PMI PMBOK Risk Methodology

VA Forum for Excellence

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PMI PMBOK Risk Methodology

• “Project risk is an uncertain event or condition that, if it occurs has a positive or negative impact on one or more project objectives such as scope, schedule, cost, and quality.” *PMBOK, 5th edition, 2013*
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• Project Management Institute (PMI) Project Management Body of Knowledge (PMBOK) is a validated generally accepted practice with five cycles of improvement

• Best practice in Baldrige world
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• Start With Risk Management Plan
  – Plan the work, work the plan

• Risk Management Plan – How Risks are Managed

• Defines items such as:
  – Methodology
  – Participants
  – Formats
  – Reviews
  – Etc.
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• Risk Management Process Steps:
  – Identify Risks
  – Qualitative Risk Analysis
  – Quantitative Risk Analysis
  – Plan Risk Responses
  – Control Risks
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• Identify Risks
  – Use prior documentation such as charter; budgets; schedules; plans; etc.
  – Have right people involved who know risks, have risk owner
  – Use methods such as brainstorming; interviews; Delphi technique; root cause analysis
  – Document (risk register)
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• What were some of the risks of driving to the Forum?
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- Qualitative risk analysis
  - Analyze Probability and impact
  - Calculate and rank risk score
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• Qualitative Risk Analysis (continued)
  – Probability of risk occurring
  – Probability of .9 or higher treated as certainty – not a risk

<table>
<thead>
<tr>
<th>Probability Score</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>.9</td>
</tr>
<tr>
<td>3</td>
<td>.5</td>
</tr>
<tr>
<td>1</td>
<td>.1</td>
</tr>
</tbody>
</table>
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• Qualitative Risk Analysis (continued)
  – *What are the probabilities of the risks of driving to the Forum?*
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• Qualitative Risk Analysis (continued)
  – Impact of risk occurring
    • Areas such as cost; schedule; performance; etc

Impact

<table>
<thead>
<tr>
<th>Impact</th>
<th>High</th>
<th>Med</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact Score</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>
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• Qualitative Risk Analysis (continued)
  – *What are the impacts of the risks of driving to the Forum?*
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• Qualitative Risk Analysis (continued)
  – Risk Score
    • = Probability Score X Impact Score
    • Shows importance of risks
    • Rank by score to show most to least important
• Qualitative Risk Analysis (continued)
  – What are the risk scores of the risks of driving to the Forum?
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• Quantitative Risk Analysis
  – Used for important risks which can be quantified (limited or no number of risks)
  – Quantitative models (not covered here)
    • Sensitivity analysis
    • Monte Carlo analysis
    • Expected monetary value
  – Think computers
    • Often spreadsheet and tool such as Crystal Ball or Risk Watch (1000s of runs)
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• Risk Response Planning
  – Strategies
    • Avoid – don’t do risky action
    • Transfer – somebody else
      – Insurance
      – Contracts
    • Mitigate – make changes to reduce probability
    • Accept – let it happen
      – Contingency reserve (cost; schedule; performance; etc.)
• Risk Response Planning (continued)
  – What risk response strategies can be used for the risks of driving to the Forum?
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• Control Risks
  – Reassess new and existing risks
  – Audits
  – Variance and trend Analysis
  – Reserve analysis

• **Keep your eye on the risks!**
### PMI PMBOK Risk Methodology

- **Example Risk Register**

<table>
<thead>
<tr>
<th>Risk</th>
<th>Owner</th>
<th>Date</th>
<th>Open</th>
<th>Prob</th>
<th>Impact</th>
<th>Score</th>
<th>Response</th>
<th>Contingency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accident</td>
<td>Me</td>
<td>9/16</td>
<td>Yes</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>Transfer (insurance)</td>
<td></td>
</tr>
<tr>
<td>Traffic</td>
<td>Me</td>
<td>9/16</td>
<td>Yes</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>Accept</td>
<td></td>
</tr>
</tbody>
</table>

Alt route