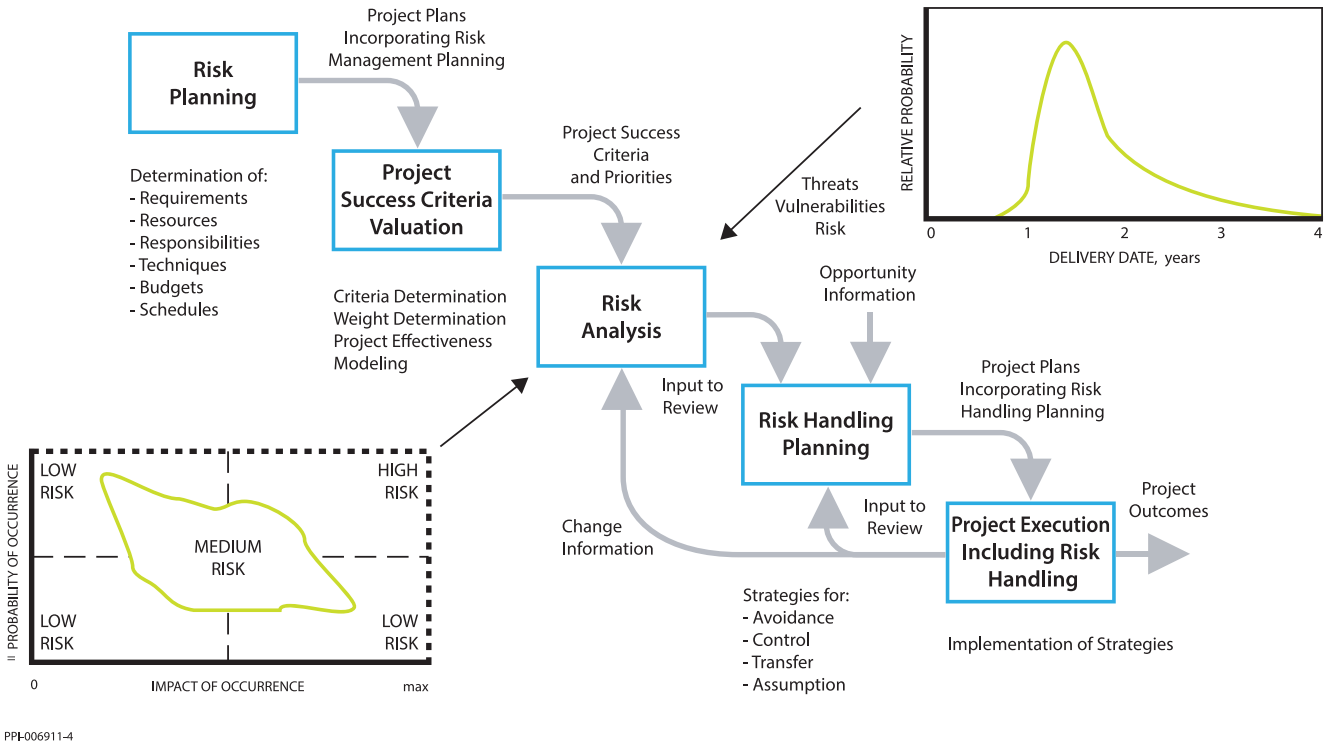
PROJECT RISK & OPPORTUNITY MANAGEMENT

USE THE LEVERS OF VALUE, UNCERTAINTY, THREAT AND VUNERABILITY ...

3-DAY COURSE

... TO MAXIMIZE THE SUCCESS OF YOUR PROJECTS.

Project risk and opportunity management is a set of management techniques aimed at ensuring that actual and planned project outcomes at least coincide, or are exceeded. As such, project risk and opportunity management is practiced by the great majority of project planners, project managers, and their staff. Risk and opportunity management influence nearly every facet of planning and conducting a project, or at least they should do so. This course exposes the levers available – threat, vulnerability, probability, and value, and how to exploit them to maximize value delivery.



