

Project Manager Manual:

When developing the schedule and budget, risks to the project should be considered. A project risk register is one method to help evaluate the risks. See Appendix B - Tools for further information.

A project risk register is located in Appendix B - Tools.

The Project Risk Management Process goal is to maximize both efficiency and effectiveness. The basic components of risk management include identification, analysis, and action.

Risk Identification – Determining which risks might affect the project and documenting their characteristics. (What risks might negatively (threats) or positively (opportunities) affect achieving the project objectives?)

Qualitative Risk Analysis – Prioritizing risks for subsequent further analysis or action by assessing and combining their probability of occurrence and impact. (Which of these are more important?)

Quantitative Risk Analysis - Analyzing probabilistically the effect of identified risks on overall project objectives. (How could these affect the overall outcome of the project in probabilistic terms of cost and schedule?)

Risk Response – Developing options and actions to enhance opportunities and to reduce threats to project objectives. (What can be done about it?)

Risk Monitoring – Tracking identified risks, monitoring residuals risks, identifying new risks, executing risk response plans, and evaluating their effectiveness throughout the project life cycle. (Having taken action, how did the responses effect change, and where is the project now?)

Levels of Project Risk Management

Risk Management Process	Level 1 Cost to \$5 Million	Level 2 Cost \$5 -\$100 Million	Level 3 Cost over \$100 M
Risk Identification	Yes	Yes	Yes
Qualitative Analysis	Risk Rating	Probability/Impact Matrix	n/a
Quantitative Analysis	n/a	n/a	Yes
Risk Response	Yes	Yes	Yes
Risk Monitoring	Yes	Yes	Yes
Communication	Yes	Yes	Yes

The Risk Register is a tool that the project team can use to address and document project risks throughout the project life cycle.

Risk Identification

The first step is to document risks that might affect the project and their characteristics of probability and impact. A risk is an uncertainty which if it occurs, would affect the project objectives either negatively (threats) or positively (opportunities). A common challenge in risk identification is avoiding confusion between causes of risk, genuine risks, and the effects of risks. A risk may have one or more

causes and, if it occurs, one or more effects. Including causes of risk and effects of risks should not be included in the risk register.

Qualitative Analysis

For Level 1 projects, the risk should be rated either “high”, “medium”, or “low”.

For Level 2 projects, assess the priority of identified risks using their probability of occurring and the corresponding impact on the projects objectives if the risks occurs.

Probability and Impact Ratings

Rating	Very Low	Low	Moderate	High	Very High
Cost Impact of Threat	Insignificant cost increase	< 5% cost increase	5 - 10% cost increase	10 - 20% cost increase	>20% cost increase
Cost Impact of Opportunity	Insignificant cost increase	< 1% cost decrease	1 - 3% cost decrease	3 - 5% cost decrease	>5% cost decrease
Schedule Impact of Threat	Insignificant slippage	< 1 month slippage	1 – 3 months slippage	3 - 6 months slippage	> 6 months slippage
Schedule Impact of Opportunity	Insignificant improvement	< 1 month improvement	1 - 2 months improvement	2 – 3 months improvement	> 3 months improvement
Probability	1 – 9%	10 – 19%	20 – 39%	40 – 59%	60 – 99%

The Risk Matrix below is used to determine the importance of each risk impact based on the probability and impact ratings. Each word descriptor of the rating has an associated number; the product of the probability number and impact number defines the risk score.

Risk Matrix

Probability Rating

5- Very High					
4 – High					
3 - Moderate					
2 – Low					
1 – Very Low					
	1 Very Low	2 Low	4 Moderate	8 High	16 Very High

Impact Rating

The combination of the probability rating of the risk occurring and the impact rating positions the risk into one of the three colored zones in the risk matrix. The color of the zone indicates the priority of the risk for risk response: red zones – high importance; yellow zones – medium importance; and green zones are low importance.

Risk Response

Risk Response is the process of developing strategic options, and determining actions, to enhance opportunities and reduce threats to the project’s objectives.

Risk Monitoring

Risk Monitoring and control keeps track of the identified risks, residual risks and new risks and evaluates the effectiveness of the planned strategies.