terms: Probability, Risk Rating.

Influence Diagram – A graphical representation of decision problems showing relationships among decisions, uncertainties, and objectives. Related terms: Decision Tree, Monte Carlo Simulation.

Insider Risk – Risk originating from individuals within the project organization, such as intentional sabotage or inadvertent errors. Related terms: Human Resource Risk, Security Risk.

Integration Risk – The risk that separate project components will not work together as intended. Related terms: System Integration, Scope. Example: Mismatched data formats between two subsystems.

J

Joint Risk Review – A collaborative session involving multiple stakeholder groups to assess and update risk information. Related terms: Risk Workshop, Stakeholder Engagement.

K

Key Risk Indicator (KRI) – A metric that signals a change in risk exposure, often linked to early warning signs. Related terms: Monitoring, Threshold. Example: Supplier on-time delivery rate dropping below 90 % triggers a KRI alert.

L

Lag – The intentional delay between the start or finish of predecessor and successor activities. Related terms: Schedule Logic, Float. Incorrect lag estimation can become a schedule risk.

Likelihood – Synonymous with probability; the chance that a risk event will occur. Related terms: Impact, Risk Rating.

Loss Event – The actual occurrence of a risk that results in a negative impact. Related terms: Risk Trigger, Impact.

M

Monte Carlo Simulation – A quantitative technique that runs thousands of schedule or cost scenarios using random variables for risk factors. Related terms: EMV, Probability Distribution. Provides a probability distribution of project outcomes.

Mitigation – A risk response strategy that reduces either the probability or the impact of a risk. Related terms: Risk Response Planning, Contingency Reserve. Example: Conducting additional testing to lower defect-related risk.

Mitigation Plan – A documented set of actions designed to reduce a specific risk. Related terms: Risk Response, Owner. Should include responsibilities, timelines, and performance measures.

Monte Carlo Distribution Types – Common probability distributions used in simulations, such as triangular, normal, and log-normal. Related terms: Risk Modeling, Parameter Estimation.

N

Negative Risk – A risk that threatens to cause loss or damage; also called a threat. Related terms: Opportunity, Risk Register.

Network Diagram – A visual representation of project activities and their logical relationships, used to identify critical path and schedule risks. Related terms: CPM, PERT.

New-Product Development Risk – Risks specific to projects that create new products, such as market acceptance or technology feasibility. Related terms: Strategic Risk, Innovation Risk.

O

Opportunity – A positive risk that, if it occurs, can provide a benefit to the project. Related terms: Negative Risk, Risk Register. Opportunity response strategies include exploitation, enhancement, and sharing.

Owner (Risk Owner) – The individual assigned accountability for managing a specific risk, including monitoring and response execution. Related terms: Responsibility Assignment Matrix, Stakeholder.

Probability Distribution – The mathematical function that describes the likelihood of various outcomes for a risk variable. Related terms: Monte Carlo Simulation, Triangular Distribution.

Qualitative Risk Analysis – The process of assessing risk probability and impact using descriptive scales (e.G., High, medium, low). Related terms: Risk Matrix, Prioritization.

Quantitative Risk Analysis – The numerical evaluation of risk exposure, often using EMV, Monte Carlo, or decision trees. Related terms: Qualitative Analysis, Risk Modeling.

R

Risk Appetite – The amount and type of risk an organization is willing to pursue or retain. Related terms: Risk Tolerance, Strategic Alignment. Guides decision-making on which risks to accept.

Risk Assessment – The combined process of identifying, analyzing, and evaluating risks. Related terms: Risk Identification, Risk Analysis.

Risk Breakdown Structure (RBS) – A hierarchical decomposition of risks by category, similar to a WBS for scope. Related terms: RBS, Risk Register. Helps ensure comprehensive coverage across risk domains.

Risk Calendar – A schedule that aligns risk reviews, monitoring activities, and response implementation with project timelines. Related terms: Risk Management Plan, Milestones.

Risk Category – A grouping of risks based on common sources, such as technical, external, or organizational. Related terms: RBS, Risk Classification.

Risk Communication – The systematic exchange of risk information among stakeholders. Related terms: Stakeholder Management, Reporting. Effective communication builds trust and facilitates timely response.

Risk Contingency – A pre-planned response that is executed only if the risk event occurs, often involving reserved resources. Related terms: Contingency Reserve, Trigger.

Risk Dependency – The relationship where one risk's occurrence influences the likelihood or impact of another. Related terms: Correlation, Risk Aggregation.

Risk Event – The specific occurrence that triggers the impact on project objectives. Related terms: Trigger, Loss Event.

Risk Exposure – The aggregate impact of all identified risks, often expressed as a monetary value. Related terms: EMV, Aggregate Risk.

Risk Governance – The structure, policies, and procedures that ensure risk management is performed consistently. Related terms: Framework, Authority Matrix.

Risk Identification – The process of determining which risks may affect the project and documenting their characteristics. Related terms: Brainstorming, Checklists.

Risk Impact Matrix – A tool that categorizes risks based on combined probability and impact scores, often visualized as a grid. Related terms: Heat Map, Prioritization.

