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Managing Project Risk

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Abstract

The purpose of this paper is to analyse the concept of project management and explain the processes involved in project risk management. Previous literature on the subject of project risk management in conjunction with the PMBok is used as a base for the analysis of project risk management.

The PMBok and literature revealed that despite the fact that project risk management differs from project to project and is influenced by project size, type and complexity (Omidvar, 2011), risk management generally follows a continuous cycle of risk identification, analysis, responds and control (Besner & Hobbs, 2012). This paper explains that these processes require the utilisation of certain tools and techniques to ensure effective project risk management. Furthermore, this paper highlights the need for collaborative team effort in risk mitigation and the importance of effective communication of risk responds measures to relevant project team members.

From these analyses, the paper concludes that project risk management is critical in ensuring that project objectives are successfully accomplished to clients' satisfaction.

Introduction

Risk is defined as an event, a condition (Boehm & Turner, 2003) or an uncertainty (Besner & Hobbs, 2012) that has the potential to have either a negative or positive effect on a project (Hillson, 2009). This positive effect is generally regarded as an opportunity rather than a risk (Hillson, 2009). The nature of the uncertainty in risk and its differentiation is debated amongst authors such as Boehm and Turner (2003).

They differentiate the two stating that an uncertainty is immeasurable while a risk is measureable. An uncertainty is a random probability of an uncontrollable event occurrence. This therefore renders it immeasurable. Project risks are inevitable and as such necessitate the need for risk mitigation to facilitate the consequences of foreseeable threats (Besner & Hobbs, 2012).

Risk management is a prescribed process, often defined prior to project commencement, designed to alleviate the effect of risks on any given project to ensure that project objectives and goals are not compromised (Hillson, 2009).

Projects managers often opt for proactive risk management whereby risk assessment is continuous and runs throughout the project life cycle, as opposed to a reactive risk management (crisis management) of putting in measures after the crisis has occurred. This process is subjective to the project manager (or relevant authorities) on project but generally include identification, analysis, response and monitoring (Thamhain, 2013). Most project managers utilise risk management tools as aid in the risk management process. These tools serve as a means of measuring the level and strength of threats posed and its effect on cost, time and sometimes quality. These processes will be explained further in this paper.

Aim and objective(s)

The intended aim of this paper is to:

- Analyse the concept of managing project risks.

And the objectives are to:

- Define risk and risk management
- Outline and explain the risk management processes.

Literature Review

This session is a review of articles, journals and publication of authors and relevant bodies concerning the subject matter of this paper. A general analysis of these articles and a synthesis of the different views will be collated to provide a summary of the key processes involved in project risk management.

The uncertainty of project risks and its ripple effect on project works throughout the project life cycle thrusts it to the forefront of project management as its resultant effects on cost, time and quality cannot be neglected (Thamhain, 2013). Managing project risks has been the concern of most project managers over the years and as such measures are constantly being improved to facilitate risk management on projects (Oracle Corporation, 2009). Project risk management involves rigorous risk management processes of initially identifying potential pitfalls and risks in the proposed project or project plan, analysing these risks and most importantly developing a strategic responds measure to dampen the negative effects of these risks (Boehm & Turner, 2003). Some project managers incorporate other dimensions of quantitative and qualitative analyses of the identified risks in an attempt to improve the risk mitigation process.

Although authors of risk management literature are of a common consensus on the core elements of risk identification, analysis, responds and monitoring, other authors

such as Thamhain (2013) argue that the levels, depth and rigorosity of risk management is dependant of the project type, size, complexity and the type of management culture (Thamhain, 2013). Due to the dynamics of risk mitigation, although the outline of risk management is done by the project manager, the process of identifying, analysing, and responding is done by the project manager and his (her) team (Muller & Turner, 2010). It is believed that the more involved the team members are in this process, the higher the chances of success in identifying and dampening the project risk effects (Omidvar, 2011).

For the purposes of this paper, the processes involved in project risk management will be termed as the risk management cycle of a project and will be explained in the subsequent sections.

The Risk Management Cycle

As the process of project risk management is highly influenced by organisational culture, project complexity and style of project management, the number of stages and tools involved in risk management is debatable and differs from project to project and author to author (Besner & Hobbs, 2012). Risk management, whether proactive or reactive, often follows a basic risk management cycle of identification, analysis, responds and monitoring as depicted in the illustration below.

