The Development of Building Maintenance Management Best Practice in Malaysia: A Review

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ABSTRACT

This paper has been extended with the aim to explore in detail how building maintenance management best practices can be fully developed. The study will involve a review of secondary sources such as journals, academic papers, government reports, books and others of the ilk. As a result, there are 5 main aspects that need to be addressed by an organization in ensuring the development building maintenance management best practices, particularly in Malaysia. The aspects are strategic planning, resource management, information management, user involvement, and performance control. In general, the findings of this study may be useful in future research to enable the related parties to examine the most important aspects that contribute to the development of building maintenance management best practices globally.

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INTRODUCTION

Nowadays, building maintenance management is one of the organizational issue that expands and becomes importance in construction industry. This is due to the contributions or advantages that can be gained by the building itself particularly and building users generally. Among the advantages of the building maintenance is it may extend the life cycle of a building, ensuring that buildings are in good condition and safe to be used, avoid wasting the cost on the construction of new buildings, and more.

However, building maintenance management practice which is not in the right practice will give the bad impact towards the building and the environment. If the practice persists to be applied, few consequences such as increasing of maintenance cost, decreasing of building’s user satisfaction, and decreasing of productivity [1] will be occurred. In this case, a best practice of building maintenance management must be implemented immediately to avoid the bad impacts.

Paper Objectives and Paper Method:

This paper has been extended with the aim to explore in detail on how building maintenance management best practices can be fully developed. Hence, to achieve the objectives, articles related to building maintenance management best practices have been reviewed from 1990s up to the present. The process involves a review of secondary sources such as journals, academic papers, government reports, books, and others of the ilk. The result of the review reveals that there are 5 main aspects that need to be addressed by an organization in ensuring building maintenance management best practices particularly under Malaysian perspective.

Main Aspects of Building Maintenance Management Best Practices:

On 2003, Worthing et. al. [2] listed out a few parts or aspects that linked with the maintenance management that must be given special attention to apply the fully building management best practice. The parts or aspects that must be heeded to achieve the target is based on the objective of maintenance related with policies and strategies; implementation maintenance process and procedure; risks management; condition survey, inspection and data; information management; staffs specialist and training; and performance approach and financial management.

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Prior to that, Ali et. al. [3] identify some steps that should be taken to make sure the effectiveness of the building maintenance management in the future. The steps that have been identified is related toward information and communication technology (ICT). Meanwhile, [4] states that few other elements must be paid attention to ensure the building maintenance management can be practiced more effectively. The elements are management commitment, budget, management review, empowerment, skill and training, facilities inspection, maintenance audit, preventive maintenance, non-scheduled maintenance and predictive maintenance.

Subsequently, [5] elucidate that there are six factors that should be observed to solidify the building maintenance management which may include the objective, policy and strategy; planning; finance; procedure; rules and standard as well as human resources. Meanwhile, according to [6] there are 12 aspects that should be well-prioritized in order to develop the best practice of building maintenance management, among others comprise, leadership and policy, organizational structure, inventory control, computerized maintenance management system, preventive maintenance, predictive maintenance, scheduling and planning, work order, financial control, operational involvement, personnel and development as well as continuous improvement.

For leadership and policy aspect, the best maintenance management practice must encompass both clear mission and vision in the effort to achieve the organizational goal and objective [6]. The notion is further supported by [7] who attests that such policy should be demystified to guarantee the consistent use of building and later for preserving the building values itself. The clear-cut policy inherently entails written statement which is associated with maintenance framework and building operations. On a related note, [3] outlines several components to be inserted in a policy so that it could cover all required aspects. In this case, the maintenance policy should clarify on the organizational entire goal and environmental policy, recognition that the constructed building is based on internal resources, responsibility and legal consideration as well as concise explanation on suitable standard of maintenance setting.

On the other side, [8] classify policy as a written and standardized procedure that contain maintenance framework for personnel’ perusal in determining the right maintenance strategy to be used throughout their job execution. They contend that it should be three critical elements in maintenance policy, consist of strategy, standard and resource allocation. In order to initiate the current best maintenance practice for organization, various pragmatic methods and effective approaches have been employed in accordance with their suitability.

Among the maintenance approaches that have been administered to nurture best practice is based on 'Reliability Centred Maintenance' (RCM). According to [9], the RCM approach was started in airline industry in United States of America since 1950s. Basically, RCM is a logical-structured process to develop or optimise the maintenance need for physical resource in operational context to realise the inherent reliability as it deals with level of reliability that can be achieved by the efficient maintenance. The emphasis towards the use of RCM concept is steadily increasing since it gives high benefits especially whenever the damage is more than 20% to 25% from the whole maintenance workload.

RCM also is a systematic methodology that is utilized to identify works that related with preventive maintenance in order to elicit the reliability of low-cost devices or machines [10]. Also, as for Dhillon (2006), there are a lot of principles in RCM that focus on preventive maintenance which are deemed to be efficient in ensuring the function of the tool to be optimum and cost-saving.

Kennedy [9] further affirms that RCM is a methodology that balance the utilised resources with regards to the needs of inherent reliability based on the following features:

- Failure deals with unsatisfied situation and the maintenance should be implemented to deter such conditions to repeatedly occur;
- The effects of failure should be identified as priority in maintenance action;
- Surplus equipments which are no longer in-use (redundancy) must be removed wherever necessary;
- Condition-based or predictive-based maintenance technique is touted to be compatible compared to time-based practice;
- 'Use-till-damaged' practice is acceptable whenever the terms applied.

Besides, the formation of best practice was also established by highlighting the 'Total Productive Maintenance' approach. To Venkatesh (2005), TPM is a maintenance programme that involves new concept for tool maintenance with the purpose of productivity enhancement, workforce enthusiasm and customer satisfaction. Routine maintenance will be applied to staff that use certain equipments (also known as autonomous maintenance) while the maintenance unit will only perform the vital and complex maintenance tasks.

With respect to the foregoing discussion, it can be deduced that the basic component of building maintenance management best practice can be categorised into five main aspects, i.e., strategic planning, resource management, information management, consumer involvement and performance control. All the said features must be combined and carried out further to certify and augment the Malaysian facility and maintenance industry.
Summary:
There are a lot of elements that must be considered to develop the building maintenance management best practices. Five major aspects that have become the focal points for previous scholars are strategic planning, resource management, information management, user involvement, and performance control. In ensuring the success of the development of the building maintenance management best practices, the combination and consideration on these aspects is essential. However, further studies should be undertaken to identify a plan of action to be exercised by the related parties for ensuring that these five facets of building maintenance management best practices are really been considered and has been practiced to perfection.

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