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Identification of Implementation Barriers of Building Information Modelling for Green Building Construction in Sri Lanka

WPI Perera[1#] and WN Kawmudi[1]

[1]Faculty of Built Environment and Spatial Sciences, General Sir John Kotelawala Defence University, Ratmalana, Sri Lanka

[#]imashi.perera2222@gmail.lk

Abstract

Green Building Information Modelling (Green BIM) is a novel approach to address the ever-growing need for sustainability in the built environment. It offers a more standardized way to create buildings, which in turn optimizes building performance while meeting green building requirements. However, BIM adoption still faces significant barriers, even though it could improve the efficiency of sustainable building projects. Hence, this study aims to determine the advantages of using Green BIM, as well as implementation barriers of BIM for Green Building construction in Sri Lanka. A Mixed method approach was followed in carrying out the study. A questionnaire was developed based on the identified barriers from the literature review, to determine the most significant barriers. Identified barriers were analyzed using Relevance Important Index (RII) method. Semi structured interviews were also carried out to determine the significance of adopting BIM for Green Building construction. A content analysis was conducted for the qualitative data obtained through semi structured interview and RII analysis was carried out for quantitative data. Analysis of the responses demonstrated that "Not receiving enough client support and government support", followed by "Inadequate vision of BIM benefits" and "Lack of well-developed practical strategies for implementing Green BIM" were the most significant barriers. The study also presented possible solutions for Green BIM implementation barriers. Further, the study recommends some actions that the Government and educational institutes should take to overcome barriers in implementing Green BIM and is needed to identify to mandate BIM and to develop strategies in mitigating barriers of Green BIM implementation.

Keywords: *Building Information Modelling, Green Building Construction, Implementation Barriers*