

Applications of Building Information Modeling (BIM) in Knowledge Sharing and Management in Construction

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Abstract : Construction knowledge can be referred to and reused among involved project managers and job-site engineers to alleviate problems on a construction job-site and reduce the time and cost of solving problems related to constructability. This paper proposes a new methodology to provide sharing of construction knowledge by using the Building Information Modeling (BIM) approach. The main characteristics of BIM include illustrating 3D CAD-based presentations and keeping information in a digital format, and facilitation of easy updating and transfer of information in the 3D BIM environment. Using the BIM approach, project managers and engineers can gain knowledge related to 3D BIM and obtain feedback provided by job-site engineers for future reference. This study addresses the application of knowledge sharing management in the construction phase of construction projects and proposes a BIM-based Knowledge Sharing Management (BIMKSM) system for project managers and engineers. The BIMKSM system is then applied in a selected case study of a construction project in Taiwan to verify the proposed methodology and demonstrate the effectiveness of sharing knowledge in the BIM environment. The combined results demonstrate that the BIMKSM system can be used as a visual BIM-based knowledge sharing management platform by utilizing the BIM approach and web technology.

Keywords : construction knowledge management, building information modeling, project management, web-based information system

Conference Title : ICCEM 2014 : International Conference on Construction Engineering and Management

Conference Location : Paris, France

Conference Dates : November 06-07, 2014