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IMPLEMENTING ADVANCED TECHNOLOGY PRACTICES IN CONSTRUCTION SAFETY MANAGEMENT IN MALAYSIA

Final Project submitted in partial fulfilment of the requirement for
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ABSTRACT

The construction industry is well-known for being a high-risk profession in many ways, particularly in terms of safety and health. Despite the extensive efforts made by all parties involved in the construction industry to raise awareness and improve the level of safety and health in building projects, accidents continue to occur on construction sites. On-site safety procedures, policies, and laws may already be in place; nevertheless, the effectiveness of their execution is still questionable. The use of technology has proved to aid in the reduction of the number of accidents that occur on construction sites as well as the overall management of construction safety. This article offers an overview of many sorts of technological applications (3D and 4D visualization, ICTs, real-time tracking systems, RFIDs, and remote sensing) for an efficient construction workstation implementation and improvisation which numerous researchers around the world have proposed and studied in accordance with traditional examination carried out. The data collected can be used to identify some of the applications that can be used on Malaysian building projects. The suggested technology may successfully assist construction players in reducing the number of incidents and, as a result, elevating the safety and health elements of the Malaysian construction industry to a higher level.

Keywords: Advanced Technology, Safety Management, Malaysian Construction Sites

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Risk management is a knowledge-intensive procedure in any construction project. (Ding, Zhong, Wu, & Luo, 2016). Construction sector is a dangerous sector in which workers often face catastrophic accidents. (Park, Kim, & Cho, 2017). Thus, construction rules are often neglected, and personnel are exposed to accidents and fatalities while following the safety laws and best practices. In the last 10 years the incidence of fatal and non-fatal construction accidents and diseases have plateaued despite the implementation of safety procedures and programs such as those established and required by the OSHA (Awolusi, Marks, & Hallowell, 2018). Incredible events appearing and disappearing at building sites are difficult to completely recognize(Guo, Yu, & Skitmore, 2017).

Traditional safety planning is based on physical observations, feelings and knowledge in safety planner (Azhar, 2017). Although technology played a significant role in building process optimization, its application for individualized building safety monitoring was not extensively investigated (Awolusi et al., 2018). New technologies should be invented and implemented for safety advancement. Recently, the interests in increasing safety have been expressed through the use of building information modelling based on safer design and working method declarations (BIM) (Azhar, 2017). BIM technology is extensively utilized in professional collaborative design, architectural performance analysis, engineering quantity statistics, construction virtual simulation, system operation and maintenance, and other disciplines.(Xiong & Tang, 2017). As example, BIM technology will allow the designer to detect hazard. However, these technologies are frequently confined to recognizing occurrences of safety risks without collecting adequate contextual information (Park et al., 2017).