

# Risk Management in High-Rise Building Construction

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**Abstract**— Risk is an integral part of any project. Risk is present in all projects irrespective of their size or sector. No project is totally free from risks. If risks are not properly analysed and strategies are not developed to deal with them, the project is likely to lead to failures. The data were collected from the experienced personnel in the construction industry with ample amount of experience. The aim of this study to find the critical factors affecting construction projects and correlation between them. This paper presents the factors with the highest probability and/or impact on any project and correlation between them through statistics.

**Key words:** Risk, Risk Management

– The economic factors affecting the project.

## V. RISKS IDENTIFIED

Based on the past experience (implant training) ,expert opinion (literature review) and consulting the experts, risk identification techniques the risk factors identified are as follows

- Technical Risks
- Construction Risks
- Financial risk
- Socio-political risk
- Environmental risk
- Management risks

## I. RISK IN HIGH-RISE BUILDINGS

High-rise (or) multi storey buildings are the most important part of the construction which plays a vital role for the development of the country. It is estimated that major part of the construction leads to high-rise buildings. Hence the risk involved in this part also plays a major role in construction industry. Safety managers should be aware of the causes of the accident and proper safety planning is found to be an indirect factor that adversely affects on-site safety. Hazardous environment must be ignored or occupations and process related to the hazard must be protected when the hazardous environment is observed.

## II. RISK MANAGEMENT IN HIGH-RISE BUILDINGS

Risk management is the art and science of anticipating and planning for future uncertain events. It is concerned with identifying and analyzing a range of possible outcomes, then control and mitigate their negative impacts. The objective is to understand, and mitigate (or) control risks.

## III. OBJECTIVE OF STUDY

The objectives of the study are as follows:

- 1) Identifying key risk factors that could stand in front of construction processes by
- 2) Reviewing the literature and through the additions that could be made by the industry practitioners.
- 3) To study the risk assessment in construction of high-rise buildings.

## IV. ASPECTS TO ANALYSE RISKS

In order to identify all the risks associated with a project it would be important to analyze:

- Each aspect of the project
- The stages involved in each of the aspects so identified for the project.
- Each of the main parties involved in the implementation of the project.
- The industry to which the project is related;
- Geographical location of the project facility;
- The basis of commercial feasibility of the project;
- The political scenario;

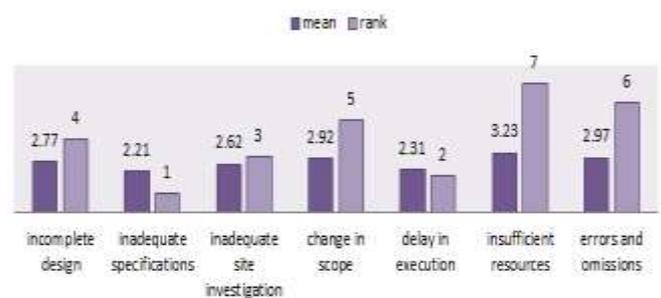
## VI. METHOD OF SURVEYING

The general methodology of this study relies largely on the survey questionnaire which will be collected from the local building contractors of different sizes by mail or by personnel meeting. A thorough literature review was initially conducted to identify the risk factors that affect the construction of high-rise buildings. Also some interviews with industrial practitioners were conducted to produce to check effectiveness of questionnaires.

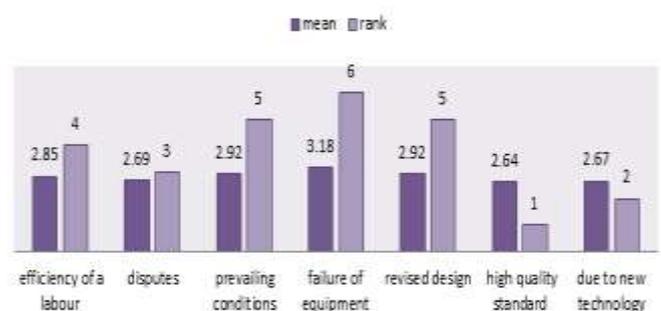
## VII. RESULT ANALYSIS

Depending upon the responses received from various questionnaire respondents the analysis was done so as to find the percentage of the each risk by Using Statistical Package for Social Science.

### Technical risks



### Construction risks



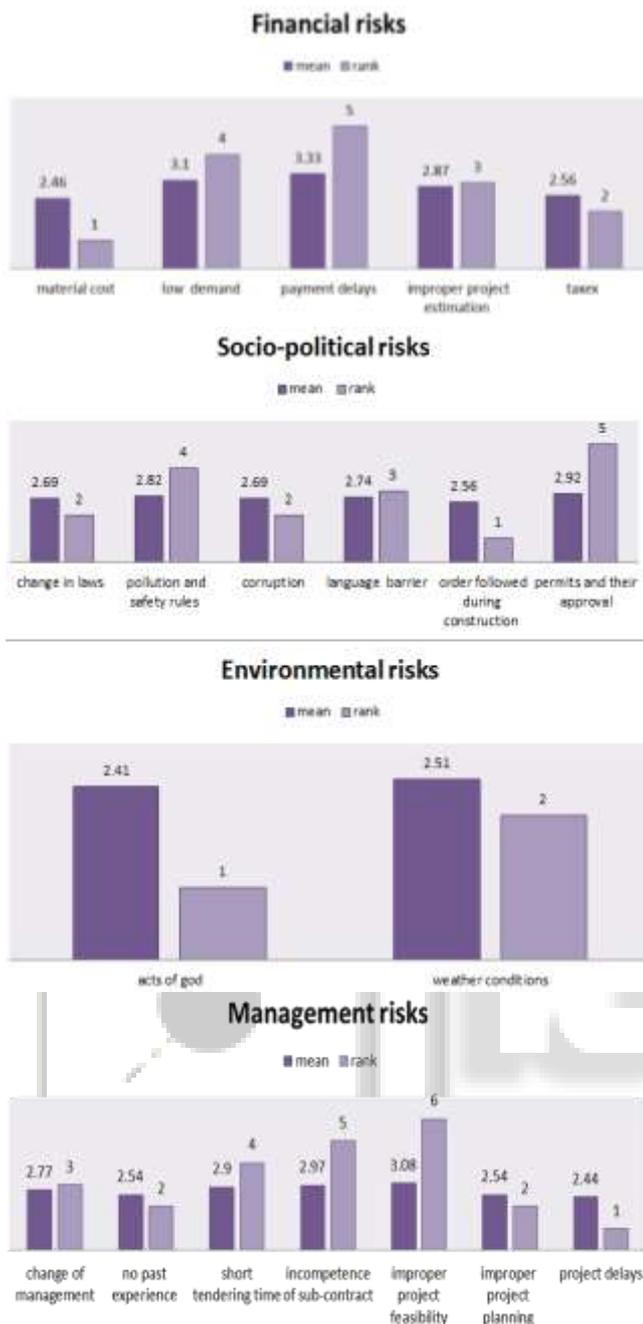


Fig. 1: Risks Graphs

### VIII. CONCLUSION

It is concluded that following critical factors affects the overall productivity. The technical risk is the major factor that affects the high-rise building commonly with the percentage of 44.2%, environmental risk that affects the high-rise buildings with the percentage of 48.2%, management risk affect the high-rise buildings with the percentage of 48.8%, financial risks affects with a percentage of 49.2%, the socio-political risks with 51.2%, constructional risks with 52.8%.

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