Project Risk Management

Project Risk

- Project risk is an uncertain event or condition that, if it occurs, has a positive or negative effect on a project objective.
- A risk has a *cause* and, if it occurs, an *impact*. For example, the cause may be requiring a permit or having limited personnel assigned to the project. The risk event is that the permit may take longer than planned or the personnel may not be adequate for the task.

Risk Presents Threats & Opportunities

- Project risk includes both threats to the project's objectives and opportunities to improve on those objectives.
- The general objectives of any project are:
 - Scope
 - Cost
 - Time
 - Quality

Risk & Reward

- Risk should be related to reward.
- Risks accepted should be in balance with the reward that may be gained by taking the risk.
- For example, a fast-track schedule is a risk taken to achieve the benefit of a shortened schedule.

Risk Management

- Risk management is the *systematic application of the risk management processes on a project. The processes consist of risk management planning, identification, analysis, responding, and monitoring & control.*
- The objective of risk management is to maximize the probability and impact of positive events and minimize the probability and consequences of events adverse to project objectives.
- The processes of risk management are updated throughout the project life.

Risk management Processes

- 1. Risk Management Planning—deciding how to approach and plan the risk management activities for a project.
- 2. Risk Identification—determining which risks might affect the project and documenting their characteristics.
- 3. Qualitative Risk Analysis—prioritizing risk by their effects on project objectives through assessment of their probability, impact, and the combination of both.
- 4. Quantitative Risk Analysis—quantitatively analyzing the effect of identified risks on project objectives.
- 5. Risk Response Planning—developing options and ways to enhance opportunities and to reduce threats to the project's objectives.
- 6. Risk Monitoring and Control—monitoring identified and residual risks, identifying new risks, executing risk response plans and evaluating their effectiveness throughout the project life cycle.

PROJECT RISK MANAGEMENT

11.1 Risk Management Planning 1 Inputs 1 Enterprise environmental factors 2 Organizational process

,3 Project scope statement,4 Project management plan

assets

.2 Tools and Techniques

- .1 Planning meetings and analysis
- .3 Outputs
 - .1 Risk management plan

11.4 Quantitative Risk Analysis

- .1 Inputs
 - .1 Organizational process assets
 - .2 Project scope statement.
 - .3 Risk management plan
 - .4 Risk register
 - .5 Project management plon
 - Project schedule management plan
 - Project cost management plan
- .2 Tools and Techniques
- Date gathering end representation techniques
- .2 Quantitative risk analysis and modeling techniques
- .3 Outputs
 - .1 Risk register (updates)

11.2 Risk Identification

.1 inputs

- .1 Enterprise environmental factors
- Organizational process assets
- .3 Project scope statement
- A Risk management plan
- .5 Project management plan

.2 Tools and Techniques

- .1 Documentation reviews
- .2 Information gathering techniques
- .3 Checklist analysis
- .4 Assumptions analysis
- .5 Diagramming techniques

.3 Outputs

.1 Risk register

11.5 Risk Response Planning

.1 inputs

- 1 Risk management plan
- 2 Risk register

.2 Tools and Techniques

- Strategies for negative risk or threats
- Strategies for positive risks or opportunities
- .3 Strategy for both threats and opportunities
- .4 Contingent response strategy

.3 Outputs

- .1 Risk register (updates)
- .2 Project management plan (updates)
- .3 Risk-related contractual agreements

11.3 Qualitative Risk Analysis

.1 inputs

- .1 Organizational process assets
- .2 Project scope statement
- .3 Risk management plan
- .4 Risk register

.2 Tools and Techniques

- Risk probability and impact assessment
- .2 Probability and impact metrix
- .3 Risk data quality assessment
- .4 Risk categorization
- .5 Risk urgency assessment

.3 Outputs

.1 Risk register (updates)

11.6 Risk Monitoring and Control

.1 Inputs

- .1 Risk management plan
- .2 Risk register
- .3 Approved change requests
- .4 Work performance information
- .5 Performance reports

.2 Tools and Techniques

- .1 Risk reassessment
- .2 Risk audits
- .3 Variance and trend analysis
- .4 Technical performance measurement
- .5 Reserve analysis
- ,6 Status meetings

.3 Outputs

- .1 Risk register (updates)
- .2 Requested charges
- 3 Recommended corrective actions
- ,4 Recommended preventive actions
- .5 Organizational process assets (updates)
- 6 Project management plan (updates)

Figure 11-1. Project Risk Management Overview

PMBOK Presentation Format

Processes in the PMBOK are explained in a specific format. The format includes:

- Input: The requirement necessary for performing the process.
- Tools & Techniques: The method (s) that can be utilized to perform the process.
- Output: The results obtained from performing the process.