Competency and Commitment of Facilities Managers Keys to Safeguard Maintenance Performance

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COMPETENCY AND COMMITMENT OF FACILITIES MANAGERS: KEYS TO SAFEGUARD MAINTENANCE PERFORMANCE

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Abstract
Facilities management is an integrated approach to operate, maintain, improve, and adapt the buildings and facilities of an organisation in order to support the core business operations of that organisation. Due to the lack of knowledge and skill in maintenance-related matters, the organisation and client rely on the facilities manager to take care of their building most of the time. However, the facilities management of the buildings has been unprofessionally applied by the facilities managers, which subsequently triggered negative impacts to the building services and facilities. Lack of manager’s commitment is also questioned because of the salary payment. Therefore, this paper seeks to examine the relationship between the competency of facilities manager and maintenance performance; and investigate the relationship manager's salary and manager’s commitment through questionnaire survey and interview. The findings indicate that there are significant relationship between manager’s competency and maintenance performance; as well as manager’s salary and manager’s commitment. The study concludes that actions should be taken in order to improve the competency and commitment of facilities managers constantly, and hence enhance the maintenance performance.

Keywords: facilities manager; competency; commitment; maintenance performance; professional development

INTRODUCTION

Facilities management is an integrated approach to operate, maintain, improve, and adapt the buildings and facilities of an organisation in order to support the core business operations of that organisation (Pathirage et al., 2008). In construction industry, building operation and maintenance take place immediately after the completion of construction. Due to the lack of knowledge and skill in maintenance-related matters, the organisation and client rely on the facilities manager to take care of their building most of the time. Whereby, they deem that the facilities manager is the expertise or profession in these matters. Thus, a facilities manager will lead the operation and maintenance of building upon the establishment of building management team.

Commonly, the facilities managers have wide range scope of works, from administrative to technical tasks. Thus, the role of facilities managers is of vital to the operation and maintenance of building and facilities. Specifically in building maintenance, the facilities managers involve in maintenance planning, implementation, monitoring, and evaluation. They should be able to make decision on selecting appropriate maintenance strategies for the building and systems with optimal resources (Horner et al., 1997). Then, they need to ensure that all the maintenance tasks perform effectively by monitoring the tasks and staffs. Subsequently, they have to evaluate the maintenance outcome and satisfaction of the clients and occupants.

However, Kamaruzzaman et al. (2013) argued that the main problem in maintenance management of the buildings is that it has been unprofessionally applied by the facilities
managers, which subsequently triggered negative impacts to the building services and facilities. The poor performance of building services and facilities potentially harms the building users in the aspects of health, safety, and comfortability (Lai & Yik, 2011). Furthermore, risks of these aspects jeopardise the productivity of workers in office buildings and thus affects the operations or core business activities of the organisations (Kwon et al., 2011).

In fact, the facilities managers should take into account innovation and innovation activities in order to manage the buildings effectively and preserve a competitive advantage (Scupola, 2012). Continuous improvement towards the competency of facilities managers might be essential to guarantee the proper management of building and successful organisation business. Therefore, this paper seeks to examine the relationship between the competency of facilities managers and maintenance performance.

**COMPETENCY OF FACILITIES MANAGERS**

Williams and Sutrisna (2010) stated that the scopes of work for facilities manager include full responsibility of clients’ premises, planning and provision of accommodation and support services to business and occupants, building security and maintenance, management of people, time, cost and building performance. Meanwhile, Meng (2014) claimed that the facilities manager must balance the economic, environmental, and social considerations in building management by linking the strategic level with the operational level.

Building and facilities management is complex as the building and facilities constitute a massive proportion of the fixed asset worth for most of the organisations (Kamarazaly et al., 2013). Taking into cognisance the complexity of the duties, the competency of facilities manager is concerned. Generally, a skilful and experienced facilities manager is able to provide the service as required by the organisation or client, above satisfactory level and ensure all the tasks complete accordingly to provide outstanding building performance (Au-Yong et al., 2014a).

