



Project Risk Management Handbook

| Bart Jutte

The invaluable guide for managing project risks

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Preface

I have been active in projects for more than a decade now. These projects covered different market segments, such as the oil and gas industry, construction industry, banking and IT. What triggered me in the course of time, is that each project experienced events that profoundly changed its outcome. Failed field tests, non-working technology, an abundance of customers and investors that withdrew their investments, are just a few examples of what I encountered. I discovered that many project teams were poorly prepared for these uncertain events and therefore suffered unnecessarily. This realization became a fundamental drive for me to explore the field of project risk management in depth.

This handbook Project Risk Management aims to better prepare you and your project team for the uncertain events that may occur in your project. The information in the book is as practical as possible. It guides you through risk country, raises questions and offers the opportunity to assess how your project and company are doing. The book is based on my personal experience, but I have also used the large body of literature on risk management that is available.

A handbook such as this one is always evolving. Therefore I would like to receive feedback from you and hear what your experiences are if you are whilst applying the information from this book. Also if you want to share your project risk management experiences, I would like to hear from you! It will help me to improve this handbook. You can reach me via the following e-mail address: bart.jutte@mantaba.net. You can also check out my website on project risk management, www.mantaba.net. You will find additional articles and interesting links there.

I wish you every success in applying risk management in your project and hope and expect that you, your project and your company will reap the benefits!

Bart Jutte
May 2009

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Introduction

Why would a company care about project risk management? Project managers are already busy enough and extensive discussions on risks could prove to be only a nuisance. The answer is simple: good risk management is very profitable.

Surveys show that time and time again many projects run over budget and deliver inferior products. Consequently, the project teams have increasing burdens. Active risk management provides a method to cope with the increasing complexity and short leadtimes that are present in today's projects. Risk management allows you to obtain control of the uncertain events that may affect your project. This prevents project disasters happening, and enables you to utilize certain opportunities that arise.

Who should read this book?

This handbook is written for project managers, and provides the necessary tools to apply risk management in projects. The emphasis is on how to deal with project risks. Short tests provide instant insight into important issues for their project and organization. Risk methods are briefly explained and clarified with examples.

The handbook is also recommended for senior managers and consultants. They will find the tools to assess the need for project risk management and how well risks are managed within projects and companies. The book also gives tips to avoid common pitfalls that companies encounter when they implement project risk management. Risk analysts will find a useful overview of the analytical methods that are available and will learn their advantages and disadvantages. This allows them to select the best method for the job at hand.

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How this book is organized

The risk process and the risk concept are central to this handbook. Chapter 1 describes the core concepts and added value of risk management and is the best start for any reader. Chapter 2 deals with the introduction of risk management in your company and is interesting if you are about to apply risk management for the first time or want to implement it throughout your company. Chapters 3 and 4 explain how to setup risk management in your project and how to identify risks. This information is especially valuable for project managers. Chapters 5, 6 and 7 explain how to prioritize risks and what type of analysis you can use to understand them better. This knowledge will help you to choose the methods that have the best return on investment for your project. It will also enable you to ask the right questions to risk management experts.

Responses to risks and risk tasks are addressed in Chapter 8 and 9. You will learn what responses to consider and which measures have the highest impact in certain situations. Also an overview is given of useful decision-making methods. The final chapter is about learning and evaluating your risk management efforts. This will help you to improve risk management in new projects and to take your company's projects to a higher level.

Your project

A handbook like this is only valuable if you use the available information and suggestions it contains. You may be able to apply some parts of this handbook directly to your own project practice. However, each project is unique and you will therefore need to adjust certain information to the special circumstances that you encounter. If so, you should use the handbook as a source that outlines the possibilities and their advantages and disadvantages.

1

Key concepts Project Risk Management

“Take care of the difficult things
while they are still easy”

Laozi

1.1 Introduction

Projects are becoming increasingly complex and the pressure is increasing to deliver results quickly. Many companies have responded to these trends by starting initiatives to professionalize project management. This has resulted in more attention for project risks, as they can have a large influence on project results. Another stimulus has been the pressure on larger companies to be transparent about the risks they face.

This chapter introduces the concept of project risk and describes the steps in the risk management process. It also explains the added value of proactive project risk management.

