Chapter 17
Why India Should Make It Compulsory to Go for BIM

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ABSTRACT
This chapter describes how the effective tool for scheduling and controlling costs, calculating time periods and managing the technological enhancement of a construction project is project risk assessment. Projects under construction usually encounter a lot of uncertainties at different stages of work, which leads to increase of risk in terms of the expected cost of construction, delays in handing over and a poor quality of the project. The Indian built environment sector is ruined by delays and cost overruns as projects are not completed within time and within quality guidelines. Due to the increasing complexity of the design, operation, construction maintenance of modern built environmental assets, traditional construction has become an outdated paradigm. Building Information Modelling (BIM) is a multi-dimensional tool. It is a process that puts all the team members together to build a virtual design and construction methodologies all through the complete design. This extends to the full life of the project, entailing all the construction processes and maintenance of the building.

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**INTRODUCTION**

The construction industry is largest industry in the world. Construction projects are interdisciplinary process. It involves risks and uncertainties at a large scale at various stages and activates of a project. The occurrence of uncertainty at various stages of work may affect the critical path and thereby delayed the goal of completion of the project in time. Risk and uncertainty may vary from one to another activity in a project. The most common risk factors involved in a construction industry may be listed as poor work man ship, lack of supervision, inferior quality of material, frequent changes in drawings and designs during construction process, availability of skilled labour, lack of quality control, lack of safety precautions and less experienced staff.

Different techniques of project management have been used from commencement to end stage to encounter the risk involved during the project construction. Although, risk management has been considered as predominate factor in construction project management even less importance is given to it in the construction industry. It becomes very important to overcome these risks otherwise it may lead to increase in the cost of construction, degrade the quality of construction and delay in project handing.

The aim of this chapter is to find out and explore the risks, uncertainties involved within construction industry and highlight the potential and challenges of BIM for effective risk management in construction industry in India. We can reduce and manage the risk by using BIM which is a unique development of execution and supervision of construction project. It contributes the involvement of every team member together during the whole process of construction and design. India comes under the category of developing countries; there is a necessity for all type of infrastructure. Like UK, USA and all other developed countries the Indian government does not take an initiative to encourage the practice of BIM in the AEC industry. The AEC industry in India is slowly and gradually implementing BIM but still there is a lot of possibility for BIM usage. It may be implemented passing through explore a software module prior to the real project is constructed and afterward during its construction, maintenance of the building, throughout its working life.

**RISKS MANAGEMENT IN CONSTRUCTION PROJECTS**

The major task in risk management method is the identification of risk involved in the projects. Risk in the construction projects may be consider as a two dimensional quantity. The first dimension is possibility of occurrence, which means the possibility that event, will occur. The other dimension is its harshness of risk (event) impact in case circumstances of risk arises. The harshness may be indicated numerically
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