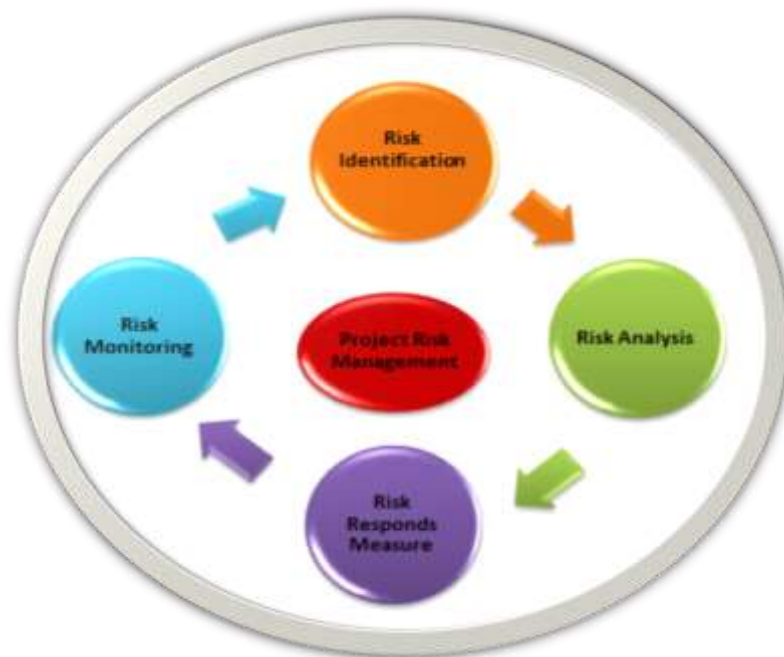


Figure 1 Risk management cycle

Risk Management Processes

Risk identification:

This commences the process of risk identification in the planning stage. Although this is largely done by the project manager, authors such as Muller & Turner (2010) recommend involving the entire project team in the process of risk identification to improve the chances of identifying the potential risks on the project (Muller & Turner, 2010).

Risk analysis

Risk analysis is done in two formats namely quantitative and qualitative analysis. Quantitative risk analysis is the process of determining or estimating the monetary value associated with the effects of the risks identified on the project. Qualitative analysis, contrarily, is a system of risk analysis used in determining the order of importance of the risks identified on the project. It is used as an aid in identifying which risks should be apportioned greatest attention on the project (Besner & Hobbs, 2012).

Risk response measure

This phase of risk management is aimed at strategizing a means of dealing with potential risks in the event of occurrence. In this phase, the project manager outlines steps that should be followed and assigns tasks to the project team as a measure of risk mitigation. This phase is critical and requires effective communication of the steps involved to the entire project team. Communication failure has been documented by authors such as Omidvar (2011) as the cause of failed risk mitigation and project failure. For this amongst many others, effective communication technique is a key competency of project manager in ensuring effective project management (Muller & Turner, 2010).

Risk monitoring and control

The purpose of risk monitoring and control is to ensure that threats of the averted risks (often referred to as residual and secondary risks) are kept at minimal levels throughout the project. This is a key component of project risk management that renders the process of risk management a cycle. Reason being that, during the monitoring and control phase, which is carried out throughout the project life cycle, the identification of further threats or risks set the cyclical process of risk analysis in motion (Thamhain, 2013).

Tools and techniques of Risk Management

There are various tools and techniques used in risk management at different stages of the project life cycle. The identification phase of risk management requires

probing, fact-finding and investigative techniques such as the Delphi Technique, Interviewing, brain storming and SWOT analysis. The collective nature of these techniques requires collaborative input of the project team as opposed to a singular effort by the project manager (Besner & Hobbs, 2012).

The risk analysis phase requires expert knowledge and understanding of techniques and tools such as the probability/impact matrix, PERT analysis, Simulation, Life Cycle Cost Analysis, Sensitivity Analysis and the Decision tree analysis on less complex projects (Thamhain, 2013).

The risk response and monitoring phase demands the use of strategic techniques such as risk exploitation, risk distribution, padding and risk dampening. These techniques aim to reduce the effect of risks upon occurrence (IPMA, 2008).

Conclusion & Learning

This paper has addressed the aims and objectives defined in the introduction. A thorough literature review in conjunction with the PMBok served as a foundation in establishing the main constituents of project risk management. This paper sums that project risk management, although influenced by project type, size and complexity, follows a cycle of risk identification, risk analysis, risk responds, risk monitoring and control throughout the project life cycle. Various tools and techniques used in risk management are identified to include SWOT analysis, PERT analysis, Simulation and risk dampening. It can be concluded that project risk management involves the effective application of risk management techniques and tools during the processes of identification, analysis, responds, and monitoring in an effort to control the effect of project risks.

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About the Author



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