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The Integration of Critical Risk with Building Information Modelling (BIM) Application Strategies in Building Refurbishment Project Lifecycle

Abstract

Building refurbishment project is rapidly becoming a significant part of the construction industry in Malaysia. Refurbishment projects are typically higher risk, more complex, and require more coordination than new construction projects. The refurbishment industry has the potential to expand and contribute to Malaysia's overall building output. The growing demand for refurbishment work in Malaysia will be driven by the increasing number of old and failing structures, as well as the limited space available for new development. Therefore, the aim of this research is to establish the most significance integration Building Information Modelling (BIM) application strategies in managing the risk for building refurbishment project lifecycle improvement. In this regard, this study was conducted through a quantitative method using the questionnaire which was distributed by employing a self-administrated approach as a research medium to obtain feedback from project manager who has been a representative from G7 registered construction organization with Construction Industry Development Board (CIDB) Malaysia. As a result, 96.7 percent of the response rate were accepted. The analysis showed that the integration of critical risk with BIM application strategies was recognized as important factors and strategies towards building refurbishment projects lifecycle improvement and found that the mean is in very high range. Additionally, the results indicate that the level of critical risk and BIM application strategies have been measured through descriptive analysis. The findings of this study are expected to establish a foundation for future research in order to develop an adequate framework for managing building refurbishment projects and improve the quality of decision making among the building industry professionals.