1.2 Project risk

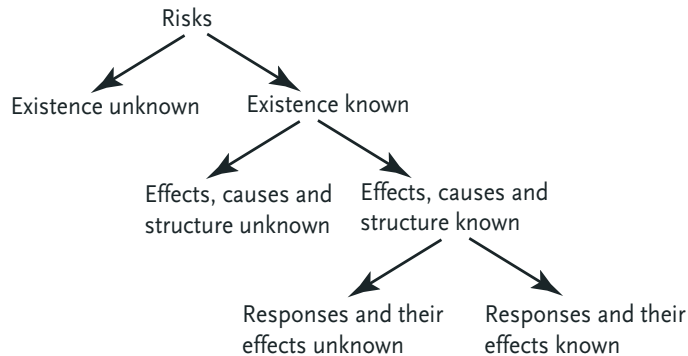
Risks are at the core of risk management. This handbook uses the following definition: “A project risk is an uncertain event that, if it occurs, has a positive or negative effect on the likelihood to achieve project objectives.”

A number of key elements of the definition are explained below:

- **Uncertain event:** something that may or may not happen, e.g. a team member takes ill or the temperature drops below a certain point making a chemical process impossible.
- **Positive or negative effect:** project risk can be negative for a project (increased costs, decreased quality etc.), but can also be positive (new valuable product features due to the use of new technology or opening up of a new market segment due to some project adjustments).
- **Project objectives:** the project goals are at stake if a risk occurs. Severe negative risks can lead to the cancellation of a project. Minor risks may slightly increase the lead time of a project.

The more you know about a risk, the better. The ideal case is that you know exactly what a risk is composed of, how it can affect the project and what efforts are needed to resolve it. In practice, this usually means that a company has gained experience with a specific risk in previous projects. The project team may then deal almost routinely with such a risk.

The other extreme is that a project team is not aware of the existence of a risk. If such a risk occurs, the team is taken by surprise and has little time to respond. Usually they resort to ad hoc responses and make the best of it. Figure 1.1 shows the extent of knowledge of a risk using the metaphor of an iceberg that could be largely hidden below the water level.



*Figure 1.1: Risk iceberg, the degree of knowledge of a risk
The better a risk is understood, the better the possibilities are to respond effectively.*

The fundamental premise of project risk management is that it is valuable to gain insight into the nature of risks before they take place and pro-actively take action to favorably influence them. The remainder of this handbook describes how to do this in a practical and professional manner.

1.3 Risk management process

Project risk management is about the activities that a project team or company carries out to optimize project risks. This handbook uses the following definition for project risk management:

“Project risk management is the systematic design, implementation and monitoring of actions to identify, prioritize and analyze project risks and to devise, select and implement responses to optimize these risks.”

The key concepts from the definition are explained below:

- **Systematic:** project risk management is a structured method to deal with risks, including clear responsibilities, priorities and tasks. This contrasts with an ad hoc approach that relies on luck to succeed.
- **Action:** performing tasks is central to risk management. In essence, it is about head, hands and eyes: to think up tasks, carry them out and monitor if they materialize (see Chapter 9).
- **Identify:** This is the process to discover the project risks that may be present. What risks form an opportunity or threat to the project? (see Chapter 4).
- **Prioritize:** Sorting the risks in order of importance. This enables the project team to deal with the largest risks first (see Chapter 5).
- **Analyze:** an understanding of risks is a precondition for taking effective measures. Analysis looks at the characteristics of individual risks and the relationship that exist between risks. Analysis can be qualitative or quantitative (see Chapters 6 and 7).
- **Responses:** a perfect analysis is beautiful, but it only adds value if it results in workable responses that change a project's risk profile (see Chapter 8).

The different steps of the risk management process are shown in figure 1.2. Project teams often go through these steps multiple times during a project as a result of new insights and project developments..



Figure 1.2: Risk management process

Risk management begins with identifying risks and ends with the implementation of appropriate responses.

