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LITERATURE REVIEW BASED ON RISK MANAGEMENT IN BUILDING CONSTRUCTION

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ABSTRACT

Risk management is an activity which integrates recognition of risk, risk assessment, developing strategies to manage, and mitigation of risk using managerial resources. Risk can come from various sources: e.g., uncertainty in financial market, threats from project failures, legal liabilities, credit risk, accident, natural causes etc. I have conducted the survey the following aspect of it, a)To identify the risk and analyse the likelihood of occurrence and impact of the risk b) studying, identifying and implementing effective risk management for construction of road project success c) identify the key risk factor could stand in front of road construction process d) management planning of risk and their remedial measure in road construction

Keywords: Risk management, Risk analysis, Risk mitigation, Risk transfer, Impact

I. INTRODUCTION

Risk management constitutes identification,assessment and setting preference for risk mitigation. This may include a synchronized and cost effective way of using material and resources in order to minimize the hazards that may arise along with monitoring and controlling the unfortunate event that may occurs .Risk can happen due to uncertainty in financial market, accident, failure in the project, natural factors, legal issues, risk associated with credit etc. In the construction industry, risk is often referred by as the presence of potential or actual threats or opportunities that influence the objectives of project during construction, commissioning. or at the time of use. Risk is also defined as the exposure to the chances occurrences of event adversely or favourably project.

Effective risk management planning provides: An increased awareness of the consequence of risk, a focus for a more structure approach to risk management, better risk information transfer between those concerned with and those responsible for such matters and reduced long term loss expenditure and hence corresponding increased profit

Risk management also faces difficulties in allocating resources. This is the idea of opportunity cost. Resources spent on risk management could have been spent on more profitable activities. Again, ideal risk management minimize spending i.e. manpower and other resources and also minimize the negative effect of risk. As risk are present from start to end of project i.e. from development phase to operational phase so it become very important to analyse risk and mitigate then proper mean of planning and management.

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Different method can be applied to manage risk which may be range fromtransferring of the risk to subsequent party, avoiding the risk factor, minimizing the consequences of risk and accepting the effect of risk in few cases.

II. LITERATURE REVIEW

1) According to krantikumar Mhetre, B.A.Konnur Risk is perceived as a negative term, even though in theory it can have two dimensions. Risks are being managed every day in the industry, but not in such a structured way as the literature describes. Risk management is a technique that should be applied within an industry to achieve the goals of the industry. It is necessary to spread awareness and create interest amongst people to use risk management techniques in the industries.(1)

2) Aitwar Vishambar, Sontakke Kaustubh, Patel Kartik, Ashwini Salunkhes studied cases from highway project.Theflow chart of the different activity for better planning of risk management is necessary. Effective risk management process encourages the construction companies to identify and mitigate the risks and later if those risks managed effectively they can efficiently enjoy financial savings, and greater productivity, improved success rates of new projects and better decision making.(2)

3) N. V. Patil, Dr. P.G. Gaikwad identify the risk in road construction In this paper during the lifecycle of road project many and different types of risk are encountered which can be termed as major or minor risk depending on the severity they have. In this study risk severity has very high rating in feasibility, design and technology stage of project. Proactive approach need to used than reactive, which possible only by understanding and implementing risk management principal. Mitigation measure can be worked out in advance, ensure the probability of successful project within the stipulated time and cost.(3)

4)A. Suchith Reddy conducted case study on construction industry. In this paper risk management is strongly linked with the production phase. Majority of the risk processes are executed during this phase and the most active group being the contractors, have great influence on the risk management process. The owners and contractors pay little effort and time to assess and strategically plan for known, unknown or probable risks. If we don't have a proactive risk management process then problems that take place in a project could increase the delays and costs.(4)

5) B.A.K.S. Perera, Indika Dhanasinghe and Raufdeen Rameezdeen studied cases from srilanka construction industry. In the study the risk of defective design, late approvals, late handling over of the site, tentative drawing and unforeseen site ground condition had thwarted the contractor on many occasions. A few risks that were not relevant to the two cases under study(5)

