UNIVERSITI TEKNOLOGI MARA

BUILDING INFORMATION MODELLING (BIM) ADOPTION FOR BUILDING MAINTENANCE AMONG LOCAL AUTHORITIES IN SELANGOR

DATIN NORANI BINTI AMAT

MSc

October 2020

AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

Name of Student	:	Datin Norani Binti Amat
Student I.D. No.	:	2016862322
Programme	:	Master of Science (Built Environment) – AP781
Faculty	:	Architecture, Planning and Surveying
Thesis Title	:	Building Information Modelling (BIM) Adoption for Building Maintenance Among Local Authorities in Selangor
Signature of Student	:	………………………………………..
Date	:	October 2020

ABSTRACT

Building Information Modelling (BIM) in the context of Malaysia is defined as a modelling technology and associated set of processes to produce, communicate, and analyse. BIM utilisation in construction can detect any clash analysis during the design stage, improve the efficiency of the project, reduce costs, and ensure a high quality of the new project for a new building, as well as facilitate building maintenance activities. The need for the adoption of BIM will shift the paradigm among the Malaysian Local Authority in their scope of architecture, engineering, and construction. The aim of this research is to develop the BIM success factors for the building maintenance practices amongst Selangor Local Authority's. The research should focus on the management of building maintenance. Despite this, improvements need to be undertaken in a few areas, which include better building maintenance and understanding of the practices between the maintenance staff and stakeholders. Therefore, three objectives are formulated and underpinned by the stated aims, which are: to identify current building maintenance practices amongst Selangor Local Authorities; to examine the potential of BIM adoption in building maintenance amongst Selangor Local Authority's and to develop BIM success factors for building a maintenance framework amongst Selangor Local Authority. The research was carried out using the qualitative approach and the research methodology was achieved by undertaking a thorough literature review and document review process. It explored BIM adoption in building maintenance and its benefits and challenges, as well as existing Public Works Department (PWD) contracts in the Malaysian construction industry. Thus, semi-structured interviews were carried out with the 28 Respondents involved in building maintenance, whereby the interview results revealed the success factors to adoption BIM for building Maintenance at Selangor Local Authorities. This research has signified the causes of building maintenance failure and also issues and challenges from four aspects, such as information, functional, organisational and legal issues and also technical issues towards the BIM adoption. The results of this research provide an effective improvement of BIM success factors in building novel maintenance procedures and guidelines on BIM adoption in generating maintenance plans at Selangor Local Authorities. Lastly, the results of the study also suggest standardising the procedures and guidelines on building maintenance to their improved efficiency.

ACKNOWLEDGEMENT

TABLE OF CONTENTS