A Quick Survey on Maintenance Management Practice in Malaysian Building Industry

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Abstract

Maintenance Management is a very essential aspect in maintaining a value and functionality of a property for instance a building or even machineries and equipments. Strategic planning and implementation of the aspect determine the effectiveness of the output. In Malaysia, the fundamental issues related to techniques and approaches concerned are generally taken lightly by the practitioners which lead to inefficiency of maintenance management practice in the market today. Nevertheless, improper conduct and application of maintenance management procedure and systems may result in deteriorating the property itself. The impact may be seen in demoting a planned financial costing and also the loss in value of the property. As such, an excellent practice of maintenance management is needed to increase the life cycle of the property and to minimize unexpected breakdowns or deterioration effects. The pro-active plan is needed to enhance the significance the property and also its long-term planning efficiency. Therefore, the performance of the maintenance management operations have to be continuously reviewed and analysed in order to ascertain a high quality service. This study aims to improve the maintenance management standard implemented in Malaysia by evaluating the current maintenance management scenario practiced by the building managers. Thus the objective is to identify and examine common factors causing poor maintenance management experienced in Malaysian building industry. Three set of questionnaires were distributed to 15 buildings comprises of hotels, high-rise offices and hospitals. The three types of building were chosen because of its diverse function. These data are then analysed consequently to produce an understanding of maintenance management in current building maintenance practice in Malaysia. This study believe to be valuable in identifying where the practice needed further attention and helped pin point problems areas within building maintenance management.

Keyword: Building maintenance, maintenance management, Malaysia,

1.0 Introduction

Maintenance management in the private and the public sector has been rapidly changing throughout the years. This is due to several factors such as the enhancement of sophisticated technology, globalisation and change of economy (Horner et.al.,1997). In real life there is a mismatch between the expectations of external and internal stakeholders and the capability, between the organizational goals and the objectives of and resources allocated for maintenance planning, and between the execution and the reporting through data recording and analysis. There is a need to map the maintenance process and identify the gap between the maintenance planning and execution (Parida & Kumar, 2006).

Many explanations have been made to express the definition of maintenance. A prime aim of building maintenance is to preserve a building in its initial effective state, as far as practicable, so that it serves its purpose effectively (Al-Zubaidi, 1997; Chanter and Swallow, 2007).

According to Bengstsson (2004), maintenance is traditionally performed in either time based (or distance based) fixed intervals called as preventive maintenance or also by corrective maintenance. He specifies two (2) types of maintenance being applied generally that is the preventive maintenance and also corrective approach. He
further claims that with the preventive approach, maintenance is performed in order to prevent equipment breakdown by performing repair, service or components exchange while with the corrective approach maintenance is performed after a breakdown or when an obvious fault has occurred for some equipment and faults. The maintenance actions must be performed immediately for most maintenance managers opine that the maintenance action can be deferred in time all depending on the equipments function. Meanwhile, BS 3811 justifies three (3) forms of maintenance management such as planned maintenance, preventive maintenance and running maintenance. Planned maintenance is described as the type which ensures that the maintenance process and work is organized and carried out with forethought, control and the use of records to a predetermined plan. Preventive maintenance is on the other hand the one that is carried out at predetermined intervals or to other prescribed criteria and intended to reduce the likelihood of an item not meeting an acceptable condition. Alternatively, running maintenance is type of maintenance in which the maintenance work can be carried out whilst an item is functioning or in service.

Generally, the types of maintenance managements can be divided into two (2) such as the preventive maintenance in which planned maintenance or also known predictive maintenance is one important part of it and also corrective maintenance or also identified as running maintenance. These two (2) varieties of maintenance management are the main structures that classify all the maintenance works available.

In Malaysia, maintenance managements are still being practiced on improper procedure by the maintenance managers which subsequently caused bad impacts to the facilities and the services provided. It can be seen that the managers prefer carrying out reactive maintenance works rather than proactive works and at times do not consider the clients satisfaction and also the performance of services. There is an increasing concern that the maintenance management has been unprofessionally applied by the maintenance managers and no research has so far outlined the critical factors and deliberation on such impractical practices.

