

Project Management Planning

Risk Management Plan

Initial Release:	1.0
Date:	January 1997

What is Project Risk?

A risk is any factor that may potentially interfere with successful completion of the project. A risk is not a problem -- a problem has already occurred; a risk is the recognition that a problem might occur. By recognizing potential problems, the project manager can attempt to avoid a problem through proper actions.

Risk Management Process

The procedure that the team will use to manage project risks is defined in the planning stage, documented in the project plan, and then executed throughout the life of the project. Risk management deals with the following risk phases:

- Risk identification
- Risk analysis and quantification
- Risk mitigation planning
- Risk response

The Risk Management Plan documents the procedures used to manage risk throughout the project. In addition to documenting the results of the risk identification and analysis phases, it must cover who is responsible for managing various areas of risk, how risks will be tracked throughout the life cycle, how contingency plans will be implemented, and how project reserves will be allocated to handle risk.

Project risks are identified and carefully managed throughout the life of the project. It is particularly important in the planning stage to document risks and identify reserves that have been applied to the risks.

There are various areas that can affect a project, including:

- The technology used on the project
- The environment in which the project is executed
- Relationships between team members
- How well the project fits the culture of the enterprise
- How great a change will result from the project

Risk identification consists of determining risks that are likely to affect the project and documenting the characteristics of those risks. No attempt should be made to identify all possible risks that might affect the project, but anything likely to occur should be included in the analysis.

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Responsibility for Risk Identification

Risk identification is the responsibility of all members of the project team. The project manager is responsible for tracking risks and for developing contingency plans that address the risks identified by the team. Sometimes a risk identification “brainstorming” session can help in the initial identification process. Such meetings help team members understand various perspectives and can help the team better understand the “big picture.”

Risk identification begins in the early planning phase of the project. A Risk Management Worksheet (shown at the end of this section) is started during the planning phase. Then, as scheduling, budgeting, and resource planning occur, the worksheet is updated to reflect further risks identified in the planning stage.

At project startup, the Risk Management Worksheet is reviewed again, and any new risks are added to it. As the project progresses, members of the team identify new risk areas that are added to the Risk Management Worksheet. Also during the project, risks identified earlier may be removed.

Documenting Risks

Risks are documented so that contingency measures can be taken to mitigate their effects. Risks to both the internal and external aspects of the project should be tracked. Internal risks are those items the project team can directly control (e.g., staffing), and external risks are those events that happen outside the direct influence of the project team (e.g., legislative action).

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Risk Management Worksheet Instructions

The risk categories/events shown on the Risk Management Worksheet are provided for guidance, and do not represent an exhaustive list of risks. The risk categories/events should be customized for each individual project.

The project manager, with the support of the project team, then evaluates each risk event for the following:

Loss Hours:

Indicate the expected increase in hours that will occur if the risk event occurs.

Probability:

Use the probability field to quantify the chance of the event taking place. Use a decimal value from 0 to 1 (e.g., .70).

Risk Hours:

This field represents the estimated risk for this event. The field is calculated by multiplying the loss and the probability fields.

Previous Risk Hours:

This field represents the value of risk hours reported in the previous period. A difference between this value and the current risk hours indicates a change in the risk status and is used to alert management that a change has occurred.

Contingency Plan:

The next two columns document the planned preventive and contingency measures that could minimize the effect of the risk event. The measures shown in the next figure are representative of common contingency measures, but are not an exhaustive list. The project manager should provide specific contingency plans for the specific project.

Comments:

The comments column should be used to document items such as a change in value of risk hours from the previous period, management actions needed to contain risk, and status of preventive and contingency plans.

Total:

The sum total of values in column four is the total risk hours for the project and should be reported in the project plan.

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When does Risk Identification Occur?

Risk identification is a recurring event, it is not performed once and then set aside. The risk identification process begins in the project initiation stage, where initial risk areas are identified. During the planning stage, risks and mitigation measures are identified and documented. During the resource allocation, scheduling, and budgeting phases, associated reserve planning is also documented.

Risk identification, management, and resolution continue after project initiation throughout the life of the project. New risks are developed as the project matures and external and internal situations change.

