

Studying the Impact of Using Building Information Modeling BIM in mitigating Risks for Construction Projects

Ibrahim Mahmoud Mahdi Mostafa ,IA Rasheed, NS Badawy

Abstract

The construction industry faces significant risks because of decline in its production and performance compared to other industries. This is mainly due to lack of realistic planning, coordination and communication among project' parties. Introducing Building Information Modeling (BIM) as a new technique in Project Management (PM) can promise improvement to the construction planning and its performance. This paper is focusing on studying the impact of BIM implementation to mitigate risks in construction projects. The objective of this paper is extending to include design stage to study the role of implementing BIM in reducing the project risks. The study is supported by carrying out structured questionnaire survey from construction industry' experts. In addition, case studies are included for verification purpose. Four case studies are investigated to study the impact of applying BIM systems. The main finding of this study was that a remarkable increase in the rate of construction products was recorded by implementing BIM technology due to the reduction of the re-work and the time wasted. Moreover, adopting BIM systems helps in avoiding a significant number of problems caused by the lack of information required during the implementation phase. Finally, BIM systems have a major role in resolving conflicts and clashes. The results showed that the BIM systems enhancement in the work performance was obtained due to communication improvement among project' stockholders especially in early stages. Finally, BIM threats and future difficulties in business development are examined.

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