The best way to achieve an excellent maintenance management is to have a good maintenance management that match as closely as possible the expected requirements of the user (Pintelon, 1999) Thus, this paper aimed to unveiled the problems that causes poor maintenance in most buildings in Malaysia.

2.0 Maintenance Management in Malaysia

Malaysia boasts one of south-east Asia’s most vibrant economies, the fruit of decades of industrial growth and political stability. It has a population of almost 25.3 million (U.S Department of State, 2005)) and its capital city is Kuala Lumpur. As far as Malaysia is concerned, real estate management and its technologies is not a highly developed subject area. Not many sources of development in this area was found. Zakaria & Hamzah (2007) state that the current building and facilities maintenance management being practiced in Malaysia are mostly not being emphasized clearly and systematically which results in over budget costing for maintenance and remedial works. Recent studies by Natasha et al. (2008) which looked into the chronology of defects being reported that maintenance sector in Malaysian industry is unstable and constantly experiencing increasing maintenance failures and building defects. This has indirectly shown the deficiency in the maintenance system practiced in Malaysia.

In February 2001 during the opening of the Kuala Lumpur 21 Convection and Exposition, the then Prime Minister of Malaysia, Datuk Seri Abdullah Ahmad Badawi made a statement (Moore and Finch, 2004):
Unless Malaysia changes their mentality to become more aware of the need to provide good services and improve the upkeep of buildings, we will forever be a Third World country with First World infrastructure.’

This statement seems does not bring any improvement to the building maintenance technology in Malaysia when the latest annual budget is seems not much different from the previous (Malaysia Annual Budget, 2005). Referring to the Malaysian Budget 2006, the Malaysian Prime Minister (who also act as Malaysia Finance Minister) reported to the parliament that the government would provide a special allocation of RM1 billion (USD284 million) for the maintenance of public facilities for next year and this is to supplement the allocation of RM4.3 billion (USD1.22 Billion) provided to agencies for maintenance. In 2005, the government has provided RM500 million (USD142 million), enabling nearly 9000 maintenance works to be undertaken by class F contractors (the lowest level of contractor class in Malaysia with work project below than RM70 000 (USD19,900) in addition to the allocation to government agencies amounting to RM4.1 billion (USD1.1 billion) (Malaysia Annual Budget, 2005).

The Prime Minister of Malaysia says that it is very common to see that most government buildings were not regularly maintained because most faults cannot be distinguished at their early stage (Utusan Malaysia, 2006a). Based on this, he has suggested that the Public Work Department needs to prepare building maintenance guidelines in order to identify any damage from the early stage (Utusan Malaysia, 2006b). This could also avoiding government to spent more money on maintenance and it could make things stay last longer. This guideline is very important to recognised damages and failures hence preventive and predictive strategy can be applied.

3.0 Data Gathering/Methodology

A total of 15 buildings were surveyed in this study consisting of high rise offices, hospital and hotel in the vicinity of Klang Valley, Malaysia. This study utilises questionnaires survey as the main method of data collection. The questionnaire was chosen because it is the best fit method to be used by all levels of respondents. This is further supported as many of the possible subjects move around the building during the course of their work, which makes interviewing problematic (Mahmud, 2008). Using questionnaires allows the respondent to think about the questions before answering. (Cooper & Schindler, 2003) The main reason for the survey is to collect as much data as possible about the condition and performance of building maintenance management. The buildings were chosen because of their diverse functions.
Table 1: The Questionnaire Structure

