ABSTRACT

Construction Industry is the important evidence of the development of any country. By the day passes this industry becomes most habitual industry across the world as well as provides high GDP. As per technology the construction industry has its own way to implement incredible practices. In construction industry every project is unique with its peculiar characteristics. Project has many predetermine aspects like Budget, time, design, life span etc., At the time of implementation of this determined aspect of a project, the unpredictable factors hits and influence the action of process. That factor named as risk and it may changes the path of the project success. Sometimes we can predict the risk but mostly without knowledge it may happen and changes the directions of the project predetermined aspects. Considerably, risk affects the time, cost and quality of a project. In this review paper, mentions the various risk factors which influence the aspects of the project. Try to provide various solutions to overcome this problem at every stage of the project.

Keywords: risk management, cost, time, budget,

INTRODUCTION

Construction industry has come to a position which highly influence the GDP of a country. The technologies were geared up and on the flow to the heights all over the world. This is one of the industry where the development has no end along the huge esteem of authentic practices. Every Project is unique with its own characteristics. There were no two project are same but may be similar due to various common and different factors. A project can be imagined before execution as per the requirements, budget, schedule, design, quality and so on by the owner with the help of experts. Every project has its own attributes to build in the proposed aspects. Predetermination of parameter about the project is the major step to motive for the execution. Even though everything prescribes, some of the factors may raise to turn the board of project at the time of implementation some can be identified and other are not. Those factors may have called as a risks of a project which influence the various factors of a project like quality, cost, schedule etc. Each and every project face this type of influencing factor in all stages of a project. Risk is the first apprehension to the stakeholders and it became common in each project. Different type of projects has dissimilar risk factors and depends on the various components of a project. Risk is a solvable problem with the stuff of time and cost. It can be managing by using tools and best practices. As mentioned before, these are identified and unidentified some may affect the project directly and indirectly. Most of the risk factor influence the majorly 3 parameters of a project such as cost, quality and time. There are structured steps to manage the risks before it hardly effects the project. The procedure of management starts with the identification of risk with sequence as analysis, mitigation and control. The stakeholders of a project are should be active to identify the risks with its roots of causes. Knowledge and experience of the participants helps the most to manage the risks without the high influence on the project predetermines. The mitigation measures should be taken according to the risks and type of project at the situation. The perfect control of risks can make the project completion as per the cost, quality and time. The success rate of the project indirectly depends on the management of risks. The risks cause through various ways like by people, material, financial, design, site condition, environment, approvals, closeout, submissions etc. The risks of the project can be transfer and avoid before it severely effects the project.
OBJECTIVES OF THE STUDY:

- Identification of Risk factors through the literature review.
- Preparation of questionnaire to determine and analyse the risk factor through survey.
- Preparation of Literature Review.
- Finding the risks through the case studies of different projects.
- Determining the most accurate tools to manage the risks.
- Preparation of Model by using Microsoft Software.

REVIEW OF LITERATURE:

V. Sathish Kumar et al, 2015 identified the various risk factors from the literature and prepared the questionnaire survey based on the risks. The result of response to the questionnaire was 48%. This response was assessing to provide the knowledge to the stakeholders for the construction of any project. The data was analysed by using descriptive statistics and ANOVA. As a result, determined the output of each risk factor by analysis method. The study ended by providing the percentage of significance for major risk factors. The high significant factor was the change of top management and the follow sequence was role in the construction field, gender, type of construction, nativity, experience and project value background.

Mukhtar A. Kassem et al, 2018 studied about the risks involved in oil and gas projects in one of the developing countries, Yemen. The risk factors were identified which changes the success of a project and conducted the survey with the project stakeholders to rank the risks based on the impacts and probability of it. To analyse the data, Relative Important Index (RII) and Spearman’s rank correlation were used on responses got through the survey. As a result, some of the risks were found which are directly and indirectly overruns the time and cost of a project. Improper stability of economy and politics and lack of strategies to deal with risks are the major effecting risks of oil and gas construction projects. As a conclusion, external risk factors and project risk management in internal risk are the most influence factors of a project. The government and working companies must understand these factors to take the before steps and avoid the risks in oil and gas industry.

K. Jayasudha and B. Vidivelli, 2016 assisted to manage the risks which governs the construction aspects, time and cost of projects. For these, identified the major risk factors of the construction projects through the questionnaire survey. The collected data was analysed by using Statistical Package for Social Sciences (SPSS) and Statistical tools like pie charts and frequency tables. The ranking of risks is different for each different type of projects and it helps to the government to mitigate the risks involved in the projects. As a result, provided some of the strategies to be taken by the stakeholders for the future development of project. These would stimulate the investors and partnership for more successful projects execution. In conclusion, stated that lack of effective construction planning and use of planning tools are most effecting factor and which are to be manage virtually and reduce the risks by the practisers.

