

Risk Analysis & Management

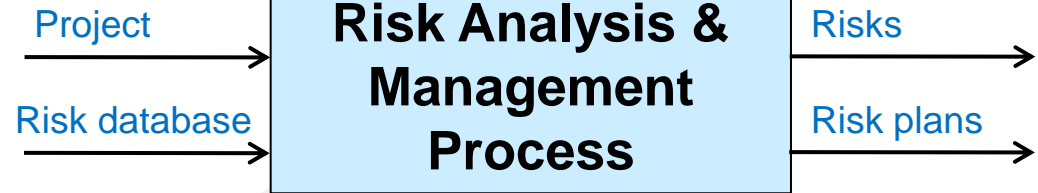
Problem

How to address project risk?

Difficulty

Easy to use

- A **Risk Analysis** determines and prioritizes risks. A risk is something that can delay, halt, or harm your project.
- **Risk Management** is how risks are dealt with.
- There are many risk classes, each with many types of risk.
- Maintaining a generic & project risk database is a best practice



1. **Identify** the risks using assumptions, historical documents, interviews, meetings, and risk database.
2. **Score** risks. Refine high- and medium-scoring risks. Include impacts on quality, time, and cost. Use either
 - **Risk Prioritization Grid**: severity, likelihood
 - **FMEA**: severity, likelihood, observability
3. Plan **responses**:
 - **Accept** the risk: can tolerate, if needed
 - **Avoid** the risk: eliminate it from happening
 - **Reduce** the risk: use mitigation plans
 - **Share** the risk: offload risk to other party
4. **Execute**: Address the high-scoring risks; address the medium-scoring risks, as possible.
5. **Monitor** and control risks.
6. **Document** the learning in the risk database.

Risk Likelihood	Risk severity				
	1 Very Low	2 Low	3 Medium	4 High	5 Very high
1 Very Low	Medium	Medium	High	High	High
2 Low	Medium	Medium	Medium	High	High
3 Medium	Low	Medium	Medium	Medium	High
4 High	Low	Low	Medium	Medium	High
5 Very high	Low	Low	Low	Medium	Medium

Risk Prioritization Grid

Risk Analysis – Example – 6in6 Project Risks

List of risks and their evaluation

#	Risk type	Risk	Likelihood	Severity	Overall risk
1	Audience	Someone copies all the 6in6 presentations to their own site	1 Very Low	2 Low	Low
2	Audience	Few people view 6in6 presentations	3 Medium	3 Medium	Medium
3	Delivery	6in6 website fails since ISP provider goes out of business	1 Very Low	3 Medium	Low
4	Delivery	6in6 website fails since too many people view 6in6 presentations and system crashes	1 Very Low	3 Medium	Low
5	Motivation	No new 6in6 presentations are created since Dan wins lottery	1 Very Low	1 Very Low	Low
6	Motivation	Few new 6in6 presentations are created since Dan moves on to other interests	2 Low	1 Very Low	Low
7	Production	There are factual errors in a 6in6 presentation	2 Low	5 Very high	High
8	Production	There are grammatical/spelling errors in a 6in6 presentation	3 Medium	1 Very Low	Low

Optional info for each risk:

- Cost
- Duration
- Point of contact
- Date recognized
- Mitigations
- Contingent actions

Map risk numbers to a risk prioritization grid

Risk Likelihood	Risk severity				
	1 Very Low	2 Low	3 Medium	4 High	5 Very high
5 Very high					
4 High					
3 Medium	8		2		
2 Low	6				7
1 Very Low	5	1	3, 4		

Address all high level risks

Risk #7 strategies:

- **Prevention:** Have experienced 6 sigma practitioner review new presentations.
- **Mitigation:** Respond immediately to audience recognition of an error.

Risk Analysis – Notes

Slide 1

1. Many techniques can identify risks, including fault tree analysis (FTA), SWOT analysis, and PEST analysis. (See 6in6 presentations.)
2. Risk Analysis listens to the voices of the business, customer, and regulator. See 6in6 presentation on VOC (voice of the customer).
3. Performing risk analysis enables appropriate resource allocation, improves stakeholder confidence, and minimizes unexpected costs.
4. Sharing of best practices, such as how to identify and address risks, is key for efficient risk analysis and management.
5. Risk classes include
 - Consequential: due to company activity
 - External: outside your control
 - Financial: from company decisions
 - Legal: from criminal activity
 - Personnel: staffing & management
 - Regulatory: specific to industry
 - Reputation: how company is viewed
 - Supply: resource related
 - Technical: technology basedAs well as those created for each specific project (see the example).

Slide 2

1. Risks should be fully described, so anyone can understand each statement.
2. Identifying risk types first, before identifying the specific risks, can make risk identification more complete.

Recommended web sites for additional information

- <https://www.6sigma.us/six-sigma-in-focus/project-risk-management/>
- <https://sixsigmadsi.com/project-risk-management/>