Chapter 34
Easier Identification of Risks and Uncertainties With Project Risk Constellations

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ABSTRACT

Although various tools are available to support the risk management process, difficulties are encountered when project risk management is carried out in practice. It occasionally seems difficult for project managers to grasp the whole complexity of a project, identify the essential risks and react accordingly. The aim of this chapter is to introduce a tool that can help managers identify project risks, learn about their dynamics within the project and, consequently, formulate better ideas of how to address the risks. Project Risk Constellations are the spatial representations of explicit and implicit knowledge of the relationships, orders, hierarchies, dependencies and communication patterns of a project. They provide multi-dimensional and multi-layered information and reveal deeply rooted mechanisms. They quickly enable project managers to better understand the dynamics of their project, the intended and unintended impacts, ambiguities as well as project risks and uncertainties.

INTRODUCTION

When thinking of project success project complexity, risks, uncertainties, and ambiguities are linked together, with proper risk management being considered one of the key elements of project management. (e.g., Simister, 2004; Thamhain, 2013)

The number and variety of potential project risks is high, and these risks range from personal, internal, organizational, technical and commercial risks to economic, environmental and political risks. Apart from quantitative risks, a number of qualitative risks influence a project's success: diverging expectations and interests among internal and external stakeholders concerning one another or how project success is perceived; severe gaps between formulated project goals and the short-, medium- and long-term outputs, outcomes and impacts that they actually result in; and ill-defined project goals (Turner

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& Cochrane, 1993). Much of the complexity that creates severe challenges for project managers comes from the social aspect of projects; "behavioral complexity" and "dynamic complexity" make projects "wicked" (Roth & Senge, 1996).

Numerous tools are available to support the various phases of the risk management process. However, difficulties are encountered when project risk management is actually carried out in practice. It occasionally seems too difficult for project managers to grasp the whole complexity of a project, identify the essential risks and react accordingly. This is true for most types of business projects but also for business related research and R&D projects.

The following chapter introduces an innovative systemic tool that helps identify risks and uncertainties and understand their dynamics and effects on the project: Project Risk Constellations. A detailed description of a research project case study provides insight into the specific lessons for this particular project as well as general conclusions for risk and uncertainty management for business and business-related projects.

The objectives of this chapter are to

- Provide general information about systemic constellation work.
- Offer specific insight into the principles and use of Project Risk Constellations
- Show the application of Project Risk Constellations to identify risks and uncertainties and the understanding of their dynamics and effects in a specific research project on CSR (Corporate Social Responsibility) assessment for multinational corporations
- Raise awareness for complex stakeholder dynamics and related risks and uncertainties but also for opportunities

BACKGROUND

Risk management is an issue in different types of projects, such as general business projects, innovation projects or R&D projects. Though the type of risk differs, the challenges in identifying risks and applying risk management are similar (e.g., Sanchez & Perez, 2004; Thamhain, 2007). Therefore, the literature review presented here refers to all types of projects; if appropriate, special characteristics of research projects are noted.

The purpose of the following paragraph is twofold. On the one hand, the term 'risk management' is expanded to risk and uncertainty management and includes the issues of early warning signs and project ambiguities. On the other hand, special attention is given to the social aspects, such as risk and uncertainty perception and awareness of project owners, managers or team members, on related reactions, and on communication issues. Project Risk Constellations, which is the method presented later in this chapter, have a high potential to support project risk management concerning those aspects.

Complex Projects Are Difficult to Manage

There is broad agreement that the more complex a project is, the more difficult it is to manage (e.g., Geraldi & Adlbrecht, 2007; Remington, 2011; Thamhain, 2013). Because complexity is not easy to grasp in general, several attempts have been made to explain and define complexity *of* or *in* projects (Cooke-Davies et al., 2007). Remington (2011, p. 24) very practically describes "a complex project as