Risk Indicator – A metric that signals a change in risk status, often used as an early warning system. Related terms: KRI, Threshold.

Risk Management Plan – The document that defines how risk processes will be performed, monitored, and controlled. Related terms: Project Management Plan, Governance Framework.

Risk Management Process – The series of activities: Identification, analysis, response planning, monitoring, and reporting. Related terms: PMBOK, PRINCE2.

Risk Owner – The person accountable for a specific risk's response and monitoring.

Risk Register – The central repository that captures all identified risks, their analysis, owners, and response plans. Related terms: Risk Log, RBS.

Risk Response – The action taken to address a risk, which may involve avoidance, mitigation, transfer, acceptance, or exploitation (for opportunities). Related terms: Mitigation Plan, Contingency.

Risk Response Planning – The process of developing options and actions to enhance opportunities and reduce threats. Related terms: Risk Register, Owner.

Risk Scoring – Assigning numerical values to probability and impact to calculate a risk rating.

Risk Sensitivity Analysis – Examining how changes in assumptions affect overall risk exposure. Related terms:

Monte Carlo Simulation, Scenario Analysis.

Risk Tolerance – The acceptable deviation from risk appetite for a specific project. Related terms: Risk Threshold, Stakeholder Expectations.

Risk Threshold – The level of risk exposure at which a specific response is required. Related terms: Risk Tolerance, KRI.

Risk Transfer – Shifting risk ownership to a third party, commonly via insurance or contracts. Related terms: Risk Sharing, Contractual Clauses.

Risk Trigger – An indicator or event that signals the likely occurrence of a risk. Related terms: Early Warning, Monitoring.

Risk Treatment – The collective term for all response actions, including mitigation, avoidance, transfer, and acceptance. Related terms: Risk Response Planning, Contingency.

Risk Triage – The rapid initial assessment to categorize risks for further analysis or immediate action. Related terms: Screening, Prioritization.

Risk Tracking – Ongoing monitoring of risk status, response implementation, and changes in exposure. Related terms: Risk Register Updates, Dashboard.

Risk Type – Classification of risk based on its source, such as technical, external, organizational, or environmental. Related terms: Risk Category, RBS.

Risk Uncertainty – The lack of certainty about the probability or impact of a risk. Related terms: Assumption, Variability.

S

Schedule Risk – The risk that the project timeline will be extended beyond the planned finish date. Related terms: Critical Path, Float.

Scope Creep – The uncontrolled expansion of project scope, often a risk to schedule and budget.

Stakeholder Analysis – The process of identifying stakeholders and assessing their influence on risk decisions. Related terms: Stakeholder Register, Risk Communication.

Strategic Risk – Risks that affect the organization’s long-term objectives, such as market shifts or regulatory changes. Related terms: Enterprise Risk Management, External Risk.

Stress Testing – Applying extreme scenarios to the project model to evaluate resilience. Related terms: Scenario Analysis, Monte Carlo.

Sub-Risk – A risk that is part of a larger, parent risk, often with its own triggers and responses. Related terms: Risk Hierarchy, RBS.

T
Tail Risk – The risk of rare, high-impact events that lie in the extreme ends of a probability distribution. Related terms: Black-Swans, Extreme Value Theory.

Threat – Another term for a negative risk that can cause loss or damage.

Threshold Analysis – Determining the point at which a risk's probability or impact becomes unacceptable. Related terms: Risk Tolerance, Trigger.

Time Buffer – Additional time added to the schedule to accommodate uncertainty; a form of schedule contingency. Related terms: Contingency Reserve, Float.

Trigger Event – A specific occurrence that activates a pre-planned contingency response. Related terms: Risk Trigger, Contingency Plan.

U
Uncertainty – The state of having limited knowledge about the probability or impact of a risk. Related terms: Assumption, Risk Modeling.

Unmitigated Risk – The level of risk exposure before any response actions are applied. Related terms: Baseline Risk Profile, Risk Exposure.

V
Variance Analysis – Comparing planned versus actual performance to identify deviations that may indicate emerging risks. Related terms: Earned Value Management, Control.

Value at Risk (VaR) – A statistical technique that estimates the maximum loss over a given period at a certain confidence level. Related terms: Quantitative Risk Analysis, Monte Carlo.

W
Weighted Scoring Model – A decision-making tool that assigns weights to risk criteria (e.G., Cost, schedule, reputation) to prioritize responses. Related terms: Risk Scoring, Prioritization.

Work Breakdown Structure (WBS) – A hierarchical decomposition of project scope into deliverables; serves as a basis for identifying activity-level risks. Related terms: Activity Risk Register, Scope.

X
eXtreme Risk Assessment – An approach that focuses on high-impact, low-probability events using intensive scenario analysis. Related terms: Tail Risk, Stress Testing.

Y
Yield Risk – The risk that a project's output will not meet expected performance or production levels. Related terms: Technical Risk, Quality Risk.

Z
Zero-Based Risk Review – A comprehensive reassessment of all risks as if starting from scratch, often

performed at major milestones. Related terms: Risk Audit, Gate Review.