



Agenda

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Leading Practices and Advanced Tools in Risk Management: A Practitioner's Guide

Instructor: Dr. Prasad S. Kodukula, DASM, DASSM,
PMP, PgMP, PMI Fellow
Prework: None

Length: 3 days
CEUs: 2.1/see below for PDU breakdown

Level: Intermediate

Training Topic: Project Management/Process Integration

Subtopics: Risk Management, Business Analysis

Training Description:

Risk is inherent to projects. Ignoring it will result in unrealistic estimates of schedule and cost. The likely consequences are poor investment decisions, schedule delays, cost overruns, and ultimate project failures. Considered a four-letter dirty word, risk was virtually ignored in managing projects by many organizations until recently. However, today risk management is front and center of project management. The commonly used first generation (1G) risk management methods involve risk registers and qualitative analysis. The 2G methods, which are not as common yet, are based on quantitative analysis. The next generation tools and leading practices that represent 3G risk management, are the focus of this training. Whereas the current risk management body of knowledge mostly deals with schedule, cost, and risk separately, this training offers a practical integrated approach based on quantitative and stochastic methods. By applying this approach, you'll be able to obtain more realistic project estimates (cost, schedule, and reserves), navigate more easily through risks and uncertainty, and gain more management buy-in and support. Designed to serve as a practical guide, this training will show you how to apply the 3G tools in a step-by-step fashion by means of a case study. The learning is enhanced through hands-on exercises coupled with interactive discussions and role-plays.

Learning Objectives:

Upon completion of this training, learners will be able to:

- Identify, analyze, and plan for the four key types of risks that impact cost and schedule of every project
- Elucidate the role of management vs. project team in managing the four risk types
- Differentiate strategic vs. tactical risks and identify the right mitigation strategies
- Demystify Monte Carlo simulation and utilize its power in quantitative risk analysis
- Integrate schedule and cost risks by accounting for cost variations driven by schedule changes through a combined risk register
- Apply an integrated framework including threats and opportunities associated with both cost and schedule
- Identify three levels of reserves and estimate them using stochastic methods
- Differentiate deterministic vs. stochastic estimation methods and demonstrate why the latter is superior
- Prioritize schedule and cost risks together using a novel approach called RISA (Risk Impact Sensitivity Analysis)
- Perform sensitivity analysis using tornado diagrams, correlations, critical indexes, probability Gantt charts, and schedule impact indicators
- Generate more realistic project cost, schedule, and reserve estimates by accounting for both threats and opportunities

Agenda, Day 1

Introduction

- Introduce participants and instructor
- Present training overview and objectives
- Review ground rules
- Introduce the case study: Project Zulu
- **Project Zulu Case Study Exercise 1: Project Baselines**

Risk Management Basics

- Define risk and uncertainty, and discuss why they matter and how they are measured
- Review the commonly used approach to risk management
- Illustrate why you must include both threats and opportunities in estimating schedule and cost risks
- **Project Zulu Case Study Exercise 2: Risk Identification**

Types of Risks

- Identify four key types of risks and present examples
- Differentiate strategic vs. tactical risks
- Discuss the key role of management vs. project team in managing the four risk types
- Describe four types of risk analysis models
- Elucidate evolution of risk management from 0G through 3G
- Present a step-by-step approach for applying 3G risk management
- **Project Zulu Case Study Exercise 3: Risk Prioritization**

Estimation

- Identify various techniques for estimating schedule and cost risks
- Define, differentiate, and discuss pros and cons of deterministic vs. stochastic estimation
- Describe three-point estimation methods and discuss when they are most appropriate
- Review the five most important probability distributions needed in stochastic analysis of uncertainty and risk
- Discuss probability and cumulative distribution functions
- Explain Monte Carlo methods in simple and easy terms
- Demonstrate the power of simulations in risk and uncertainty analysis
- **Project Zulu Case Study Exercise 4: Three-Point Estimation**

Agenda, Day 2

Project Cost Risk

- Apply Monte Carlo simulation to analyze the impact of different risk types (including both threats and opportunities) on project cost
- Compare deterministic vs. stochastic estimation of project costs with and without risks
- Define tornado diagrams and correlation coefficients
- Rank the identified risks based on their impact on project cost
- Gain insight into the impact of risks by performing a what-if analysis
- **Project Zulu Case Study Exercise 5: Cost Risk Analysis**

Project Schedule Risk

- Apply Monte Carlo simulation to analyze the impact of different risk types (including both threats and opportunities) on project schedule
- Compare deterministic vs. stochastic estimation of project schedules with and without risks
- Illustrate probability Gantt charts
- Define critical indexes and schedule impact indicators
- Rank the identified risks based on their impact on project schedule

- Gain insight into the impact of risks by performing what-if analysis
- **Project Zulu Case Study Exercise 6: Schedule Risk Analysis**

Integration of Schedule and Cost Risks

- Explain why integration of cost and schedule risks offers a more realistic estimation of project cost as opposed to analyzing cost risk without any consideration for schedule changes
- Prioritization of risks by addition or exclusion of the impact of one risk at a time
- Introduce a novel technique called RISA (Risk Impact Sensitivity Analysis) and elucidate its power in identifying the most impactful risks for developing response action
- Prepare a combined risk register that includes opportunities and threats related to both schedule and cost
- Apply “joint confidence level” approach in evaluating trade-offs between schedule vs. cost
- **Project Zulu Case Study Exercise 7: Schedule & Cost Risk Integration**

Agenda, Day 3

Risk Response Development

- Expound why variability risk is virtually guaranteed in every project and what to do about it
- Discuss the role of management vs. project team in identifying response strategies for both threats and opportunities
- Identify response strategies for each risk type
- Discuss three common ambiguity risks most organizations face and how adaptive/agile methods can be applied to manage them
- Develop a risk response matrix to identify the most effective responses
- Delineate five key steps to building a resilient organization to manage unknown unknowns
- **Project Zulu Case Study Exercise 8: Risk Response Actions**

Project Reserves

- Define and differentiate project vs. program vs. portfolio reserves
- Illustrate why three levels of reserves are needed
- Discuss the difference between deterministic and stochastic estimation of reserves
- **Project Zulu Case Study Exercise 9: Reserves Estimation**

Applying 3G Risk Management

- Review step-by-step approach for applying 3G risk management
- Elucidate strategies to communicate effectively 3G risk analysis results to management for their buy-in and support
- Demonstrate through objective analysis why ignoring risks in estimating project schedules and costs will lead to a minimum of 80% chance of failure in completing projects on time and under budget
- Explain how quantitative methods will help you multiply your chances of hitting schedule and cost targets
- Clarify why application of quantitative/stochastic methods for risk analysis is easier now than ever
- Illuminate how 3G risk management methods and tools can result in higher project success rates

Conclusion

- Tie it all together
- Summarize key takeaways
- Share how you’ll apply what you’ve learned
- Stay in touch!

Professional development units (PDUs) are 1-hour blocks of time spent learning. By attending this training, you will be able to achieve the following PDUs to maintain your certification status with PMI. [View](#) how your PDUs align with the PMI Talent Triangle®.

	Technical	Leadership	Strategic	Total
CAPM® / PMP® / PgMP®	0	0	0	0.00
PMI-ACP® / Agile*	0	0	0	0.00
PMI-SP®	0	0	0	0.00
PMI-RMP®	21	0	0	21.00
PfMP®	0	0	0	0.00
PMI-PBA®	0	0	0	0.00

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