

Title: Building Information Modeling

Subtitle: An Evaluation of the Use of Building Information Modeling on a Large Commercial Project in Ireland

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Abstract

Purpose: The aim of this research is to evaluate BIM, specifically in relation to its use on a large scale commercial project in Ireland. This evaluation will include assessing the implications for BIM use for the AEC industry, and appraising the new processes and technologies for project participants.

Methodology: A comprehensive literature review in the subject area of BIM was produced. The fundamentals of both the processes and technologies were evaluated. The benefits and barriers of its implementation were identified for all project participants. For the primary research a case study was undertaken on a commercial project in Ireland that utilised BIM technology and processes. Interviews were conducted with 5 project team participants, owner / client, structural engineer, MEP engineer, main contractor and specialist sub-contractor, to gain their experience and insights of using BIM.

Findings: BIM facilitates the effective and efficient resolution of design issues at pre-construction and construction phase due to its collaborative, evaluative and collision detection functionality. It was found that there are several barriers to implementation including legal, interoperable and financial challenges. It was recognised that as implementation becomes more widespread these issues will alleviate. The research concluded that the successful adoption of BIM can improve both the efficiency and effectiveness of project delivery for the Irish Construction Industry. The research presents valuable case study evidence of the successful adoption of BIM on a large commercial project in Ireland. The findings provide an important example of BIM adoption and implementation for construction project participants in the Irish AEC industry.

Keywords: Building Information Technology (BIM), Information Communication Technology (ICT), Irish Construction Industry.

Classification: Information Communication Technology (ICT)