

**UNIVERSITI TEKNOLOGI MARA**

**LEADERSHIP COMPETENCIES AND  
THE INTENTION OF BUILDING  
INFORMATION MODELLING (BIM)  
ADOPTION IN FACILITIES  
MANAGEMENT (FM)**

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## ABSTRACT

The low adoption of Building Information Modelling (BIM) in facilities management (FM) is believed by the result of the fear facility manager that lack of intention to adopt BIM. Hence, this problem critically reviewed that the leadership competencies among facility manager are in need to be addressed in this study. This study aimed to establish the leadership competencies parameters that influence facility manager intention to adopt BIM in future FM industry. Thus, three objectives designed are; 1) to identify the status level of BIM adoption in Malaysia FM, 2) to determine the leadership competencies parameters needed in the intention to adopt BIM in FM. and 3) to examine the relationship of leadership competencies and the intention of adoption BIM in FM in the context of Malaysian facility manager's perspectives. In this research, the theoretical framework developed and the pattern of the framework proposed drives to select the pragmatism philosophy. Therefore, the focus group strategy selected by interviewed five experts. The study revealed that all interviewees unanimously responded that the level of BIM adoption in Malaysian FM considered low adoption than AEC level. Also, during interview, the finding represented of none content rejection actuates to remain the proposed parameter with additional seven (7) additional new elements. In the final (3) objective, 942 surveys distributed to the Malaysian facility managers in the class of line until middle management and 302 surveys responded considered usable. To test the correlation, the model explained via SEM PLS. Overall, the model prediction significantly predicted. The structural model assessment confirmed positive significance between three constructs and intention to adoption; leadership behaviour, team leadership and visioning. However, the achievement, empowerment, teaching and change management were not significant predictors. In the validation phase, each finding validated by five validators. The validators unanimously agreed with the yield of objective one (1). All validators praised and satisfied the parameter determined in the objective two (2). The validators also commented that the feedback from facility manager is relevant and the non-support result reflected the barriers in the industry in the third (3) objective. Interestingly, the positive verbal feedback proved by 2.87% positive word from an overall word spoken by validators. Therefore, the study opted to conclude that BIM level in Malaysian FM is considered slow than AEC industry. The study also revealed that, the Malaysian facility manager confident with their leadership competencies towards the intention of BIM adoption. Meanwhile, the study revealed that the achievement, empowerment, teaching and change management would preventing them from progressing to reach their intentions. In the final chapter, this study ends with some suggestion and recommendations for future research and action.

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# **CHAPTER ONE**

## **INTRODUCTION OF RESEARCH**

### **1.1 Introduction**

The primary purpose of this introductory chapter is to explain the initial idea of the present research. It will be reported briefly. Hence, the chapter starts with the background that readers will obtain the foundation information of the research to be conducted. Next, the study discusses the highlighted problem statement presented in this study. The study will also bring the readers to explore the aim, objective and research question designed for this research. Subsequently, the constraint and limitation of research, methodology, the significance of studies, organisation of the research as well as term and definition will critically be introduced in this chapter. At the end of this chapter, the conceptual research framework and matrix of the research presented.

### **1.2 Background**

Operational building in the context of national expenditure is seen as the most prominent budget allocation in many countries. The major set of activities at the operational level is related to maintenance and repair (M&R) of the facility. Meanwhile, unnecessary expenses could occur when reactive maintenance and repair is performed (Akcamete, Akinci, Garrett, & Junior, 2010). Studies reveal that operational building shows that next to the energy costs, maintenance costs can be the most substantial part of any budget allocated (Garg & Deshmukh, 2006). According to Akcamete et al. (2010), less than 10% of the total cost is incurred during design and construction. The rest of the cost at least 60-85% is included in the operations of the building. Throughout the lifecycle of a facility, the most abundant fraction of the expenses occurs during the operations phase (Akcamete et al., 2010; Arayici, Onyenobi, & Egbu, 2012; Azhar, Khalfan, & Maqsood, 2012). Therefore, facilities management (FM) is seen to make a positive contribution and strategic function to business growth and organisation success (Ali & Mohamad, 2009). FM at the operational level plays a significant role in Malaysia, which started in the 1970s and outsourcing of services became popular due to the FM that acted as the primary cost-cutting initiatives (Myeda & Pitt, 2014).