

Exploring the Role of Building Information Modeling for Delivering Successful Construction Projects

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Abstract : Construction industry plays a crucial role in the progress of societies and economies. Furthermore, construction projects have social as well as economic implications, thus, their success/failure have wider impacts. However, the industry is lagging behind in terms of efficiency and productivity. Building Information Modeling (BIM) is recognized as a revolutionary development in Architecture, Engineering and Construction (AEC) industry. There are numerous interest groups around the world providing definitions of BIM, proponents describing its advantages and opponents identifying challenges/barriers regarding adoption of BIM. This research is aimed at to determine what actually BIM is, along with its potential role in delivering successful construction projects. The methodology is critical analysis of secondary data sources i.e. information present in public domain, which include peer reviewed journal articles, industry and government reports, conference papers, books, case studies etc. It is discovered that clash detection and visualization are two major advantages of BIM. Clash detection option identifies clashes among structural, architectural and MEP designs before construction actually commences, which subsequently saves time as well as cost and ensures quality during execution phase of a project. Visualization is a powerful tool that facilitates in rapid decision-making in addition to communication and coordination among stakeholders throughout project's life cycle. By eliminating inconsistencies that consume time besides cost during actual construction, improving collaboration among stakeholders throughout project's life cycle, BIM can play a positive role to achieve efficiency and productivity that consequently deliver successful construction projects.

Keywords : building information modeling, clash detection, construction project success, visualization

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