Adopting Green BIM Innovation to Reduce Operational and Maintenance Cost of Green Buildings in Malaysia

C.C. Ohuern*1, W., I. Enegbuma2, M.N. H. Wong2, K.K. K. Kuok2, Y. Dodo Aminu3

1Swinburne University of Technology Sarawak Campus, Malaysia
2Swinburne University of Technology Sarawak Campus, Malaysia., Malaysia
3UTM Malaysia, Malaysia

Abstract

Previous studies have affirmed that the operational and maintenance stages of green buildings in Malaysia are costly, impractical, and difficult to implement. The aim of this review paper is to proffer a strategic approach towards reducing the operational and maintenance cost of green buildings in Malaysia by adapting Integrated Green BIM Process Map (IGBPM). This is achieved by critically analyzing 30 related current articles and publications on the significant factors resulting to high operating and maintenance cost of green buildings in Malaysia, and existing green BIM strategies for reducing the aforementioned problems. After a comprehensive evaluation of previous studies, it was discovered that the major factors that lead to high operational and maintenance cost of green buildings in Malaysia include; technical defects, managerial problems, environmental and biological effects, and sociocultural problems. However, these factors can be eliminated by synergizing Green Building Index (GBI) with IGBPM, which facilitates holistic and standardized green BIM practices based on precise defined construction processes and execution planning. Despite this potential development, there is an argument that the intricate nature of BIM models and the resistance of construction industry in taking up new technologies has been impeding the adoption of green BIM practices in Malaysia. Therefore, an integrated approach that strategically plans for BIM execution in green buildings is utilized.