Sajedeh Mollasalehi

Research Abstract

Project Title: Benefits of Building Information Modelling (BIM) use to improve information flow; making the design process more Leaner.

The construction industry faces many problems such as poor productivity and efficiency that mainly occur during the design process. Many of the construction problems associated in the design process are due to lack of effective information flow management through implementation of innovative and technological processes. As technology is maturing the amount of information and data generated and shared during the construction design process has been rapidly increasing. Despite the increased amount of available information in the design process, most of the shared information not only adds any value to the project but also generates waste. Ineffective information sharing and flow is the major contribution factor of waste. Also, major design problems are related to information management that are due to lack of appropriate information exchange and effective information flow. Therefore, effective information flow management is crucial to a project success. This can be achieved through application of new innovative and technological approaches such as Lean and Building Information Modelling (BIM). Due to lack of systematic exploration between the information flow management and non-value-adding (NVA) activities/information or waste, specifically with the application of BIM and Lean, this research intends to make a number of significant and original contributions in this area of research. Therefore, this research aims to explore how the information flow in the design process could be improved in terms of adding value and reducing non-value-adding activities/information that contribute to waste (such as duplication of information, missing information and wrong information) by the application of BIM and Lean approaches. As this research requires a qualitative in-depth study of the information flow challenges and the role of BIM and Lean to enhance information flow in the design process of a real-life project, a Case Study research strategy is chosen for this research. The data will be collected through interviewing and observing individuals who are involved in daily activities and information flow processes in the design phase of the project.

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This study contributes to raising awareness in terms of value and non-value adding information/activities within the information flow. Therefore, the findings of this research would hopefully help the academic professionals to rethink the importance of research in information flow management in terms of BIM/Lean application to reduce non-value adding (NVA) activities/information while increasing value-adding (VA) information/activities. Also, it would hopefully benefit the construction industry practitioners to have a better understanding of the key information flow challenges and the beneficial role of BIM/Lean to enhance information flow which would assist them in taking logical actions to reduce NVA adding information/activities and increase VA information/activities in the design process. This research seeks to understand the key challenges of information flow in the design process in terms of VA and NVA information/activities and the role of BIM and Lean approaches to enhance information flow which is the major contribution of this research to fill the existing gap in this area.