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"A very well presented and structured course that provided a number of ideas and tools that will assist in projects, large and small"

- participant, Attorney-General's Department, Australia

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COURSE OUTLINE

0. Introduction

- The program
- ***Exercise: What are the biggest challenges that you face in your projects?***
- Course logistics
- The state of project risk and opportunity management today
- Evidence of the value of risk and opportunity management

1. Risk and Opportunity Concepts and Terms

- ***Workshop 1-1: What is project risk management? What is project opportunity management? What is project risk and opportunity management?***
- ***Workshop 1-2: Discuss and capture current perceptions of and relationships between key risk terms***
- Important risk definitions and concepts- success criterion (objective), threat, vulnerability, risk and opportunity
- Perspectives on types and characteristics of risk
- Risk to whom? Considering project stakeholders
- Decomposing of threats and risks
- ***Workshop 1-3: Threat and vulnerability identification***
- Risk-threat relationship
- Using countermeasures on threat to reduce risk
- Risk-opportunity relationships
- ***Workshop 1-4: Risk and opportunity identification***
- Other risk and opportunity-related definitions and concepts

2. Projects and Risk

- ***Workshop 2-1: Case study – what went wrong and how could it have been prevented?***
- ***Workshop 2-2: Own experience with the reality of risk on a project***
- The reality of project performance
- Initiatives to improve project outcomes:
  - Project Management Practice Guides, e.g. Project Management Body of Knowledge (PMBOK)
  - Project Management Methodologies, e.g. Projects IN Controlled Environments (PRINCE2)
  - Systems Engineering
  - Lean
  - Agile
- Why Risk and Opportunity Management
- When to apply project risk and opportunity management
- Risk and risk management basics
- Styles of development, related to risk
- Do's and don'ts leading to potential sources of risk
- ***Workshop 2-3: Principles of risk and opportunity management***
- ***Exercise - how could the content shared in this chapter have helped you on your own project***

3. Risk Management Standards, Guides, Frameworks and Process Models

- International Standardisation Organisation (ISO)/Draft International Standard (DIS) 31000:2017- Risk Management
- ISO/International Electrotechnical Commission (IEC)/Institution of Electrical and Electronic Engineers (IEEE) 16085 Systems and software engineering -- Life cycle processes -- Risk management
- Project Management Institute (PMI) Practice Standard for Project Risk Management
- ISO/IEC 21500 Project Management Methodologies
- PRINCE2 Risk Management Methodology
- Other General Project Risk Management Frameworks
  - A general project risk management framework (BSBPMG415) - Apply project risk management techniques (Australia)
- Domain-Specific Risk management standards
  - ISO/IEC 27005:2008 on Information security risk management
  - Central Computer and Telecommunications Agency (CCTA) Risk Analysis and Management Method (CRAMM)
  - ISO 14971:2007 (EN) Application of Risk Management to Medical Devices
- ***Exercise - how could the content shared in this chapter helped you on your own project***

4. Our Risk and Opportunity Management Process Model

- Recommended risk management process model, and why
- Perspectives in system acquisition
- Acquirer application to the system life cycle
- Supplier application to the system life cycle
- Developer application to the system life cycle
- ***Exercise: Could the use of a good risk management process have improved your own experience of risk on your project?***

5. Success Criteria (Objectives) Analysis

- Overview of success criteria analysis and their valuation
- No value - no risk!
- Outcome valuation methodologies: Cost, Project and System Effectiveness Measures Identifying project success criteria
- Valuing project success criteria (objectives)
- ***Workshop 5-1: Developing a simple system effectiveness model***
- Software support to success criteria valuation
- ***Workshop 5-2: Developing compromise impact values***
- ***Exercise: Did you consider risk on your project with respect to valued outcomes? If not, how would such consideration have changed your perception of the risk?***

