

Risk Engineering Related Submissions in Project Report

In Section 3.4: Provide table as below.

1	2	3	4	5	6	7
Risk Id	Classification (Acc to SEI taxonomy)	Description of Risk	Risk Area (Identify Risk Areas for your project)	Probability	Impact	RE (P* I)

- Fill details of Cols 1 -3, after consulting **SEI taxonomy document** provided herewith and from findings of your literature survey.
- For 4, Develop major risk prone areas for you project specifically. Assign each risk to one of these areas.
- For 5,6 and 7, assess probability and impact of individual risks using a simple high (H), medium (M), low (L) rating system to establish the top n list and assign 5, 3 and 1 numbers for quantitative representations.
- Sort the table according to your priority of risks.

With Information presented in table above

- 1) Represent the cause effect relations between Risk Areas as Interrelationship Graph(IG)
Hint: If the conditions embodied in the statements of risk area X cause or influence conditions embodied in the statements of risk area Y, then there is a directed edge from X to Y.
- 2) Apply a weighting factor to the arrow. Determine whether the relationship is “significant” (weighting factor of 9), “medium” (3), or “weak” (1).
- 3) Count and record the number of incoming and outgoing arrows for each risk area. Calculate and record the total weight for each risk area (the sum of weights of all the arrows going into or out of the area).

Repeat 1-3 for all Risk Areas and report in following format.

S.N.	Risk Area	# of Risk Statements	Weights (In + Out)	Total Weight	Priority
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- 4) Find top Risks as the ones with maximum total weight from the graph.

- Enumerate Risks that actually occurred during the project as following table:

Risk Statement	Risk Area	Priority of Risk Area in IG
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Identify Risks (e.g. top risks from IG) to be mitigated and provide following info wrt these.

Mitigation Approaches: <State one or more approaches to control, avoid, minimize, or otherwise mitigate the risk. Mitigation approaches may reduce the probability or the impact.>		
(Date Started: <State the date the mitigation plan implementation was begun.>	Date to Complete: <State a date by which the mitigation plan is to be implemented.>	Owner: <Assign each risk mitigation action to an individual for resolution.>
Additional Resources needed for Mitigation		

Write an account of Response to each triggered risk and effectiveness of this response.

EXAMPLE

The Interrelationship Graph (IG) varies for Every Project.

Assume the Risk Areas for a particular project P1 are identified as nodes in graph below.

Note: All Risk Statements related to Team Members like

RS1: One partner may be on long vacation → His part of work will not available

RS2: Incompetent Coding Skills of one of the team members → more time will be required

RS3: Irregularity → schedule will be affected.

RS4: Leaving project to avail other options → May have to change scope of project.

etc. may be grouped under “Personnel Related” Risk Area.

Point 1 & 2:

For List of Risk Areas of your Project, come to a consensus for assigning weighted relationships between various such areas.

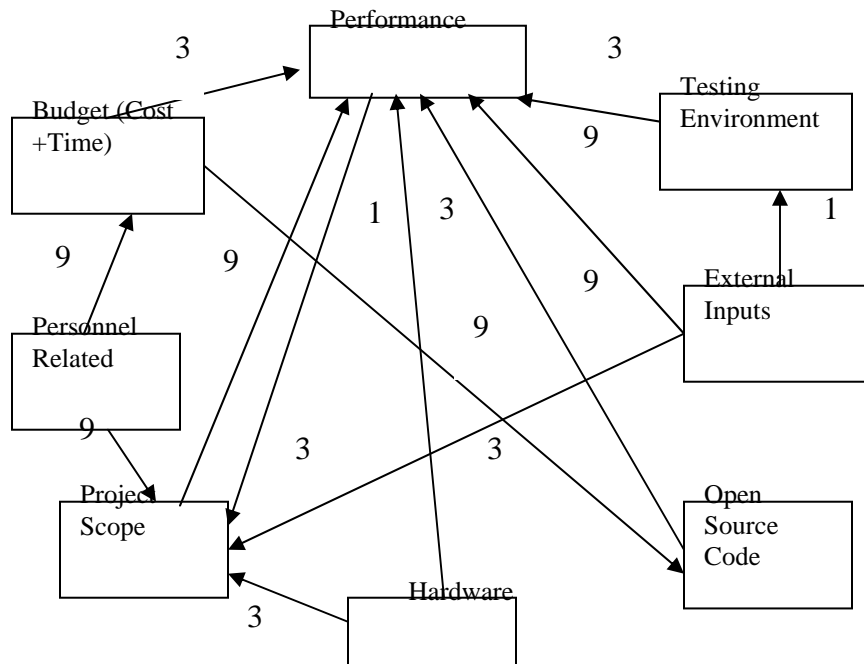


Figure 1: Weighted Interrelationship Graph of Project P1

Example of 3):

Table I. Risk Area Wise Total Weighting Factor:

S.N.	Risk Area	# of Risk Statements	Weights (In + Out)	Total Weight	Priority
1	Performance	8	3+3+9+9+3+1	28	1
2	Personnel Related	5	9+9+9	27	2
3	External Inputs	3	9+9	18	3
4	Open Source Code	3	9+9	18	4
5	Project Scope	4	9+1+3+3	16	5
6	Hardware	2	3+3	6	6
7	Budget	3	3+1	4	7
8	Testing Environment	4	3+1	4	8

In Table 1, the prioritized list obtained is according to the risks identification and analysis activity done in advance.

Example of 4):

Compare the risks with actually triggered risks e.g. In one of the top Risks of Risk Area “External Inputs” the risk statement below, actually triggered.

Risk Id	Risk Statement	Risk Area	Priority of Risk Area in IG
1.	<i>Risk of Availability of Actual Network Logs</i>	External Inputs	3

Example of Mitigation:

Response and its Effectiveness:

- Response: Synthetic Network Log was generated.
- Effectiveness: Limited, as dynamics of actual traffic couldn't be simulated.