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Building Information Modeling in Project Management: Necessities, Challenges and Outcomes

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Abstract

Building Information Modeling (BIM) is becoming a comprehensive collaborative process in the construction industry. Despite its short history, BIM has had an increasing growth during the last decade. This is happening mainly due to its capabilities on construction projects. BIM can create a common language between all parties and system divisions in a project and make them an integrated team. The approach of BIM strongly matches with integrated project delivery systems. The role of BIM as a coordinator of project system is quite similar to the duties of a project manager. BIM integrates different disciplines by effective communication, analyzes the project systems for constructability, estimates the cost and time of projects at any time using quantity takeoffs, draws a big picture of projects using visualization and builds collaborative teams. All these are what a project manager does in a different scale during a project life cycle.

This paper aims to show the correspondence of BIM and project managers' roles on construction projects. It emphasizes the importance of having proper BIM knowledge and experience for project managers to succeed. This paper also discusses the requirements of BIM knowledge and experience enrichment of project managers.

Keywords: Building Information Modelling, Project Management, Construction

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1. Introduction

1-1. History

Building Information Modeling (BIM) can be defined as a reliable, digital, three dimensional, virtual representation of the project to be built for use in design decision-making, construction scheduling and planning, cost estimates and maintenance of construction projects (Words & Images, 2009). The BIM Handbook (2008) defined BIM as a computer-aided modeling technology for the purpose of managing the information of a construction project

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