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A Study on the Applicability of BIM to Reduce Building Services Maintenance Costs of the Hotel Building Projects in Sri Lanka

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This study aimed to explore the potential of Building Information Modelling (BIM) in reducing building services maintenance costs for hotel projects in Sri Lanka. it addressed common issues such as inadequate coordination, quality control lapses, and communication gaps between construction and maintenance teams. The study focused on identifying and reducing factors influencing maintenance costs in Sri Lankan hotels, with an emphasis on the impact of building services. Objectives included identifying maintenance costs, identifying how to minimize these costs, exploring digital representation and management systems for building services, and providing recommendations for Quantity Surveying and Facility Management. The literature review revealed that hotel facility operation and maintenance costs are influenced by diverse factors such as building characteristics, material availability, managerial factors, energy consumption, and customer satisfaction. Maintenance officers play a crucial role in maintaining indoor air quality. Therefore, the study emphasizes the need for a holistic approach to building projects, advocating for early investments in quality construction and design to yield long-term savings. The research identifies building services, particularly HVAC systems, as a significant contributor to maintenance costs. Using a mixed method approach involving quantitative data analysis through Relative Importance Index (RII) Method and qualitative data analysis through semi structured interviews and the literature review, the study recommends the use of BIM software for digital representation to enhance cost-effectiveness, efficiency, and productivity in hotel buildings maintenance. The findings highlight the importance of addressing building services, leveraging BIM technology, and adopting value engineering and a comprehensive approach to minimize maintenance costs in hotel projects.

Keywords: *building, building information modelling, hotel projects, life cycle, maintenance cost*