


# Risk Management in Information Systems Projects: It Can Be Risky Not To Do It

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## ABSTRACT

Information technologies (IT) and information systems (IS) are the backbone of any developed business, and organizations without them cannot compete. In recent decades, many best practices standards, and guides have been made available to project managers and organizations aimed to improve project management. Unfortunately, IS projects continue to show a poor track record, and problems related to project management performance persists. Risk management has a vital role in this context since it can increase the likelihood and impact of positive events, and decrease the likelihood and impact of adverse events in the project. This article presents the results of an international web-based survey, studying if risk management processes are being implemented consistently in IS project management. The obtained results show low levels of risk management processes implementation and reinforce the idea that “it can be risky not to do risk management,” demanding more research in this area.

## KEYWORDS

Information Systems, Information Technology, Processes, Project Management, Projects, Risk Management

## INTRODUCTION

An information system (IS) project is a temporary endeavor undertaken to create a unique product, service, or result (PMI, 2017), as the deployment of a commercial-off-the-shelf application, a consultancy assignment, the transformation of a business process by using IT, the renewing of an information technology (IT) infrastructure, among others. A distinctive feature of IS projects is the fact of being socio-technical undertakings carried out to improve an organization and to achieve business benefits (Varajão, 2018b).

Active IS project management is essential in the context of the development of successful projects. That is particularly evident in large IS projects, where the need for guarantying a competent project management structure becomes crucial due to the complexity involved.

Despite the attention that project management has received in recent years, in many cases, the projects are still not providing the expected outcomes or success rates (Varajão, 2018a). For instance, IS projects should enhance firm performance (González-Gallego et al., 2014), but evaluations frequently reveal that organizations are failing to achieve the intended benefits from their IS investments (Coombs, 2015).

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A common characteristic of failed projects is the lack of effective project management (Langer et al., 2008). Risk management is an important part of project management as it comprises processes such as identification, analysis, response planning, response implementation, and monitoring risk on a project (PMI, 2017). Efficient project risk management is lauded to increase the likelihood and impact of positive events, as well as to decrease the likelihood and impact of adverse events in the project.

Given the recurrent IS project management performance problems and the importance of risk management to project success, the purpose of this article is to address a gap in the literature by studying if risk management is being consistently implemented in IS projects. To do it, we have conducted an international survey with experienced project managers.

This article is organized as follows. The following section presents some fundamental concepts of project risk management. The research design and methodology are described next. Then, the key findings and results are presented and discussed. Finally, we conclude with the main insights as well as with some highlights for further research.

## BACKGROUND

All IS projects are risky since they are unique undertakings with varying degrees of complexity that aim to deliver benefits (PMI, 2017). In discussing risk management, it is necessary to consider two main aspects. The first is about understanding and defining the notions of uncertainty and risk. Knight and Frank (2012) make a distinction between measurable uncertainty (which can be considered risk) and non-measurable uncertainty. One can assume that risks are related to events that are either perceived or perceptible and the likelihood of which can be estimated (Hofman and Grela, 2018).

A general dictionary definition states that risk is “the possibility of loss or injury.” This definition highlights the negativity (“loss or injury”) often associated with risk and points out that uncertainty (“possibility”) is involved (Schwalbe, 2018). On the one hand, following PMI (2017) definition, a risk is “an uncertain event or condition that, if it occurs, has a significant positive or negative effect on at least one objective.” This means that, in a project, we can have negative risks, but also positive risks (thus having a positive effect on meeting project objectives). IPMA (2015) distinguishes risks (negative effects) from opportunities (positive effects), stating that they should always be viewed considering their relation to and consequences for realizing the objectives of the project.

Risk can exist at two levels within the project (PMI, 2017): 1) individual project risk, which is an uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives; 2) overall project risk, which is the effect of uncertainty on the project as a whole, arising from all sources of uncertainty, including individual risks, and representing the exposure of stakeholders to the implications of variations in project outcome (both positive and negative).

When unmanaged, these risks have the potential to cause deviations to the project’s plan and fail to achieve the defined project objectives. Consequently, the effectiveness of Project Risk Management is directly related to project success (PMI, 2017). According to PMI (2009, p. 4), “Project Risk Management aims to identify and prioritize risks in advance of their occurrence and provide action-oriented information to project managers. This orientation requires consideration of events that may or may not occur and are therefore described in terms of likelihood or probability of occurrence in addition to other dimensions such as their impact on objectives.”

The goal of project risk management can be viewed as minimizing potential adverse risks while maximizing potential positive risks (opportunities) to optimize the chances of project success. Managing negative risks involves several possible actions that project managers can take to avoid, lessen, change, or accept the potential effects of risks on their projects. Positive risk management is like investing in opportunities, aiming to exploit or enhance it (Schwalbe, 2018).

Despite being a frequently overlooked aspect of project management, risk management can result in significant improvements in the ultimate success of projects (Schwalbe, 2018). By implementing risk management processes, it is possible to increase the likelihood of attaining the project’s

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