

# High Risk in Project and Construction Management

Shweta S. Gedam

Post Graduate student, Construction Management,  
MIT ADT University, MIT College Management, Pune -412201

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**Abstract** :Risk is a future event in any Project and construction management activity which has some degree of uncertainty, however it has an adverse effect on the individual, the project, the organization, the environment and all. The prime objective in any construction project is to attain a successful project, a project that has been properly designed, constructed according to design and specifications, completed within agreed time and cost. By adopting risk management saving potentials can be realized. The risk management in any construction industry should be oriented to progress of the project, functions of all areas and processes of the project.

**Key Words:** Mitigation Plan, Risk Monitoring, Qualitative Analysis, Project Risk.

## 1.INTRODUCTION

The risk management can be more effective if it assumes that by understanding both the relationships in project network and risk related to project management.

For adopting effective risk management roles and responsibility should be assign to responsible person. Follow up and review effectiveness. Reviewing options for management, mitigation, insurance. Various Project risk includes- quality, cost, central & state laws, schedule.

### 1.1 Quality risk

Quality control and safety represent increasingly important concerns for project managers. Defects or failures in constructed facilities can result in very large costs. Even with minor defects, re-construction may be required and facility operations impaired. Increased costs and delays are the result. In the worst case, failures may cause personal injuries or fatalities. Accidents during the construction process can similarly result in personal injuries and large costs. First, unforeseen circumstances, incorrect design decisions or changes desired by an owner in the facility function may require re-evaluation of design decisions during construction. While these changes may be motivated by the concern for quality, they represent occasions for re-design with all the attendant objectives and constraints. As a second case, some designs rely upon informed and appropriate decision making during the construction process itself.

### 1.2 Cost risk

Cost risk is the risk that the project costs more than budgeted. It can lead to performance risk if cost overruns lead to reductions in scope or quality. Cost risk can also lead to schedule risk if the schedule is extended because not enough funds are available to complete the project on time. The main technique used for cost analysis of complex projects is based on the Work Breakdown Structure (WBS) which organizes project tasks into hierarchical stages or phases. A well-designed WBS describes planned outcomes instead of planned actions. Outcomes are the desired ends of the project and can be predicted accurately, whereas actions make up the project plan and may be difficult to predict accurately. A well-designed WBS makes it easy to assign any project activity to one and only one terminal element of the WBS.

## 2. Risk Identification

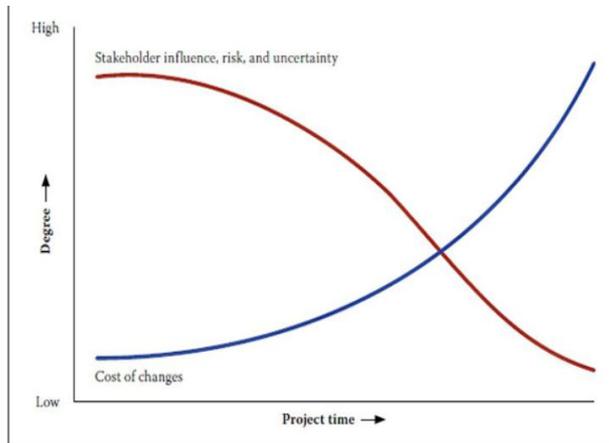
It is obvious that if we are unaware of the risk, then it's very difficult to manage them, though it is viewed on scope of the risk management. Risk management is mostly applied on execution phase not on conceptual phase. It should be the continuous process. After identification of risk it should be evaluated in terms of probability, occurrence and impact.

**Table -1: Managing Risk**

Vendor Management	Risk Monitoring	Billing
Recording-Maintain risk register	Review	Loss of Business
Qualitative Analysis	Project risk	Legal
Quantitative Analysis	Mitigation	Reputation
Mitigation Plan	Schedule	Financial

When managing risk in construction projects, a number of processes have been proposed. However, the process of risk management encompasses defining the risk management scope; uncovering risk and uncertainties; understanding the

significance and prioritization of risks, defining actions, which when implemented of risk management facilitates effective communication, mitigate stakeholder’s uncertainty, builds trust among parties involved in the project and facilitates informed decision making so that future actions contribute to the success of organizations.