<table>
<thead>
<tr>
<th>GROUP 1 Questionnaire</th>
<th>GROUP 2 Questionnaire</th>
<th>GROUP 3 Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent: the building owner</td>
<td>Respondent: Buildings' Occupants</td>
<td>Respondent: Maintenance Staff</td>
</tr>
<tr>
<td>1. Building usage.</td>
<td>1. Did they respond promptly to any request made?</td>
<td>1. Academic qualifications</td>
</tr>
<tr>
<td>2. Building age.</td>
<td>2. Was the requested work completed by the time it was needed?</td>
<td>2. Working experience,</td>
</tr>
<tr>
<td>3. Approximate gross floor area.</td>
<td>3. If it was necessary for the job to be delayed was this communicated to you?</td>
<td>3. Age</td>
</tr>
<tr>
<td>4. Number of floors.</td>
<td>4. Were interruptions kept to a minimum?</td>
<td>4. Gender</td>
</tr>
<tr>
<td>5. Number of workers in maintenance.</td>
<td></td>
<td></td>
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<tr>
<td>6. Number of occupants in building.</td>
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</tbody>
</table>

4.0 Finding & Results

Referring to all satisfaction surveys from occupants, it is found that they are almost satisfied with the maintenance services provided. The bar chart in Figure 1 shows that the occupants’ satisfaction level has a similar pattern for the three types of building. The cross comparison analysis below compares all three types of building.

![Cross comparison analysis for satisfaction level of the surveyed of buildings](image)

Table 2 shows 4 variables have been rated as “not satisfied” with ratings from the minimum mean of 2.5 up to the maximum of 2.8 which are shown in italic bold font. These variables are Questions 2, 3, 4 and 5. Those variables represent whether requested work is completed by the time it is needed (Q2), whether staff will communicate if jobs are delayed (Q3), whether all interruptions are kept to a minimum, (Q4) and whether the worksite is left neat and orderly (Q5). Question 1, which represents whether staff responds promptly to each request made, was rated as “satisfied” by all respondents. This means that staff did not take too long to attend a job but perhaps they needed a longer time to fix the failure, as this might be related to Questions 2 and 4. This requires more analysis to find out any considerable matters that affect the results.
Data from the survey has shown the condition of maintenance management and performance in three types of building in Malaysia. Most buildings face similar problems in terms of breakdowns and other weaknesses that have an effect on the quality of the system. Lighting, HVAC, telecommunications and sanitation are considered to need most maintenance attention. Scheduling and prevention planning would be good solutions to improve this situation (Joseph et al., 2007). Most occupants prefer to use the telephone to request maintenance, and males are more likely to be employed in maintenance departments. The study has also found that most organisations need to be careful when hiring people to work in the maintenance department. It may be that some technical competency will be needed in their routine job, and if they do not have this, management would need to organise training for them. Indicators of maintenance needs might be very usefully employed in maintenance departments to ensure that there are enough people to cater for all the maintenance needs (Shohet, 2003).

5.0 Conclusion

Maintenance work in Malaysia is described as a service industry. Hence, as with other service industries, maintenance work in this new era is moving towards privatisation, which has been introduced in government agencies, and is expected to present further challenges in the future (Zawawi, 2009). It needs good professional skills to meet consumers' requirements for a proactive and high quality service. The appearance of high technology and sophisticated buildings, known as intelligent buildings, entails the need for good maintenance services. This requires a better trained maintenance organisation from a variety of disciplines, ready to implement the technology expected to be installed in the new buildings. For all the people involved in this critical industry, the challenge is to have good self-motivation and start promoting a “maintenance culture”, such as encouraging people to love and care for the environment. In addition, more training and courses will be arranged to enable people to become more reliable working in this field. The government need to play their role in promoting environmentally friendly strategies to encourage people to love their environment (e.g. in reducing vandalism). A huge amount of money is needed for the training and courses that might involve international connections. At first, a few staff may be sent abroad to attend courses by specialist manufacturers. This would be followed by organising more economical local in-house training. It is
believe that this paper has unveiled problems facing in maintenance department. It is hoped that it will be a very useful reference for maintenance departments in Malaysia, helping them to improve both the status and the standard of the maintenance system.

References