6. Risk Identification and Analysis Techniques

- Risk indicators
  - indicators of risk due to management

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- indicators of risk due to requirements
- indicators of risk due to technology
- indicators of risk due to complexity
- indicators of risk due to lack of competencies

- Risk identification and analysis overview
- Top level risk matrix
- ***Workshop 6-1: Development of a risk matrix***
- Expert interviews
- Industry Knowledge Base - Analogy comparison/lesson learned studies
- Technology readiness levels
- Estimating risk due to complexity
- Plan evaluation
- Transition templates
- Decision-event tree analysis
- ***Workshop 6-2: Construction of an Expected Monetary Value (EMV) decision tree***
- Estimating relationship
- Network analysis
- Life cycle cost analysis
- ***Workshop 6-3: Review of LCC input & Monte Carlo analysis***
- Cost risk/WBS simulation model
- Risk factors technique
- ***Workshop 6-4: Use of the risk factors technique***
- Performance tracking
- Independent project assessment
- Independent cost estimating
- Earned Value Methodology
- Qualitative techniques for technology risk analysis - SDIO Method
- ***Workshop 6-5: Application of the SDIO method***
- Other risk identification and analysis techniques
  - Assumptions & Constraints Analysis
  - Cause and Effect (Ishikawa) Diagrams
  - Check Lists
  - Critical Chain Project Management
  - Schedule Compliance Risk Assessment Methodology (SCRAM)
  - Failure Modes and Effects Analysis (FMEA)/Fault Tree Analysis/Event Tree Analysis
  - Force Field Analysis
  - Probability and Impact Matrix (PI-Matrix)
  - Risk Workshops
  - Root-Cause Analysis
  - Strengths, Weaknesses/ Limitations, Opportunities, and Threats (SWOT) Analysis
  - System Dynamics/Influence Diagrams
  - Variance and Trend Analysis
- ***Exercise: Which of these risk identification and analysis techniques would have been applicable to your projects? How would the use of such techniques have improved the success of your projects?***
- Software support to risk identification and analysis

7. Risk Evaluation Techniques

- evaluation of risk against established risk acceptability criteria

8. Risk and Opportunity Handling

- Risk handling planning
- Risk handling techniques
- Risk handling plans (RHPs)
- Integration of risk handling planning with overall planning – e.g. the Project Plan (PP), Systems Engineering Management Plan (SEMP), Software Development Plan (SDP), etc.
- Risk handling in a concept phase
- Risk-driven development strategies
- System development methodologies and risk
- Acquirer assurance measures
- Supplier assurance measures
- Risk handling in a detail design phase
- Methodologies
- Aspects of risk handling special to software development
- Risk handling in production & deployment phases
- Typical risk areas
- Risk handling in operation & support (in-use) phase
- Risk introduced in operation
- Risk introduced in support
- Risk handling in a disposal phase
- Risk handling checklists
- Purchasing guidelines and risk
- ***Workshop 8-1: Use of risk handling strategies***
- Lessons learned
- ***Exercise: Application of lessons learned***
- Putting the RHPs into effect
- Software support to risk handling
- ***Exercise: Did you identify appropriate risk handling measures on your project? How would the use of such techniques have improved the success of your project?***

9. Risk and Opportunity Management Planning

- Enterprise policies
- Risk and opportunity management within acquisition program planning
- Risk and opportunity management within system/ product development planning
- Discrete risk management program planning
- Discrete risk planning of risk handling
- Developing a Risk Management Program Overview
- Estimating risk management project resources
- Organizing for effective risk management
- Selecting risk analysis techniques
- Maintaining the plans
- ***Workshop 9-1: Planning risk and opportunity management for a representative project***

10. In Closing

11. Daily Exercises

- ***Exercise: What are the key DO's and DON'Ts concerning risk and opportunity management that you can identify for your own situation?***
- ***Exercise: What were your key learning points? What could you implement at work that will improve your current risk and opportunity management outcomes?***

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