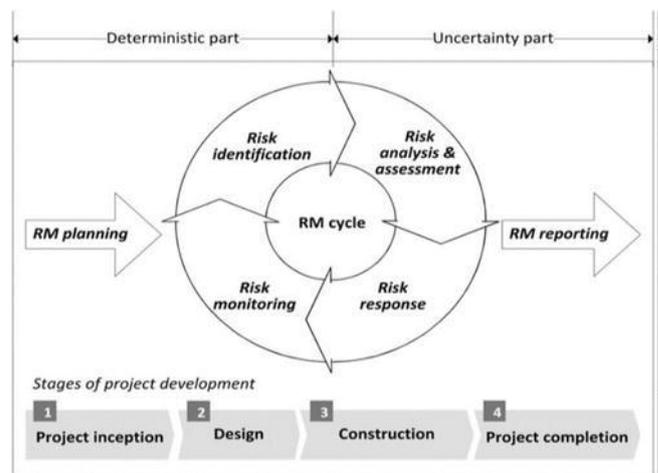
**Chart -1:** Impact of variables based on project

The risk can be avoided by changing the project in some way to bypass the risk. Some or all the risk is transferred to a third party for example, insurance. Action is taken to reduce either the likelihood of the risk occurring or the impact that it will have. The risk is accepted perhaps because there is a low impact or likelihood. A contingency plan will be identified should it occur. All risk can and should have contingency plan in place.

When the risk management team determines how high their risk is on a project, they will follow the guidelines below:

1. Identify what the problem or problems are or what can happen.
2. Identify who may be harmed or what the impact on the project progress could be.
3. Determine how many risks may arise if the problem occurs.
4. Decide what control measures need to be in place to prevent or solve the problem.
5. Determine if any risks remain.
6. Document all the findings from the risk assessment.
7. Create contingency plans in case the first or second plan does not work.
8. Review and revise everything above as needed throughout the entire project.

The reason that a risk management team weighs all the above carefully is that the company wants as little risk as possible. Of course, there are never any guarantees that a project will be successful and without too many risky situations appearing along the way. Even with all the proper planning and contingencies in place, this danger is always present. Simple activities can cause major issues, while issues that a person thought would be a problem never happen.



**Fig -1:** Risk management process for construction process

### 3. Four Benefits of strong risk management plan in construction

By now it is clear that a solid risk management plan can save your project from a lot of trouble. Of course, nobody can deny that a lot of effort is required for a successful plan to be built. Nonetheless, it can have some essential benefits for the future outcome of the project process the most important of which are listed below:

**1. Consistent and efficient operations-**Once a project team has contemplated the risk management plan for a few projects, future projects will be easier to assess. After all, they will have the knowledge and the tools that they need to make data-driven decisions, which will improve the operations of the company.

**2. Improved safety and security-** Risk management teams can do much more than simply assess project threats. For instance, they can create plans to ensure that all safety and security standards on-site are followed. In that way, the possibility of a terrifying accident is minimized while the working site remains safe.

**3. Higher Confidence levels-** Risk management teams will find that they are more confident over time, as they continue to weigh the risks of the company. In the long-term, this can save the firm valuable time and money resources both in terms of planning and fixing unpredicted mistakes.

**4. Increased Profits-** Taking unnecessary risks can really hurt the bottom line of any company, which is why a risk management team should be in place. In short, a functional and carefully-elaborated risk management plan equates to increased profits and fewer unnecessary costs.

### 3. CONCLUSIONS

All in all, it is obvious that risk management should be regarded as one of the most fundamental aspects of a construction project. Good news is that with the advent of cutting-edge digital technologies identifying risk can be much easier than it used to be. The project risk management process does not have to be complicated or time consuming to be effective. By following a simple, tested, and proven approach that involves seven steps taken at the beginning of each project (fewer if a generic list of project risks has already been established), the project team can prepare itself for whatever may occur. Of course, there will always be changes and there may still be surprises, but the result is that they are fewer, that the team feels prepared and that the project is not taken off course. The Construction industry must face several risks during all its projects. However, currently those risks are often not well studied and forecasted, when forecasted at all. The methods to deal with them, usually transfer them to another party, is not a good one either. A general risk management process has been detailed afterwards, using some of those tools, to explain its implementation, and may be used as a template for companies willing to implement risk management.

Moreover, the management should be important in the early phases in the project to avoid or reduce the risks beforehand but must not disappear as it moves on: the enforcing and monitoring processes are where the benefits of risk management are made. Those constraints may explain the poor use of risk management in the industry today but are not so important compared to the benefits of risk management.

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