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Assessing Strategies of Building Information Modeling (BIM) Implementation in Sarawak Construction Industry

A Ahmad Zaini[1*], **A W Razali**[1], **H C Gui**[1], **N Zaini**[1] **and S D Tamjehi**[1]

[1] Department of Quantity Surveying, Faculty of Built Environment, Universiti Malaysia Sarawak (UNIMAS), Malaysia
*Corresponding author: azafzan@unimas.my

Abstract. The implementation of Building Information Modeling (BIM) in a construction project is gaining momentum across the globe particularly in developing countries. BIM implementation has been exceptionally slow in the construction industry in comparison to industries such as manufacturing and engineering. The construction industry in Sarawak is beginning to change as building clients and authorities mandated the use of BIM consistent with the CIDB transformation roadmap and Industrial Revolution 4.0. This paper is a part of a research project that examines the strategies associated with the implementation of Building Information Modeling (BIM) in Sarawak construction industry. BIM allows projects to be built virtually before they are constructed physically whilst removing inefficiencies and ability conflicts that may arise all through the construction process. Whilst BIM is presently receiving high volumes of attention around the world, it appears that well-known understanding of it's far still tremendously low. Thus, it requires a study to determine what are the strategies that could enhance the BIM implementation in the Sarawak construction industry. A questionnaire survey was conducted among 300 respondents from diverse construction stakeholders in Sarawak and 133 questionnaire surveys were returned for analysis. The collected data were analysed for descriptive, mean and factor analysis using IBM SPSS version 25 software. It was found that "subsidizing the price for BIM software" is the top-ranked strategy with a mean score of 8.1805. Subsequently, the results for factor analysis revealed that all factors for BIM implementation strategies were above 0.854. The key finding was the identification of the importance of government support to ensure successful BIM implementation in the Sarawak construction industry. Other important strategies identified include a strategic approach model to assist construction players to implement BIM and cooperation among BIM practitioner, academia and researcher to educate and expose BIM to students in institutions.

1. Introduction

Building Information Modelling (BIM) is a management-enhancing method. BIM enhances the power to develop a model layout that can be used from the initial stage to completion in a similar way as during the entire building occupancy. It is viewed as a central facet of construction management. Nevertheless, the use of BIM as an effective instrument for construction management remains at the preliminary stage within the construction industry as compared to other industries such as manufacturing and technology as a result of the construction is still based on the traditional design-bid-build method [1]. BIM is a new approach to design, betting on the extent to which architects, clients, engineers, contractors and consultants work together. It is a team approach in which all professional inputs are captured within the same model [2].

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