Risk management also has supporting processes. Communication is crucial: the project manager, team members, project board and stakeholders must discuss risks and the accompanying tasks. Research shows that a team member knew of the fatal risk in many failed projects, but that the project manager did not. This causes unnecessary project failures. Knowledge about present project risks is the first essential step towards action. Communication could be a team meeting, a brain storm session on the risks and responses, but also the distribution of progress reports and analysis for decision making.

Other supporting processes are activities to set up and evaluate the risk management efforts (see Chapters 3 and 10). Furthermore, the introduction of systematic risk management in a company could be regarded as a support process (see Chapter 2). This requires that sufficient time and support are available in the project management team and the management team.

1.4 Added value project risk management

“Our IT project was doing fine, good people and almost on schedule. Unfortunately I overlooked a strategy change from the corporate headquarter that made our entire project obsolete.”

PROJECT MANAGER OF A BANK

The question what the added value is of risk management, is a legitimate one, and it is asked on a regular basis. Nobody is waiting for a new methodology that demands extra time and effort in the hustle and bustle of everyday working life. The answer tot the value-add question is simple: good risk management is very profitable.

Figure 1.3 shows schematically how the profit margin of a project increases with risk management. The project team can better exploits opportunities for additional revenue. An example is adding an extra product feature, which increases the sales price or makes the product interesting for a new market segment. Reducing costs is due to the elimination or reduction of project threats. An example is the termination of a cooperation with a bad supplier.

Risk Management increases the sense of reality in projects. The project manager incorporates risks in the plans and budgets. This gives insight in the expected effects of risks in advance. A supervisor who approves projects, is thus enabled to make trade-offs between risks and project revenues. This can be confrontational, as a manager probably had a shorter lead time and a smaller budget in mind. A quick confrontation with the project risks, however, offers the opportunity to stop or alter risky projects in time. This gives a company a large advantage, as this might mean resources become available for other useful activities instead.

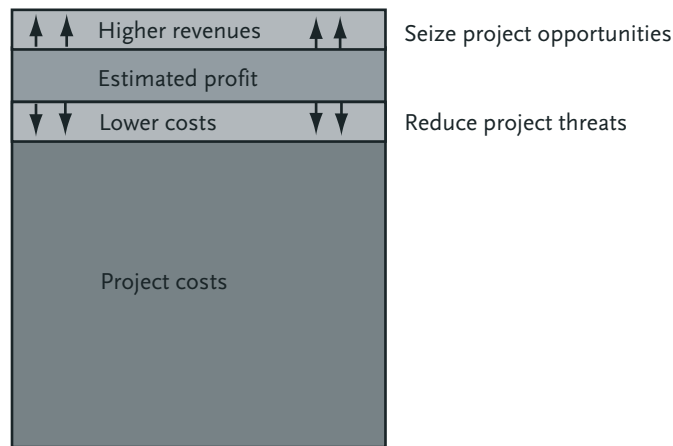


Figure 1.3: Added value project risk management

You earn money with risk management, because you prevent unnecessary costs and generate additional revenues.

A company usually carries out multiple projects concurrently. Risk management helps to ensure the success of these projects. This ultimately results in a higher profitability for a company. Risk management also enhances the capacity of a company to conduct innovative and complex projects. This will improve the reputation and competitiveness of the company.

Increased predictability, openness about and control of project risks will lower stress of project staff. Firefighting and working overtime to resolve unexpected issues and crises in the project, will decrease. Project risk management will thus make a vital contribution to a company with a culture where trust and open discussions on uncertainties are important.

About the author

Bart Jutte (1971) has specialized in project risk management and innovation management. He is the founder of Mantaba, a company that provides consulting services and software solutions to improve project risk management in companies. He started his career in an innovation consulting firm before joining a number of high-tech startups.



He has worked as a consultant and business analyst for a number of multinationals that include Philips, Royal Dutch Shell, ABN AMRO, ING and Heineken. He has also advised multiple entrepreneurs how to manage the project risks of their new ventures.

Bart is a strategic and conceptual thinker who knows how to translate his ideas into practical solutions. Examples are the novel cause analysis model and the method to measure the risk maturity level of a company that he introduces in this handbook.

Bart has studied industrial engineering and management at the technical universities of Eindhoven (The Netherlands) and Karlsruhe (Germany). He regularly publishes articles on innovation, software and, of course, risk management.

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