

PMI-CAPM[®]
Certified Associate
Project Manager



8. Risk

7 Processes

Risks - Table of contents

Processes

- [1. Plan Risk Management](#)
- [2. Identify Risks](#)
- [3. Perform Qualitative Risk Analysis](#)
- [4. Perform Quantitative Risk Analysis](#)
- [5. Plan Risk Responses](#)
- [6. Implement Risk Responses](#)
- [7. Monitor Risks](#)

Definitions & Notes

- [5 risk response strategies](#)
- [Risk Register grow through the project](#)
- [Difference: MonteCarlo vs Decision Tree](#)
- [Difference: Risk Audits vs Risk Reassessments vs Reserve Analysis](#)
- [Emergence Risks and Project Resilience](#)
- [4 categories for RBS](#)
- [2 levels of project risk](#)
- [Expected Monetary Value \(EMV\)](#)

1. Plan Risk Management

Plan how to plan, manage,
control risks

Planning



Plan Risk Management

Input



- Project Charter
- Project Management Plan
- Stakeholders Register
- EEFs
- OPAs

T&Tools



- ...

Output



- Risk Management Plan

2. Identify Risks

Brainstorm potential project risks individually as well as overall risks to the project in general
⇒ the characteristics of the risks are documented so that they can be analyzed (perform qualitative and perform quantitative risk analysis processes) and planned for (plan risk responses)

Planning



Identify Risks

Input



T&Tools



- Brainstorming
- Checklist analysis
- Interviews
- Root Cause Analysis
- Assumption analysis
- Constraints analysis
- SWOT analysis
- Documentation reviews
- Prompt lists
- Facilitation

Output



- Risk register
- Risk report

3. Perform Qualitative Risk Analysis

Prioritize risks for further analysis/actions, by evaluating their combined impact and probability

Planning



Perform Qualitative Risk Analysis

Input



- Risk Register
- Risk Management Plan

T&Tools



- Data Analysis
 - Risk data quality assessment
 - Risk parameters assessment
 - Risk probably & impact assessment
- Data Representation
 - Probability and Impact
- Risk categorization

Output



- Project Documents updates
 - Assumption Log
 - Issue Log
 - Risk Register
 - Risk Report

4. Perform Quantitative Risk Analysis

Numerically analyze the impact of identified risks on project objectives*

Planning



*should only be completed if it is worth the time and money on the project

Perform Quantitative Risk Analysis

Input



- ...

T&Tools



- Expert judgment
- Data gathering
- Interpersonal and team skills
- Representations of uncertainty
- Data analysis
- Simulations
- Sensitivity analysis
- Decision tree analysis

Output



- Risk Register updates

5. Plan Risk Responses

Develop strategies and action plans
related to identified risks
⇒ determining the options or actions to
be taken to enhance opportunities and
reduce threats to project objectives

Planning



Plan Risk Responses

Input



- ..

T&Tools



- Risk response strategies

Output



- Project Management Plan updates
- Project documents updates
 - Risk Register updates

6. Implement Risk Responses

Determine if project assumptions are still valid, if risk management procedures and policies are being followed, and if an assessed risk has changed or can be retired

Executing



Implement Risk Responses

Input



- Project Management Plan
- Project Documents
- OPAs

T&Tools



- ...

Output



- Change requests
- Project documents updates

7. Monitor Risks

Monitor risk response effects and identify any new risk



Monitor & Control

Monitor Risks

Input



T&Tools



- Data Analysis
 - Reserve analysis
 - Technical performance analysis
- Risk reviews
- Risk audits
- Meetings

Output



- Work Performance Information
- Risk Register updates
- Change requests
- Project Management Plan updates
- OPAs updates
 - Templates for the risk management plan, risk register, and risk report
 - Risk breakdown structure

Which are the **5 risk response strategies**?

Threats	Opportunities
Escalate	Escalate
Avoid	Exploit
Transfer	Share
Mitigate	Enhance
Accept	Accept

How does **Risk Register** evolve through processes?

Risk Register **lists all the identified risks** of a project as well as the **risk owners** and **potential risk responses**.

	Risk Register
Identify Risk	<ul style="list-style-type: none"> - A list of identified risks - Potential risk owners - Potential risk responses - Root cause of risks - Updates risk categories
Perform Qualitative Risk Analysis	<ul style="list-style-type: none"> - Risk ranking - List of prioritized risks and their probability and impact ratings - Risks grouped by categories - List of risks requiring additional analysis and response - Watch list (noncritical risks)
Perform Quantitative Risk Analysis	<ul style="list-style-type: none"> - Prioritized list of quantified individual project risks - Quantified probability of meeting project objectives - Trends in quantitative risk analysis - Initial contingency time and cost reserves needed - Assessment of overall project risk exposure - Possible realistic and achievable completion dates and project costs, with confidence level - Recommended risk responses
Plan Risk Responses	<ul style="list-style-type: none"> - Risk triggers - Residual risks - Contingency plans - Fallback plans - Risk owners - Secondary risks - Contracts - Reserves (contingency)
Implement Risk Responses	<ul style="list-style-type: none"> - Lessons learned - Closing of risks that are no longer valid - Results of the risk audits - Results of the risk assessments - Details of what transpired when risks occurred
Monitor Risks	<ul style="list-style-type: none"> - Outcomes of risk reassessments and risk audits - Result of implemented risk responses - Updates to previous part of risk management, including identification of new risks - Closing of risks that are no longer applicable - Details of what happened when risk occurred - Lesson learned

What is the difference between... ?

Monte Carlo Analysis

VS

Decision Tree

- The Monte Carlo analysis is a method used **to put the details of a three-point estimate** into a project estimate.
- The Monte Carlo analysis is more accurate than other estimating methods because of its ability to simulate the actual project details and **calculate the probability**.
- It's calculate by a software.

- Calculate the **expected monetary value**.
- Involve **mutual exclusivity**.
- Take into account the **impending events in making a decision today**.

What is the difference between... ?

Risk Audits

VS

Risk Reassessments

VS

Reserve Analysis

- Examine and document the effectiveness of risk responses in dealing with the risk itself and the root cause of the risk
- Examine the effectiveness of the risk management process itself.

- Are regularly scheduled to identify new risks, assess current risks, and close any risks that are outdated
- Can be about probability, impact or quality

- Compare remaining contingency reserves with the amount of risk remaining in the project

Risk should be an agenda item for each project meeting.
The time required to discuss risks will depend on the identified risks.

What do **emergent risks** and **project resilience** require?

- **Right level of budget and schedule contingency** for emergent risks, in addition to a specific risk budget for known risks
- **Flexible project processes** that can cope with emergent risk while maintaining overall direction towards project goals, including strong change management
- **Empowered project team** that has clear objectives and that is trusted to get the job done within agreed-upon limits
- **Frequent review of early warning** signs to identify emergent risks as early as possible
- **Clear input from stakeholders** to clarify areas where the project scope or strategy can be adjusted in response to emergent risks

Which are 4 categories of Risk Breakdown Structure (RBS)?

- Technical Risk
- Management Risk
- Commercial Risk
- External Risk

RBS updates is output of Monitor Risk

NB. RBS is not a project document, it is an organizational process document (OPAs)

Which are the **2 levels of project risk**?

- **Individual project risk:** uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives
- **Overall project risk:** the effect of uncertainty on the project as a whole, arising from all sources of uncertainty including individual risks, representing the exposure of stakeholders to the implications of variations in project outcome, both positive and negative.

What is **Expected Monetary Value (EMV)**?

$$\text{EMV} = \text{Probability} \times \text{Impact}$$



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THANK YOU
