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A case study of maintenance management systems in Malaysian complex and high-rise IBS buildings

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The selected of assessment or diagnosis tools on industrialized building system (IBS) building maintenance has the significant to affect the lifetime performance of building structures owing to the knowledge level of designer or contractor to determine the appropriate concepts and technologies in IBS building maintenance. In this situation, the absence of available defect diagnosis techniques and integration approaches on design and construction aspects of cooperation among particular parties create an additional cost to redesign the project when measuring the maintenance delivery in IBS building. The repairing method in maintenance through conventional method restrict contractors and manufacturers from being involved in the knowledge sharing in improving project performance level, which often results in design changes and a corresponding maintenance and operation cost increase including materials cost, labor cost and maintenance duration. According to Kamaruddin et al. (2013) and Rahman and Omar (2006), the management level in Malaysia, defect identification process, repairing method and use of technology in building defect diagnosis of IBS buildings is far behind some developed countries. Compared with the relatively high level of IBS construction in the USA and Japan, the supporting technologies and large-scale production systems (such as supervision systems and matching construction technologies) are used to improve the maintainability of components and could diagnose the maintenance problems with safety monitoring process including the avoidance of conflicts involving the parties in the construction (e.g., the designer and contractor) undesirable from happening. Less understanding of building defect level and limited technology supports such as technology in building defect diagnosis to help identify the defect problems of IBS components during building maintenance management process may cause great economic losses and personal casualty incidents due to the disaster building defect.

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