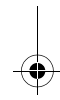
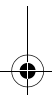
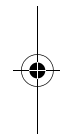
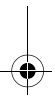
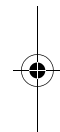
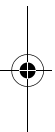
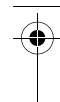
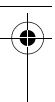




Part I

The basics of project risk management





THE PROJECT RISK MANAGEMENT APPROACH

1

Chapter overview

- **Purpose**

The purpose of project risk management is to obtain better project outcomes, in terms of schedule, cost and operations performance.

- **Rationale**

The project risk management process is needed to ensure that:

- All significant risks to the success of the project are identified;
- Identified risks are understood, with both the range of potential consequences they represent and the likelihood of values in that range being determined as far as is necessary for decision-making;
- Assessment is undertaken of individual risks relative to the other risks to support priority setting and resource allocation;
- Strategies for treating the risks take account of opportunities to address more than one risk;
- The process itself and the risk treatment strategies are implemented cost-effectively.

- **Method**

The recommended approach to project risk management is consistent with the approach adopted for a wide range of other risk management processes. The application of those processes to projects requires integration of risk management with project management processes and activities.

Overview

The broad objectives of the project risk management process are to:

- enhance the capability of the organization;
- extend the organization's overall risk management processes to projects, and apply them in a consistent way; and
- enhance the management of projects across the organization and obtain better project outcomes, in terms of schedule, cost and operations performance, by reducing risks and capturing opportunities.

Good project risk management within an organization has the following characteristics:

- project risk management activities commence at the initiation of the project, risk management plans are developed and risk management continues throughout the project life cycle;
- project risk management is not a discrete stand-alone process, but is integrated with other project management functions; and
- the implementation of project risk management is the responsibility of all project stakeholders and they participate actively in the process.

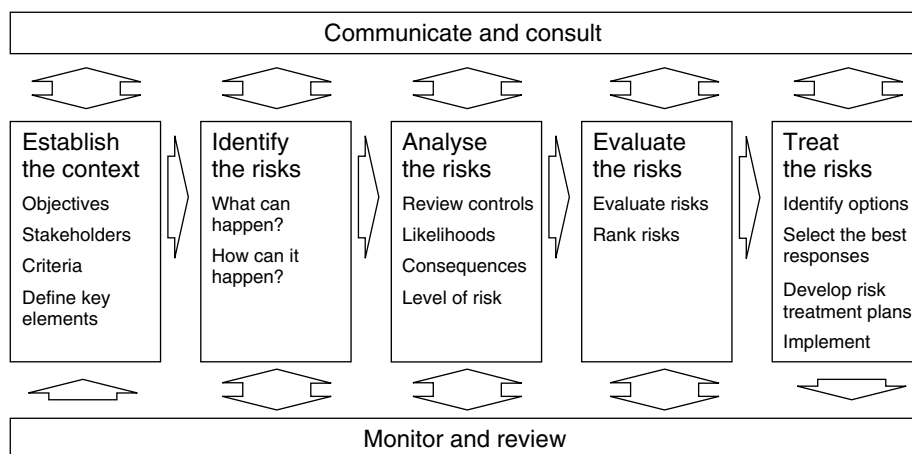
This chapter provides a brief summary of the material that is developed in the following chapters.

Approach

The objective of risk management is to identify and manage significant risks. It involves several key phases, with feedback through a monitoring and review process.

In most projects, risk management overlaps with other management processes and procedures, in that many of the steps are undertaken as part of normal project management. This provides the basis for integrating risk management and project management activities.

The approach to project risk management adopted in this book is consistent with the Australian and New Zealand Standard on risk management, AS/NZS 4360 (Figure 1.1). This approach is consistent with similar approaches adopted by the major project management professional bodies and government agencies that have issued project risk guidelines. The steps in the process address important questions for the project manager (Table 1.1). Extensions to quantitative risk analysis are discussed in Chapters 19 to 23.

**Figure 1.1**—The project risk management process**Table 1.1**—Questions for the project manager

<i>Risk management process step</i>	<i>Management question</i>
Establish the context	What are we trying to achieve?
Identify the risks	What might happen?
Analyse the risks	What might that mean for the project's key criteria?
Evaluate the risks	What are the most important things?
Treat the risks	What are we going to do about them?
Monitor and review	How do we keep them under control?
Communicate and consult	Who should be involved in the process?

Establish the context

Establishing the context is concerned with developing a structure for the risk identification and assessment tasks to follow. This step:

- establishes the organizational and project environment in which the risk assessment is taking place;
- specifies the main objectives and outcomes required;
- identifies a set of success criteria against which the consequences of identified risks can be measured; and
- defines a set of key elements for structuring the risk identification and assessment process.

Context inputs include key project documents, such as the project execution strategy, project charter, cost and schedule assumptions, scope definitions, engineering designs and studies, economic analyses, and any other relevant documentation about the project and its purpose.

The output from this stage is a concise statement of the project objectives and specific criteria for success, the objectives and scope for the risk assessment itself, and a set of key elements for structuring the risk identification process in the next stage.

Identify the risks

Risk identification determines what might happen that could affect the objectives of the project, and how those things might happen.

The risk identification process must be comprehensive, as risks that have not been identified cannot be assessed, and their emergence at a later time may threaten the success of the project and cause unpleasant surprises. The process should be structured using the key elements to examine risks systematically, in each area of the project to be addressed.

A number of techniques can be used for risk identification, but brainstorming is a preferred method because of its flexibility and capability, when appropriately structured, of generating a wide and diverse range of risks.

Information used in the risk identification process may include historical data, theoretical analysis, empirical data and analysis, informed opinions of the project team and other experts, and the concerns of stakeholders.

The output is a comprehensive list of possible risks to the successful outcome of the project, usually in the form of a risk register, with management responsibilities (risk owners) allocated to them.

Analyse and evaluate the risks

Risk assessment is the overall process of risk analysis and risk evaluation. Its purpose is to develop agreed priorities for the identified risks.

- Risk analysis is the systematic use of available information to determine how often specified events may occur and the magnitude of their consequences.
- Risk evaluation is the process of comparing the estimated risk against given risk criteria to determine the significance of the risk.

The assessment process:

- determines the consequences of each risk, should it arise;
- assesses the likelihood of those consequences occurring;
- converts the consequence and likelihood ratings to an initial priority for the risk; and
- develops agreed risk priorities and inherent risk levels.

The agreed priorities are used to determine where the greatest effort should be focused in treating identified risks. They facilitate structured action planning and resource allocation.

This stage of the risk management process generates a prioritized list of risks and a detailed understanding of their impacts upon the success of the project should they occur. The consequence and likelihood ratings and the agreed risk priorities are all recorded in the risk register.

Treat the risks

The purpose of risk treatment is to determine what will be done in response to the risks that have been identified, in order to reduce the overall risk exposure. Unless action is taken, the risk identification and assessment process has been wasted. Risk treatment converts the earlier analyses into substantive actions to reduce risks.

The primary inputs to this step are the lists of risks and their agreed priorities from the previous step and the current project plans and budgets.

Risk treatment involves:

- identifying the options for reducing the likelihood or consequences of each Extreme, High or Medium risk;
- determining the potential benefits and costs of the options;
- selecting the best options for the project; and
- developing and implementing detailed Risk Action Plans.

Risk Action Plan Summaries are usually required for each risk classified as Extreme or High on the agreed risk priority scale.

Monitor and review

Continuous monitoring and review of risks ensures new risks are detected and managed, and that action plans are implemented and progressed effectively. Review processes are often implemented as part of the regular management meeting cycle, supplemented by major reviews at significant project phases and milestones.

Monitoring and review activities link risk management to other management processes. They also facilitate better risk management and continuous improvement.

The main input to this step is the risk watch list of the major risks that have been identified for risk treatment action. The outcomes are in the form of revisions to the risk register, and a list of new action items for risk treatment.

Communicate and consult

Communication and consultation with project stakeholders may be a critical factor in undertaking good risk management and achieving project outcomes that are broadly

accepted. They help owners, clients and end users understand the risks and trade-offs that must be made in a large project. This ensures all parties are fully informed, and thus avoids unpleasant surprises. Within the project management team, they help maintain the consistency and 'reasonableness' of risk assessments and their underlying assumptions.

In practice, regular reporting is an important component of communication. Managers report on the current status of risks and risk management as required by sponsors and company policy. Senior managers need to understand the risks they face, and risk reports provide a complement to other management reports in developing this understanding.

The risk register and the supporting action plans provide the basis for most risk reporting. Reports provide a summary of project risks, the status of treatment actions and an indication of trends in the incidence of risks. They are usually submitted on a regular basis or as required, as part of standard management reporting. Major projects may require more extensive reporting on a periodic basis or at key milestones.