



Study Of Risk Management In Construction Projects

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Abstract:

Construction industry is one of the most important industry in engineering field. For every construction industry it is necessary to do the project on time and within the budget to achieve the goal. But there are some problems occurs during execution of project which affect the cost and time of project. Risk management plays an important role in construction industry. Risk management in construction projects is very important process to complete the project goals as far as time, cost, quality, safety and environmental sustainability. Construction projects are one of the challenging task to complete as there are many problems come across during actual working of project. Hence it is necessary to face these problems so that we can achieve our goal. Risk management is one of the tool used in construction industry to minimize the risk related to the construction projects. This paper deals with what is risk, risk management, different types of risk.

Keywords

Risk, Risk Identification, Risk management, Types of Risk, Construction Projects.

1. Introduction

Risk is a continuously monitored integrated formal process for defining objectives, identifying sources of uncertainties, analyzing these uncertainties and responding to these uncertainties by formulating management responses, to produce an acceptable between risk and opportunities. Risk management is the process of identifying, assessing and controlling threats to organization's capital and earnings. Risk management is one of the nine knowledge areas propagated by the Project Management Institute.

Furthermore, risk management in construction project management context is a comprehensive and systematic way of identifying, analyzing and responding to risks to achieve projects objective. Risk and uncertainty can potentially damaging

consequences for the construction projects. Therefore, nowadays risk analysis and risk management continue to be a major feature of the project management of construction projects in an attempt to deal effectively with uncertainty and unexpected events to achieve project success. The benefits of risk management include analyzing and identifying risks, improvement of construction management process and effective use of resources.

2. METHODOLOGY

Method of Risk Management:

To study the process of risk management there are various methods used which includes literature review, followed by open interviews and distributing questionnaire to various agencies. The process of risk management includes Risk Identification, Risk Classification, Risk Analysis and Risk Response. Following steps will be used for risk management:

1. Identifying possible risk; recognizing what can go wrong.
2. Analyzing each risk to estimate probability that it will occur and the impact it will do if it will occur.
3. Ranking the risks by probability and impact- Impact may be negligible, marginal, critical, and catastrophic.
4. Developing a contingency plan to manage those risks having high probability and high impact.
5. The research methodology selected for this risk management project is literature review, interviews, questionnaire surveys to the various agencies like client, contractors, consultants of the project.

The chart of risk management process is as follows:

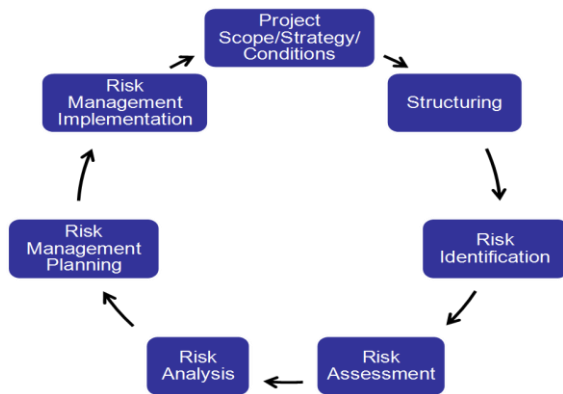


Fig. 1. Research Methodology Process Chart.

3. Objective Of Risk Management Study

The main objectives of risk management study are:

1. To plan and take management action to achieve the aims of removing or reducing the likelihood and effects of risks before they occur and dealing with actual problems when they do.
2. To continuously monitor impacts of risks, review the associated action plans, and provide and manage financial and schedule contingencies for risks should they occur.
3. Develop a common understanding of risk across multiple functions and business units so we can manage risk cost effectively on an enterprise wide basis.
4. Achieve a better understanding of risk for competitive advantage.
5. To build safeguards against earning related surprises.
6. To build and improve capabilities to respond effectively to low probability, critical, catastrophic risks.
7. To achieve cost savings through better management of internal resources and to allocate capital more efficiently.

4. Types Of Risks

Following are some types of risks occurred during construction project:

Financial Risks

This type of risk is associated with the financial problems facing by an organization during or before the project. Financial risk can adversely affect on the project. Financial risk can be occurred due to unstability of market rates either nationally or internationally.

Political Risks

Political risk is mainly related to government problems. Every construction firm faces problem of political risk which negatively affect the project. Political risk includes risk like changes in laws of construction policy, payment delays in case of government projects like infrastructure development, sudden increase in corporate or government taxes or change in government.

Legal Risk

Legal risk is the risk of non-compliance related to legal or regulatory requirements. There are many laws related to the labours, employment, health and safety, environment, etc. Legal risk may be occur if an organization not follow or apply these rules in practical. Also legal risk occurs in case of lease of land or property, contract document, etc.

Environment Risk

These are the risks related to the environment issues occurs during the implementation of the project. Environmental risk will be within control of an organization. Environmental risk has to be increased if the laws related to the environment are violated by construction industry during the implementation of the project such as air pollution law, energy conservation law for sustainable construction.

Force Majeure Risk

These are the risks which are out of control of all of the parties related to the project and cannot be prevented by concerned parties. These types of risks are distributed or shared equally among the all parties. Force majeure risks are divided into types: natural force majeure risk and artificial force majeure risk. Natural force majeure risk includes events like floods, earthquakes, cyclones, etc. Artificial force majeure risk involves events like wars, movements, etc.

Operating Risk

Operating risks are those type of risks which occurs during the operation or execution of the project. Operating risk occurs due to poor planning, improper design and improper execution of the work. There are lot of reasons to occur operating risk such as unskilled labours, employees without proper training, methods used for the construction of the project, etc.



5. Result

From above theoretical study the expected result should be such that the risk management is the helpful tool in construction projects to reduce the possibility of uncertain events which will be happen in future during the execution of the project.

6. REFERENCES

1. Mr. Satish K. Kamane, Mr. Sandip A. Mahadik, Risk Management in Construction Industry, ISSN: 2278-1684, PP: 59-65.
2. Chaitali S. Pawar, Suman S. Jain, Jalinder R. Patil, Risk Management in Infrastructure Projects in India, ISSN: 2349-2163, Issue 4, Volume 2(April 2015).
3. Divya Gupta, Manoj Sharma, Dr. Ashutosh Shankar Trivedi, Risk Management in Construction Projects Of Developing Countries, ISSN: 2248-9622, Volume 5, Issue 11, (Part-5) November 2015, pp.154-156.