When probability of a risk increases, or when a risk becomes a reality and the project manager must deal with a real problem, replanning occurs. At this point, the project manager and project team develop strategies that assess the impact of the problem. This replanning results in budget, schedule, or resource changes for completion of the project.

Contingency Planning

Contingency plans are developed as a result of a risk being identified. Contingency plans are pre-defined action plans that can be implemented if identified risks actually occur. If a problem actually occurs, the contingency plan must be implemented and reserves must be allocated.

As a guideline, contingency plans are developed for the top five risks associated with a project. For large projects the top five risks of each major sub-system may be actively tracked. To properly implement a plan, a reserve is usually required where dollars and/or time are held by a project manager to apply to the execution of a contingency plan. Such contingency reserves are discussed in the appropriate sections of planning. Without maintaining a reserve, the project manager is forced to go back for additional time or dollars for every risk as it becomes a problem. It is far more desirable to maintain a level of reserve where problems can be dealt with from within the original budget and schedule of the project.

There are some situations where nothing can realistically be done to prevent or deal with a risk. In this case, the project must be managed in such a way that the probability of the event occurring is minimized. If the event does occur, the project manager must replan the project and include the effect of the problem.

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Forms

The risk checklist identified in this section is included in Appendix B:
Templates & Sample Forms.

Risk for the project is documented in the Project Plan template in Appendix B:
Templates & Sample Forms.

Form: PM-05 Risk Management Worksheet - Sample

Risk Category /Event	Loss Hours	Probability	Risk Hours	Prev. Risk Hours	Preventive Measures	Contingency Measures	Comments
PERSONNEL							
Lack of knowledge in this hw/sw					1, 2		
Insufficient resources available					13		
EQUIPMENT							
Delivery date slip						3, 4	
Insufficient configuration					5, 6	3, 4	
Unproven hardware					27, 17		
CUSTOMER							
Infighting					7	8	
Unacceptable working environment					9	8	
Lack of <our> knowledge					1		
Visibility to high levels at customer and <our> mgt.					10		

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Form: PM-05

Risk Management Worksheet - Sample

Risk Category /Event	Loss Hours	Probability	Risk Hours	Prev. Risk Hours	Preventive Measures	Contingency Measures	Comments
Poor project definition by customer					11, 12		
Unreasonable deadline					13	28	
Third party involvement					14, 15		
Customer availability					7, 16	29	
CUSTOMER							
Unproven products					17, 2	30	
Third party S/W					1, 15, 19	30	
Complex application					1, 2		
LOGISTICS							
Multiple customer sites					20, 21, 22		
Physical separation of team and customer					20, 21, 22, 23		
ORGANIZATION							
Team of 5-10					24		
Team > 10					24, 25		
Customer people on team					26		
OTHER							
Total Risk Hours							

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Suggested Preventive and Contingency Measures

1. Provide appropriate training.
2. Hire trained specialists.
3. Install temporary hardware.
4. Utilize internal hardware temporarily.
5. Purchase additional equipment.
6. Implement product functionality in a phased manner.
7. Get agreement on who has decision authority; designate customer project coordinator.
8. Locate project team in <our> offices.
9. Negotiate better environment.
10. Ensure that all the resources are provided.
11. Suggest/sell Functional Specifications before development.
12. Unilaterally develop Functional Specifications.
13. Adjust deadline and get <our>/customer buy-off.
14. Do not commit to third party performance.
15. Get third party commitment at least equal to (if not more than) <our> commitment.
16. Get customer commitment to participate in the project.
17. Increase estimates for the related tasks.
18. Do not commit to response time unless absolutely necessary and then only if a study is done by knowledgeable persons.
19. Establish access to product support personnel.
20. Hold regular meetings with customer.
21. Maintain constant written and oral communication with remote personnel.
22. Visit remote sites as needed.
23. Demonstrate incremental results.
24. Divide staff into teams and assign team leaders.
25. Dedicate <our> management resources.
26. Establish final authority of <our> project manager.
27. Use proven hardware for development if possible.
28. Reduce functionality to meet deadline.
29. Document <our> assumptions and understandings and get Customer's sign-off before investing substantial resources.
30. Design an alternate (contingent) solution strategy.