Florence Yean Yng Ling and Linda Hoi, 2006 identified the risks that Singapore-based architecture, engineering and construction (AEC) firms faced when working in India and investigates the risk response techniques adopted by them. Data were collected through interviewing the Singapore experts. The risks found are political and social risks; high cost of financing; fluctuating currency exchange rates; and huge cultural difference between foreigners and Indians. The risk response techniques include having adequate insurances and careful planning and management. It is recommended that foreign firms operating in India should not try to change Indians way of working. Instead, foreigners should respect local culture and practices, and be flexible and extremely patient. The specific political risk faced by international participants is political instability, due to the failure of any one party to win an absolute majority in parliament. The unique economic risk faced by foreigners is Indians uncertain policy towards economic liberalization. Cultural risk is another specific risk confronted by foreigners due to differences in religion, tradition and culture. Specific examples of unique risks include: nationalization of projects due to constantly changing political climate; delays in getting projects approved; rights of foreign firms in India; payment of extra taxes; fluctuating exchange rates; and difficulty in repatriating profits from India.

Ekaterina Osipova and Per Erik Eriksson, 2011 studied about the risks involved in the procurement option of a construction project. The procurement is one of the most influencing risk factor of a project. The owner must be careful at the time of choosing the contractors and partnership of a project to avoid the risks maximum. Three procurement variables were identified which most influence the project management are like project delivery method, form of payment and collaboration or partnership. These data were collected by considering 11 construction projects in Sweden. Irrespective of these variables some of the factors leads to the changes in the cost...
of a project. The study concluded by providing some of the measure which are to be taken against these procurement variables are like incentive based payments and implementation of effective collaboration or parting with good communication.

Surabhi Mishra and Brajesh Mishra, 2016 discussed about the critical risk factors and techniques to mitigate the risks with the comparative study between national and international projects. The study discovered the analytical tool to evaluate and analyse the risks from various projects. The focus was on the enlargement of various analysing techniques which are used to assess the risks in the projects. In the conclusion, provided the various critical risk factors which are to be managed to increase the success of a project. The map was mentioned about the sources of critical risk and effects of it on the project. The probity of predicting risks at the bidding stage reduces the cost and time overruns of a project and helps to reschedule the project before the execution and wastage of resources.

Satish Kumar Viswanathan, Kamalendra Kumar Tripathi and Kumar Neeraj Jha, 2018 studied about to fill the gap between the identified risk mitigation measures and their effect on project success. To find this gap, three project success and nine risk mitigation measures were considered. The three project success criteria’s which are considered: cost performance, firm’s performance and schedule performance. The questionnaire survey was conducted to collect the data. The data was analysed, grouped and modelled by using structural equation modelling (SEM) and factor analysis. By the data analysis the nine factors were categorised into three groups namely contract selection, pre-project planning and local participants. the coefficients and significance sequenced the success factors like cost, schedule and firm performances. This study helps to provide the knowledge about the risk mitigation measures which influence the success of a project by the participants, small scale firms and like companies in India.

CONCLUSION:

The risks are becoming the common problem facing in every construction project. It’s been mandatory aspect of a project which makes the stakeholders not stand at a point. The most risk factors influence the cost, quality and time of a project which are the basis for the success of a project. Each project has its own characteristics with its self-risk. The project has internal and external risks and some are directly and indirectly effects the project. The identification of risks is the first step to be taken in the risk management. Some of the risks are predictable at different stages of the project. If the risks are found at the bidding stage which changes the cost and schedule can be controlled by rescheduling and re-budgeting the project. These type of measures to be taken against each risks which are can be predict before the action take place. At each stage of a project, it faces different type of risks some may predictable and other are not. The risks may identify through the literature also to make questionnaires which are helpful to collect the data from various participants. The direct interviews and surveys are also useful to evaluate the risk factors. The identified risk factors are to be ranked or prioritized by using various methods. The collected was analysed by using different tools like ANOVA, FMEA, SPSS, SEM, AHP, Statistical tools are frequency and pie charts, project potential risk analysis and RII to get the results of gathered data. These should be managing by the various risk management practices. The mitigation and control of risks are the next steps after the analysis in the risk management practice. As per the literature, robust risk management Markov chain approach are useful to manage the risks.

The stakeholders also involved in the sources of risks as lack of experience and awareness, lack of communication, lack of coordination, shifting of responsibilities, lack of involvement, lack of monitoring of project progress and so on. Some other risks are choosing of procurement options, payment and project delays, financial risks, environmental risks, political risk, cultural risks, pre-project planning etc. From the literature, there are some of the factors which increases the critical success rate of a project are early involvement of contractor, socio- cultural forces, project management capacity, timely communication and top management support. These would be helpful to the project manager and engineers in taking the appropriate step against the risks in a way to increase the success rate of a project.
REFERENCES: