Risk Management : Harmonizing the Methodologies of PMI and APM

By

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and

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Committee to Revise the Risk Management Chapter of the PMBOK(R)

Sources: PRAM Guide from APM and PMBOK from PMI

- Association for Project Management (APM)
  - Project Risk Analysis and Management Guide (the PRAM Guide) 1997, 96 pages
- Project Management Institute (PMI)
  - Guide to the Project Management Body of Knowledge (the PMBOK® Guide) 2000
  - Risk Management, Chapter 11, 20 pages

Many Similarities: APM's PRAM and PMI's PMBOK

- Specific Interest Group on Risk Management
- Committees of volunteers
  - One common member, from the UK
- One objective of the PMBOK revision was to harmonize the two approaches to the extent possible

Many Similarities: APM's PRAM and PMI's PMBOK

- Risk management as a number of:
  - "Phases" (APM)
  - "Processes" (PMI)
- Phases or processes
  - The phases and processes are quite similar
  - Risk Management Planning process was actually adapted from the Focus PRAM phase

Processes (PMBOK)
Phases (PRAM)

PMBOK Chapter 11 (PMI)	PRAM Guide (APM)
(in other PMBOK chapters)	Define Project
Risk Management Planning	Focus PRAM
Risk Identification	Identification
Qualitative Risk Analysis	Assessment (covers both qualitative and quantitative)
Quantitative Risk Analysis	Planning
Risk Response Planning	Management
Risk Monitoring and Control	

Many Similarities

- Tools and techniques of risk management
  - Almost identical
- PRAM Guide describes them in a 24-page Appendix
- PMBOK Chapter 11 describes them in each process section where they are used

Tools and Techniques Common to PRAM and PMBOK

Information Gathering Tools

- Assumptions analysis
- Checklist
- Brainstorming
- Delphi technique
- Interviews

Analytical Tools

- Probability & Impact matrix
- Simulations
- Decision tree analysis
- Influence diagrams
- Sensitivity analysis

Project Risk Includes Both Threats and Opportunities

- PRAM: “An uncertain event or set of circumstances that, should it occur, will have an effect on the achievement of the project’s objectives”
  - “Opportunities (upside risks…)”
  - “risk assessment in terms of threats and opportunities…”
- PMBOK: “An uncertain event or condition that, if it occurs, has a positive or negative effect on a project objective.”

Probability and Impact Scales can be Ordinal or Cardinal

- Probability and impact scales can be either ordinal or cardinal
  - Ordinal (relative)
    - *Very low, low, moderate, high, very high*
  - Cardinal (numeric)
    - *.1 / .3 / .5 / .7 / .9 (risk neutral)*
    - *.05 / .10 / .20 / .40 / .80 (risk averse)*

