

# Risk Management in Information system

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## Introduction

Risk can be defined as a situation ending up with negative consequences. As by nature of projects, risks are always there; thus, managing them is essential to realize the project in a smooth way. Risk management is the science of identifying, analyzing, and managing risks throughout a project's life. If followed properly, it provides significant improvements to the outcome of the project, from selecting a project to the work phase to the completion stage (Talet, Zin, & Hourari, 2014).

## Discussion

Information system projects are developed to implement expanding the range of equipment, run applications, and provide services and basic technologies with the purpose of operating, managing, and making well-informed, timely decisions and functions in an organization. Inherent vulnerability and expectations to deliver the information system projects may lead to failure. Thus, risk management is an integral component of the successful completion and smooth running of projects (Sicotte & Bourgault, 2008).

Information system projects are vulnerable to a reduction in resources. Aided by the complexity of technical aspects, interdependencies of systems, system interferences, lifecycle management, miscommunication and misunderstanding between the people involved in the project, and sudden or inherent malfunctionings in parts or systems required for the project, advances in the technology can make it difficult to manage a project. These uncertainties and shortcomings in human resources and systems and time frames force the project managers to maximize the available resources to ensure the delivery on time without overshooting the allocated budget.

Information Systems at the heart of core business facilitates timely and more accurate management decisions with enhanced ability to foresee, respond to and react to the increasing demand of the marketplace. A vibrant and responsive business strategy centers on an up-to-date, aggressive, flawless, and efficient utilization of information technology (Bakker, Boonstra, & Wortmann, 2010).

Project risk involves the probability of an event occurring that is likely to affect the project objectives in a negative way, as measured by the likelihood and the magnitude of consequences. Thus, risk management must be at the center of a project and practiced for successful delivery. Risk management in IT projects may be divided into five steps, which include establishing context, risk identification, risk analysis, risk treatment, monitoring, review, communication, and consultation to minimize future events. [Risk assessment](#) enables us to establish criteria to evaluate the threats and

vulnerabilities, leading to risk mitigation, where the determined risks are eliminated or minimized by planning measures and controlling the outcomes. Finally, risk reassessment evaluates the remaining risk after mitigation steps have been taken to determine the appropriateness of the steps taken and check their viability before the final go (Đurković & Raković, 2009).

In order to deal with risk, strategies are developed to respond to unlikely consequences, which include avoiding or not undertaking the activities that may increase the likelihood of an event, reducing the probability of a risk event or reducing the impacts of the event, transfer of risk partly or completely to another party, and retention of risk. Failure to recognize risks specific to a project and recognition that different types of projects involve different types of risks (Bakker, Boonstra, & Wortmann, 2010).

In an IT setting, risk may vary in severity, consequence, magnitude, and nature. Thus it is important to identify major risks understand them, and come up with ways to reduce them. Conventional sources of risks in IT projects may be many at all the steps from project conception, planning, implementation, and running. Thus, the goal of risk management is to perform by properly safeguarding informatics and systems that process, store, or transfer information (Sommerville, 2006).

The IT project may include software development, communication or implementation of security infrastructure, outsourcing, etc., which are more likely to fail than other types of projects. The risks in the sector are divided into subcategories, which include technological risk, financial risk, information risk, security risk, human risk, business process risk, external risk, and management risk (Đurković & Raković, 2009).

At the start of a project, the project awarded to the contractor may not be skilled enough to carry out the project, litigations in intellectual property rights, friction between the contractor and client, harmful market completion, redundancy of the software, human weaknesses, such as personal shortfalls, below par skill of the staff, nonsupportive political and economic circumstances, the addition of unrelated requirements to the final product, application of the software not performing the purposed task, inadequate production system performance, incomplete requirements, poor user interface, management activities and control in the form of unreasonable project scheduling, repeated changes in requirement from the client side, poor leadership, going out of track from the proposed objective by individuals working on the project and more than realistic expectations on behalf of the marketing team, and reduced opportunity due to overshooting of completion time. However, risks are myriad and look cumbersome to follow and deal with in the course of the project. Nevertheless, prioritizing and ranking the most common and worst risks helps manage them effectively without causing an extra burden (Sommerville, 2006).

To manage the risk, there are no hard and fast rules. It can be managed by taking various approaches with equal success. Thus, it is at the discretion of the managers who undertake the risk management to favor one method over the other, taking into account the material, human, and financial efforts

required.

To reduce the risk of inadequate third-party risks, the contractor can be screened before selection, and after selection, their performance can be monitored. In addition, retaining the right to remove unfit contractors minimizes the risk of this issue. Engaging in consultative management, thoroughly communicating the contract conditions, and considering personal attributes before embarking on the project with a contractor can reduce the threat of friction between the client and contractor and litigation risk. To avoid the risk of diminishing opportunity due to late development and delivery of software, sound project planning, and timely implementation is important, ensuring appropriate provision of resources, and keeping the management on board and managing expectations of various stakeholders this could be achieved. To counter competitors' risk of capturing the market, managers can come up with plans such as developing customer relationships and keeping market barriers to a minimum so success at the launch of the product can be made certain. To avoid redundancy of the product, sound business requirements must be taken into account by taking into confidence major stakeholders of the project. To overcome the risk of personal shortfalls, the project manager must plan for resources, keep contingency options open, and obtain services from external parties. To avoid mid-route changes on behalf of the client, the requirements and expectations must be properly communicated and addressed. One of the major risks in IT sector is the fitness of the developed application, to ensure the project does not lead to failure, the development of clear requirements definitions is essential, in addition to reviewing the work in groups. Sometimes, the absence of single-point accountability makes the stakeholders lackluster; the roles and responsibilities of the involved staff must be described clearly. To tackle the risk of poor leadership, care must be taken in the selection of managers. Conducting group reviews and developing requirement definitions plainly can prevent the risk of developing unwanted software functionalities. Similarly, the risk of over-specification of the product can be minimized by monitoring and reviewing development to baseline design, sticking strongly to required definitions and objectives (Talet, Zin, & Hourari, 2014).

The most useful suggestions to minimize the risk are ones that are easy to implement in a changing and challenging environment, suggestions to make sure the project does not fail or be late completion of the project, and give authority to a vibrant manager with effective communication skills, in addition to clear communication of the client needs to make sure no mid-route changes have to be made can be very handy and useful for any organization including the one I am currently associated with. The combination of the above suggestions can ensure the timely completion of projects with minimum setbacks (which cannot be avoided completely) during the course of action.

No workplace is an ideal place, so according to my observations, some of the suggestions given above for risk reductions cannot be implemented in my organization; these include clearing scope definition with the stakeholders due to diverse backgrounds and extensive scope of work performed in the workplace; daily monitoring of the project to make sure it is on track is not a viable option, yet it could be done on a weekly basis by the team leaders, and last but not least managing the expectations of the stakeholders is not a feasible option due to ever-changing nature of the IT market.

## Conclusions

Identification of potential risks and coming up with appropriate actions to minimize them is a challenging task in the IT sector. Originating from personal shortcomings to cost, quality, group project, and from tens of other sources further complicate the process of managing risk. Yet, the concept of risk management, which helps identify and prioritize risks of various magnitudes and levels, helps us to minimize and control the factors that may lead to project failure. Risk identification, reduction, and proper communication are ways to ensure the successful and timely completion of projects with the planned outcomes. In this regard, forming a checklist and referring to it throughout the lifecycle of the project could help us implement the risk management tool properly and effectively.

## References

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