6) Dr. Nadeem Ehsan, Ebtisam Mirza, Mehmood Alam, in this paper,the perception of risk by contractors and consultants is mostly based on their intuition and experience. The most utilized risk response measures are risk elimination and risk transfer. However, the respondents have revealed that these practices cause the problems of delays, low quality and low productivity in projects. (6)

7)Mr. Satish K. Kamane, Mr. Sandip A. Mahadik In this paper,the success of every project depends on how efficiently and effectively the. Risk avoidance may include a review of the overall project objectives leading to a reappraisal of the project as a whole. Depends on how efficiently and effectively the uncertainties are handled. Risk management will not remove all risks from the projects. Its main objective is to ensure that risks are

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managed most effectively. The formal risk analysis and management techniques are rarely used by construction industry due to lack of knowledge and expertise (7)

8) Engineer Rinaj Pathan, Prof. Dr. S. S. Pimpliar conducted case study on BOT road project. This case study describe facilitates the study of the financial viability of BOY project as affected by the concession period, as demonstrated by the case study Also is described the project background, the project contractor, the financing of the project, the risk involved in each phase; the method used to limit the risk, the problem encountered the current status of the project, as well as an overall assessment(8)

9) T.H. Nguyen, G. Bhagavatulya and F. Jacobs In this paper, the study results indicate that several of the risks highlighted have a high impact even if the probability of occurrence is low like the bankruptcy of a contractor. Another important understanding from the research is that the designer is critical to the success of a project. An improper or an incomplete design can have a sizable impact on the schedule and cost of a project. It is also understood from the research that project management teams are not effective in terms of keeping communication channels with project stake holders and incapable of formulating the correct strategies when projects are not in good health.(9)

10) Prof A. A. Talukhaba, Mr J Okumbe. In this paper,the risk identification techniques most commonly used by the two types ofcompanies are brainstorming and documentation review. The risk assessmenttechnique employed by the indigenous construction companies is the riskmanagement probability method whereas the multinational construction companies used the probability and impact matrix. The two types of companies further utilised 95 provision of insurance as their risk response strategy. The indigenous companies made use of risk transfer as a strategy for handling risk while the multinational companies adopted risk reduction as their strategy. (10)

11) Yadav Ashwini Ashok, Prof. B.V.Birajdar In this paper, the risk management framework proposed by this project will be easier to apply than others. It incorporates the findings from this research and provides step-by-step guidelines for foreign companies who intend to invest in India's infrastructure projects in the future. It also has the potential to help national, provincial, and city government to examine their approach to and services in support of BOT infrastructure projects. (11)

12) Jie Li (Dongnan University, Nanjing, China) and Patrick X.W. Zou (Faculty of The Built Environment, University of New South Wales, Sydney, New South Wales In this paper,As a procurement method for large scale infrastructure projects, PPP has been used in many countries. To achieve a successful PPP project, the lifecycle risks are identified based on the literature review and classified according to project stages. The advantages of fuzzy AHP in terms of its objective measurement make it suitable for systematically assess the risks in PPP infrastructures projects. The conceptual model of fuzzy AHP proposed in this paper was verified by an illustrative example to be effective and efficient for assessment of risks in PPP infrastructure projects. It isconcluded that using lifecycle perspective to identify, classify and rank the risks associated in PPP infrastructure project is feasible and using fuzzy AHP to assess the risks are effective and objective (12)

13) Anil Kumar Gupta, Dr. M.K. Trivedi, Dr. R. Kansal In this paper, considering long concession period and fluctuating risk profile of PPP road project it is suggested to set up a regular to the PPP road project which could be oversee the fast changing overall socio economic environment and suggest measure to lessen risks in the upcoming project; could intervene issues could not be addressed within the agreement (13)

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14) Nerija Banaitiene and Audrius Banaitis conducted study on construction project. In this paper, an effective risk management process encourages the construction company to identify and quantify risks and to consider risk containment and risk reduction policies. Construction companies that manage risk effectively and efficiently enjoy financial savings, and greater productivity, improved success rates of new projects and better decision making. The research results show that the Lithuanian construction company significantly differ from the construction companies in foreign countries in the adoption of risk management practices. To management the risk effectively and efficiently, the contractor must understand risk responsibilities, risk event conditions, risk preference, and risk management capabilities.(14)