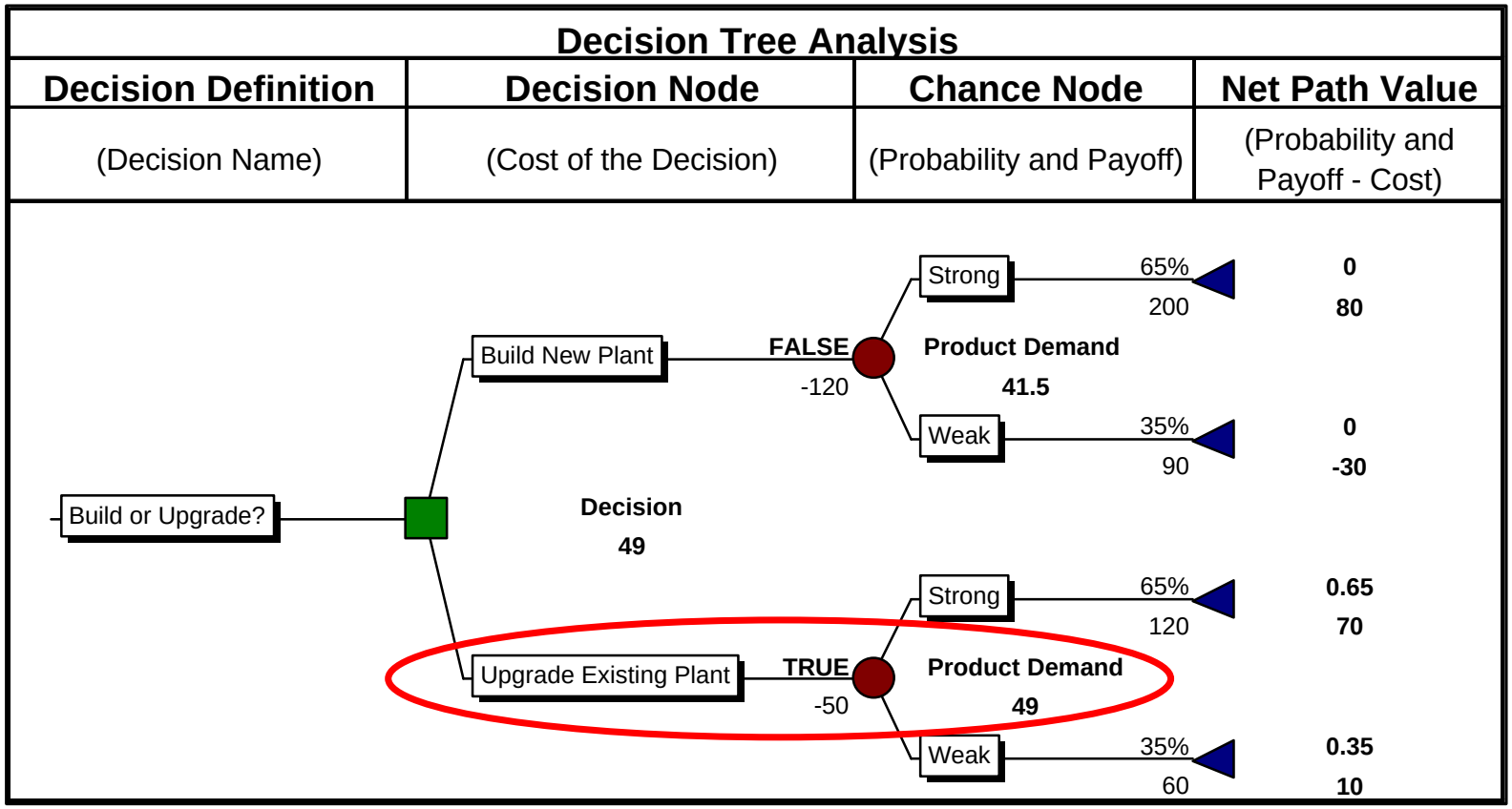
Scoring Impact (from PMBOK)

Evaluating Impact of a Risk on Major Project Objectives (Ordinal scale or cardinal, non-linear scale)					
Project Objective	Very Low .05	Low .1	Moderate .2	High .4	Very High .8
Cost	Insignificant cost increase	< 5% cost increase	5%-10% cost increase	10%-20% cost increase	>20% cost increase
Schedule	Insignificant schedule slippage	Schedule slippage < 5%	Overall project slippage 5% - 10%	Overall project slippage 10% - 20%	Overall project schedule slips > 20%
Scope	Scope decrease barely noticeable	Minor areas of scope are affected	Major areas of scope are affected	Scope reduction unacceptable to the client	Project end item is effectively useless
Quality	Quality degradation barely noticeable	Only very demanding applications are affected	Quality reduction requires client approval	Quality reduction unacceptable to the client	Project end item is effectively unusable

Both PMBOK and PRAM Present this Probability and Impact Matrix

Probability and Impact Risk Scores					
Probability					
0.9	**0.05**	**0.09**	**0.18**	**0.36**	**0.72**
0.7	**0.04**	**0.07**	**0.14**	**0.28**	**0.56**
0.5	**0.03**	**0.05**	**0.10**	**0.20**	**0.40**
0.3	**0.02**	**0.03**	**0.06**	**0.12**	**0.24**
0.1	**0.01**	**0.01**	**0.02**	**0.04**	**0.08**
	0.05	**0.10**	**0.20**	**0.40**	**0.80**
	Impact (Ratio Scale)				

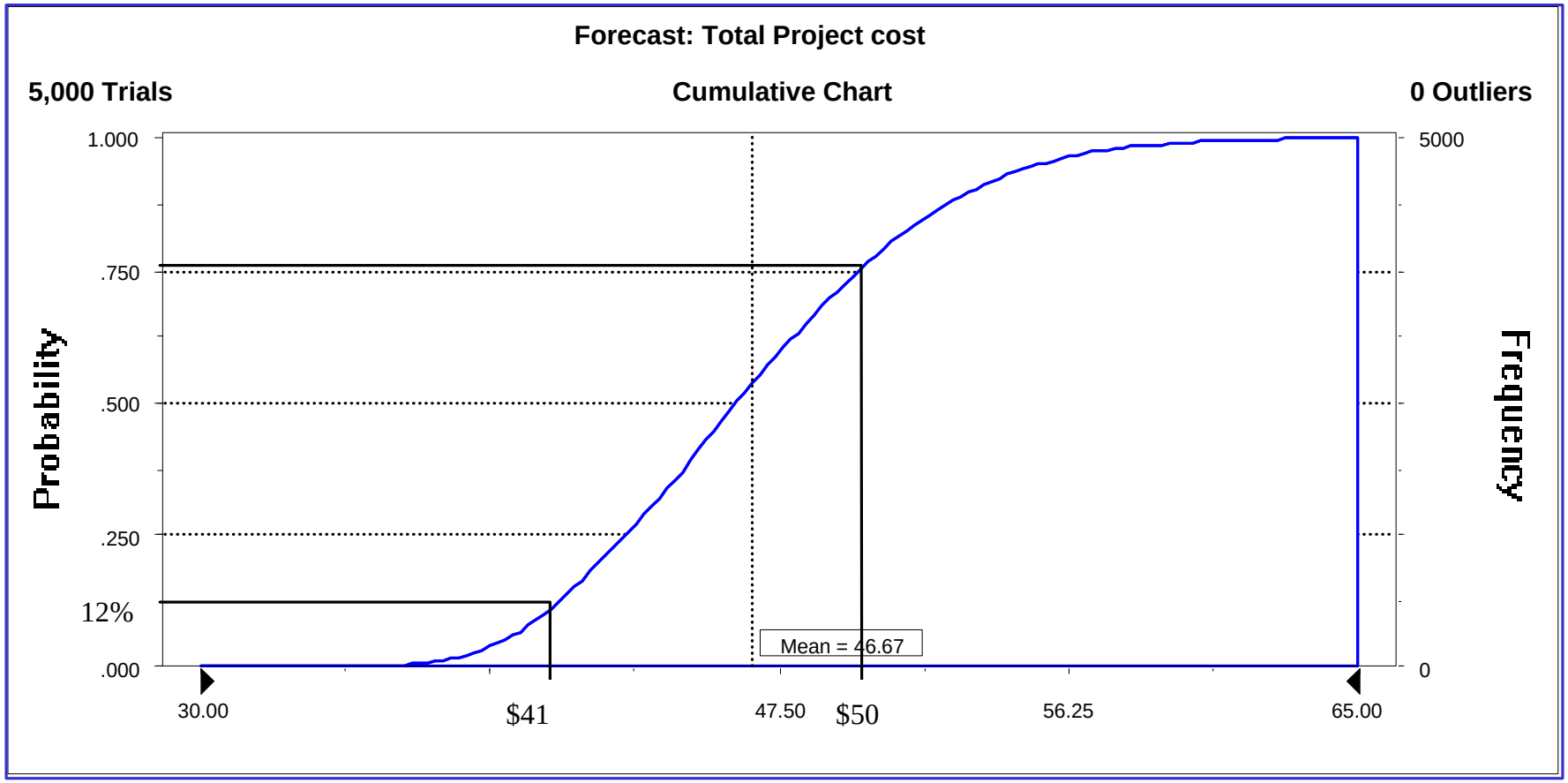
Decision Tree Analysis is Presented in Both (from PMBOK)



Ranges for Sensitivity Analysis and Simulation in Both (from PMBOK)

Project Cost Estimates and Ranges			
WBS Component	**Low**	**Most Likely**	**High**
Design	**4**	**6**	**10**
Build	**16**	**20**	**35**
Test	**11**	**15**	**23**
Total Project		**41**	

Monte Carlo Simulation is Emphasized in Both (from PMBOK)



Differences in Style, Tone

- Differences in style
  - PRAM -- more philosophical and creating the right atmosphere for success, free-flowing text
  - PMBOK -- more practical and focused on helpful techniques, structured by inputs, tools, outputs
- Focus
  - PRAM may be more focused on rating individual risks
  - PMBOK concerns both individual and overall project risk

Additional Topics of PRAM Guide

- PRAM Guide deals with:
  - Organization and Control of PRAM
  - Implementation
  - Expectations and Behavior
- PMBOK Guide did not have enough pages
  - Planned “extension” for PMBOK will include these topics

Organization and Implementation: PRAM

- Organization and Control of PRAM
  - Structure, roles and budgeting for PRAM
  - Reports (Risk Management Plan, Risk Register)
- Implementation
  - Objectives
  - Introducing PRAM into the organization

Expectations and Behavior: PRAM

- Hard benefits
  - Objectives, contract, contingencies
- Soft Benefits
  - Communication, team spirit, more risk taking
- Downside of PRAM
- Behavioral Influences on PRAM
  - Individual and group influences (biases)
  - Influencing behavior

Focus PRAM Phase or Risk Management Planning Process

- Same roles for this process or phase
  - Scope and plan
  - Assignments and authority
  - Budget for risk management
  - Scoring methods
  - Reporting
- Deliverable is the Risk Management Plan in both

Risk Identification: Similarities

- Identify risks comprehensively
  - Risk categories: example from PMBOK
    - *Technical*
    - *Project management*
    - *Organizational*
    - *External*
  - Lessons learned, project stakeholders
  - Iterative throughout the project

Risk Identification: Similarities

- PRAM identifies preliminary responses
  - "What we might do about it?"
  - "What might go wrong with our responses?"
- PMBOK
  - Simple and effective risk responses may be developed in this process

Risk Assessment per PRAM

- Structure
  - Test assumptions, e.g.
    - *Independence between risks*
  - Understand implications
- Ownership
  - Contractor vs. Owner
  - Own risk and response
- Evaluate
  - Synthesis and evaluation
  - Prioritized list of individual risks
- Estimate
  - Impact on objectives
  - Probability and impact
  - Focus on show-stoppers
  - Clear, significant uncertainty
- Tools and Techniques
  - Discussed in a separate Appendix

Risk Assessment per PMBOK

Qualitative Risk Analysis

- Define probability and consequences
  - Long discussion of ordinal and cardinal scales
- Probability - Impact Matrix
  - Data gathering
  - Impact by objective
- Assumptions testing
- Data precision ranking

Quantitative Risk Analysis

- Three objectives
  - Individual and project risk
- Interview for probability distributions
- Sensitivity analysis
- Decision Tree analysis
- Simulation methods
  - Examples of each

Planning Responses: Similarities

- PMBOK and PRAM agree that responses should be:
  - Appropriate
  - Cost effective
  - Timely, realistic
  - Agreed (funded)
  - Commensurate with objectives

Planning Responses: Similarities

- Each has the same tools, if differently stated
  - Avoidance
  - Transference
  - Mitigation
  - Acceptance
- Deliverable
  - Risk Register (PRAM)
  - Risk Response Plan (PMBOK)

Managing Phase & Monitoring and Controlling Process

- Ongoing, continuous action
- Risks monitored
- New risks identified
- Effectiveness of risk management evaluated
- Triggers monitored
- PMBOK process is more much more well developed than PRAM phase

Managing or Monitoring Risk

Management Phase PRAM

- Feedback to project plan
- Well-defined criteria to close out risks

Risk Monitoring and Control Process PMBOK

- Communicating to all stakeholders
- Project change requests
- Earned Value Analysis
- Technical Performance Measurement
- Update lessons learned, checklists

Future of Project Risk Management Best Practice at PMI / APM

- Close in time and communicating
- Colleagues across the Atlantic
  - working closely together, debating concepts in public
  - Risk Management SIGs
  - The internet
  - International conferences
- Further harmonizing can be expected

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