

Part I

Project Risk Management: Principles and Framework

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1

Principles of Effective Project Risk Management

CHAPTER OVERVIEW

Purpose	This chapter outlines the key principles for the effective management of risk within a project.
Rationale	The principles provide a benchmark for organisations as they establish a sound framework for risk management and implement risk management processes for their projects and investments. As well as providing a guide for good practice, they can also form the basis for performance benchmarks that contribute to continual organisational improvement.

PRINCIPLES

IEC 62198 lists 11 principles for the effective management of project-related risks, adapted from those in ISO 31000. They are intended to provide a guide for an organisation on all aspects of its approach to managing risk as part of managing projects. The principles also provide a basis on which organisations can continually review and improve the effectiveness and efficiency of their approach to managing project-related risks.

RISK MANAGEMENT CREATES AND PROTECTS VALUE

The primary purpose of risk management is to allow an organisation to achieve its objectives and to create value for it and its stakeholders. In the context of project management, this means that the management of risk must be linked to the achievement of the organisation's objectives, not just those of the project manager in the delivery phase to stay within its cost budget, achieve schedule milestones and produce outcomes at a specified level of quality.

It is often the case, for example, that during the development or execution of a project opportunities are found to create greater value and maximise the return from the investment of capital if the budget is increased or the schedule is extended. Whatever the 'in-project' objectives, those of the organisation are paramount and the creation of organisational value should be the purpose for the application of the risk management process.

It follows that the context for risks identified, analysed and evaluated as part of the management of a project should, ultimately, be the organisation's objectives and the purpose of risk treatment should be the maximisation of net benefit for the organisation.

Risk management contributes to the achievement of organisational objectives by improving performance and quality, in both the projects the organisation undertakes and the assets, products and services those projects create.

The objectives should be understood clearly by all parties.

RISK MANAGEMENT IS AN INTEGRAL PART OF ALL ORGANISATIONAL PROCESSES ASSOCIATED WITH A PROJECT

Risk management is not a stand-alone activity that is separate from the main activities and processes of the project or the organisation. It must be integrated with all project-related processes, including strategic project and investment planning, project management and management of the changes that affect projects. It should also be part of day-to-day management. It must be seen as directly relevant to project management and to the achievement of project and organisational objectives. It should not be just a means to generate a report to be submitted at a project review point.

Risk management is part of the responsibilities of project managers, project teams and all personnel associated with a project.

Risk is the effect of uncertainty on objectives, so understanding and treating risk must be the primary responsibility for the project team and its leaders. Because of this, the greatest benefit to the organisation and the project will be obtained if risk management becomes absorbed and integrated seamlessly into all processes within the project where decisions are made and changes are responded to.

RISK MANAGEMENT IS PART OF DECISION MAKING

Linking the management of risk to the points in a project where decisions are made is the key to integration and the means of creating the most value from an investment. Risk management helps decision makers make informed choices about the project, within each stage of its life, prioritise actions and distinguish among alternative courses of action.

The application of the risk management process throughout the life cycle of a project helps guide decisions on whether the project should proceed, the manner in which it should proceed and the nature of the eventual design. It provides the basis for challenging assumptions and preconceptions. It leads project managers to take actions to reduce uncertainty for the organisation's objectives by adapting the way in which the project is undertaken and the nature and design of the eventual outcomes.

Assessing risk and considering the costs and benefits of risk treatment actions are powerful tools to help distinguish between alternative plans, designs and business outcomes. This allows a project team not only to compare the risk profiles of options for the business case, execution plan and design for the project but also to factor in the relative costs of risk treatment that may be required for each option to present an acceptable level of risk.

RISK MANAGEMENT ADDRESSES UNCERTAINTY EXPLICITLY

The project management cycle can be viewed as a process for the resolution of uncertainty in the business case for the investment, the plan of work to achieve the predicted business

case outcomes and the design of the project deliverables. All managers should explicitly take account of uncertainty, the nature of that uncertainty and how it can be addressed, particularly for important decisions and in critical processes.

RISK MANAGEMENT IS SYSTEMATIC, STRUCTURED AND TIMELY

As with all aspects of project management, the risk management process should be based on the application of systems of structured thinking that ensure it is comprehensive, repeatable and defensible so that decisions based on it are reliable. Adopting all (not just some) steps in the risk management process is vital to ensure reliable and useful outputs. Similarly, unless the framework for managing risk within the project contains all the necessary components to both fully express the organisation's intent and to provide the required capacity to manage risk, it is unlikely to be effective and will not create full value.

A systematic, timely and structured approach to risk management contributes to consistent, comparable and reliable project decisions, to the efficiency of project management processes and to the benefits of the project.

A sound risk management framework should be applied from the earliest phases of a project and continue throughout the life cycle. Risk management is a key component of front-end loading for projects, and it has been shown that front-end loading is a major contributor to successful project outcomes (Merrow, 2011).

RISK MANAGEMENT IS BASED ON THE BEST AVAILABLE INFORMATION

The inputs to the process of managing risk in a project are based on information sources such as technical and engineering analyses, physical site and equipment inspections, test results and progress reports, supplemented with historical data, experience, stakeholder feedback, forecasts and expert judgement. Because the risk management process and risk assessment, in particular, challenge assumptions and preconceptions when decisions are made, it is important that the information used is demonstrably credible and can be relied on.

Those involved with managing risks in a project and making associated decisions should inform themselves of any limitations of the data or modelling used, uncertainty in the information available or the possibility of divergence among experts, and should take these limitations into account.

RISK MANAGEMENT IS TAILORED

Risk management activities should be adapted to reflect the nature and setting for the project, the external and internal factors that create the sources of uncertainty, and the level of uncertainty and complexity associated with the project.

Ordinarily, the level of effort dedicated to specific risk management activities and the depth and rigour of analysis will be adjusted according to the complexity of the project, its

importance to the organisation and the significance of the decisions that have to be made. If a project is large, highly complex and vital to the organisation in terms of value creation, then the risk management process should be fully integrated into all aspects of the project where decisions are taken, to resolve uncertainty and to maximise the value of outcomes.

All applications of the risk management process should contain all steps in the process and the general form of the risk management framework should be the same for every project. However, for efficient integration to occur, the approach to risk management must be adapted to suit the organisation and its needs, culture, language and project management processes.

As each project is different and faces different risks with a different context, the approach to risk management must be tailored to the decision making environment and project management process. Standard, generic methods, especially if they are driven by proprietary software systems, are unlikely to be as useful or efficient as approaches that are customised to meet a particular project's needs.

RISK MANAGEMENT TAKES HUMAN AND CULTURAL FACTORS INTO ACCOUNT

Managing risk effectively requires engagement with many stakeholders, both inside and outside the project. The capabilities, perceptions and intentions of people and organisations that can facilitate or hinder achievement of the project's objectives should be taken into account when managing risk. One of the key objectives of 'tailoring' should be to adapt the risk management process to reflect the cultures, skills, knowledge and attitudes of the people within the project team and within the organisations involved in the project.

The approach to managing risk must take into account the attitudes of key stakeholders and of the community where the project is to be undertaken and the location of the assets, products or services created by the project.

Human factors are important in setting the approach to risk and the way risk is managed during the project. For example, the project schedule should reflect the attitude within the project team to keeping to deadlines and the resolution of delays and problems, and the design of the project deliverables should take into account those who will be operating, maintaining or interfacing with them.

RISK MANAGEMENT IS TRANSPARENT AND INCLUSIVE

Managing risk for a project necessarily involves people because:

- The interests of people are part of the organisation's and the project's objectives.
- People will need to take (or not take) particular actions in order for risk to be managed effectively.
- People have much of the knowledge and information on which effective risk management relies.
- Some people might have a right to be informed or consulted.

Appropriate and timely involvement of stakeholders and in particular decision makers at all levels of the organisation ensures that risk management remains relevant and up to date.

One of the early and continuously applying steps of the risk management process is consultation and communication. This is also an important component of a framework for managing risk. Communication and consultation allows stakeholders to be represented properly and to have their views taken into account in determining risk criteria.

By involving stakeholders in the process for managing risk a project team can ensure that decisions based on it are reliable and gain acceptance and ownership. This is particularly important where project success relies on controls whose effectiveness is the responsibility of others inside or outside the organisation.

RISK MANAGEMENT IS DYNAMIC, ITERATIVE AND RESPONSIVE TO CHANGE

As a project matures, its external and internal environment varies, events occur, context and knowledge change, controls are implemented, new risks emerge, and monitoring and review take place. The approach for managing risk will need to be adapted to the changing circumstances if it is to remain effective.

This implies that the framework for managing risk should include aspects that keep risk management current and help project decision makers to continually identify, understand and respond to change. The iterative and cyclical nature of the risk management process must be maintained to ensure the project management team has a correct and current understanding of the project's risk profile and that risk treatment actions reflect current conditions.

The way the risk management process supports decisions will change as a project matures and develops – in keeping with the way the nature and purpose of decision making change.

This flexibility has implications for the design of the risk management framework and for particular applications of the risk management process. Neither can be rigid or generic if they are to be fully responsive to the project's needs.

RISK MANAGEMENT FACILITATES CONTINUAL IMPROVEMENT OF THE ORGANISATION

Mechanisms for improving an organisation's approach to managing risk should be part of the project risk management framework. These mechanisms should include the setting of performance measures for risk management, for evaluating the maturity and effectiveness of risk management processes and for periodic reviews of the approach.

These reviews can be conducted by the project team using a suitable protocol, or they may be conducted by an assurance provider, such as an internal audit or external consultant. They may be aligned with other organisational improvement activities.

KEY TERMS

Risk management principles

Project value

Integration

Decision making

Stakeholders

Uncertainty

Tailoring

Human and cultural factors

LEARNING OBJECTIVES

1. List the principles of good risk management in a project.
2. How can the principles be used to improve organisational performance?