15) Krantikumar Mhetre, B.A. Konnur, Amarsinh. B. Landage conducted study on construction industry ,In this paper, Risk are being managed every day in industry but it not in such structured way as the literature described. As also other researches confirmed, the knowledge of RM and RMP is closed is zero, even though the concept of risk management is becoming more popular in construction sector (15)

16) The achievement of all project objectives in terms of cost, time, quality, environment and safety with industry practitioners owning robust experience and knowledge of construction projects, 20 key risks were highlighted on a comprehensive assessment of their likelihood of occurrence and level of impacts on project objectives. “Tight project schedule” was found to have significant impact on all five aspects while the rest risks.(16)

III. CONCLUSION

Risk management is a technique that should be applied within an building construction to achieve the goals of the construction industry. Hence, it is necessary to spread awareness and create interest amongst people to use risk management techniques in industry. In this study risk severity has very high rating in feasibility, design, and technology stage of project protective approach need to used than reactive, which possible only by understanding and implementing risk management principle

It requires initial recognition, integrated with a systematic method of monitoring changes and impact over time for maximizing the process of project risk assessment and risk management.

REFERENCES

[1] Krantikumar Mhetre, B.A.Konnur, Amarsinh B. Landage,Risk Management in Construction Industry, international journal of engineering vol.5, 8 &9 JAN 2016

[2] Aitwar Vishambar1, Sontakke Kaustubh2, Patel Kartik3, Ashwini SalunkheRisk Planning in Construction of Highway Project: Case Study, international journal of latest research in engineering and technology vol.2,3 MAR 2016

[3] Mr. N. V. Patil, Risk management in road construction, International journal of modern trends in engineering, 2&4,2015

[4] Suchith ReddyRisk Management in Construction Industry - A Case Study, international journal of innovative research in science engineering and technology vol.4A, 10 OCT 2015

[5] B.A.K.S. Perera, Indika Dhanasinghe and Raufdeen Rameezdeen, risk management in road construction: the case of Sri Lanka, international journal of strategic property management

IJARSE
ISSN (O) 2319 - 8354
ISSN (P) 2319 - 8346

[6] Dr. Nadeem Ehsan,Ebtisam Mirza, Mehmood Alam, Risk Management in construction industry, engineering management department , centre of advance studies in engineering in Islamabad, Pakistan

[7] Mr. Satish K. Kamane, Mr. Sandip A. Mahadik,Risk Management in Construction Industry ISOR journal of mechanical and civil engineering

[8] Engineer Rinaj Pathan, Prof. Dr. S. S. Pimpliar, risk assessment of BOT Road projectsISOR journal of mechanical and civil engineering

[9] T.H. Nguyen, G. Bhagavatulya and F. Jacobs, Risk Assessment: A Case Study for Transportation Projects in India, International Journal of Application or Innovation in Engineering & Management

[10] Prof A. A. Talukhaba, Mr J Okumbe, Evalution of risk management practise in construction industry in Swaziland, Department of Building Science FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT, TSHWANE UNIVERSITY OF TECHNOLOGY

[11] Yadav Ashwini Ashok, Prof. B.V.Birajdar, Risk analysisand management for PPP infrastructure project in India, International Research Journal of Engineering and Technology

[12] Jie Li (Dongnan University, Nanjing, China) and Patrick X.W. Zou (Faculty of The Built Environment, University of New South Wales, Sydney, New South Wales

[13] Anil Kumar Gupta, Dr. M.K. Trivedi ,Dr. R. Kansal, Risk variation assessment of Indian road project, international journal of science ,environment and technology,vol.5,no 5

[14] Nerija Banaitiene and Audrius Banaitis, Risk Management in Construction Projects

[15] Krantikumar Mhetre, B.A. Konnur, Amarsinh. B. Landage, Risk management in construction industry, international journal of engineering vol.5

[16] Dr Patrick. X.W. Zou1, Dr Guomin Zhang2 and Professor Jia-Yuan Wang3 Identifying Key Risks in Construction Projects: Life Cycle and Stakeholder Perspectives