Due to the complexity of buildings, facilities and maintenance managers have evolved from skilled craftsmen to person holding university degree, postgraduate and improvement courses (Amorim et al., 2013). In fact, the development of facilities management has met the criteria that qualify a subject as an academic discipline (Antje & Nils, 2014). Hence, many higher education institutions offer the facilities management program nowadays. Commonly, the institutions gain an accreditation and are required to maintain and regularly improve the program over the accreditation period (Dore et al., 2014). The facilities managers are obliged to participate in this program in order to develop their skill and knowledge in terms of (Facility Management Accreditation Commission, 2014):

a) Leadership and strategy  
b) Operations and maintenance  
c) Project management  
d) Communication  
e) Finance and business  
f) Human factors  
g) Quality
h) Real estate and property management  
i) Technology  
j) Emergency preparedness and business continuity  
k) Environmental stewardship and sustainability

Apart from the skill and knowledge, it is vital to have relevant experiences in performing facilities manager’s duties. Sharing of knowledge and experience is important. Hebert and Chaney (2011) revealed that communication between experienced facilities managers and their colleagues in younger generations would allow for more efficient transfer of skill between individuals. Apart from that, experienced facilities managers can potentially apply influence upwards to clients, downwards to building users, and sideways through external organisations in the aspects of decision making, awareness, and implementation (Goulden & Spence, 2015).

Undoubtedly, the industry innovates and develops advanced technologies such as Building Information Modelling and Computerised Maintenance Management System to improve the efficiency of facilities management operations (Motamedi et al., 2014). However, the facilities managers have not been motivated to implement them due to the limited knowledge about them (Korpela et al., 2015). There is a need for the facilities managers to improve themselves continuously by attending seminar or workshop. For instance, they learn and familiarise with the new technologies that can apply in their workplace, which they have not exposed to during their study time.

Furthermore, the roles of facilities managers emerge from time to time. Recently, optimising energy efficiency during the building operation phase becomes a factor to improve building sustainability. Thus, facilities managers are liable to adapt the role in optimising energy efficiency (Cao et al., 2015). The professional bodies like IFMA always update the new concepts in the field of facilities management via workshops (IFMA, 2015). Thus, it is important for the facilities manager to attend related seminars, workshops, and training to update their knowledge in facilities management.

Peters (2015) highlighted that a leading facilities manager should be proactive, has vision, promotes growth, and promotes continuous improvement. Thus, it is important for facilities managers to enhance their competencies continuously in order to perform the tasks of facilities management effectively.

**COMMITMENT OF FACILITIES MANAGERS**

Nowadays, facilities manager is classified as a professional. Fu and Chen (2015) stated that the development of complex expertise requires individuals to be regularly committed to the relevant activities like training workshops. Thus, formation of trainings and professional development programs is compulsory. Unfortunately, the lack of interest and commitment from the facilities managers becomes a main issue. Whereby, they need to participate in such trainings and programs at their own expenses most of the time (Mushchanov et al., 2015). Therefore, the continuous professional development of facilities managers highly depends on their own commitment.
Although the scopes of work for facilities managers are clearly stated and updated from time to time, Meng (2014) mentioned that the efficiency of management is still relying on the commitment of the individual managers. He also noted that the facilities managers should commit themselves in policy making and strategic planning of the management. For example, application of new technologies such as Building Information Modelling in the facilities management requires commitment and involvement of the facilities managers, but the facilities managers are yet hardly committed in the application of the technology (Korpela et al., 2015).

Besides that, manager’s commitment in terms of communication is essential. Whereby, there are always some gaps or conflicts between the organisation and facilities management staffs, a middle man should exist to deliver the issues and requirements between the two parties (Lee & Scott, 2009). In this circumstance, the facilities manager is considered as the middle man. Arditi and Nawakorawit (1999) demonstrated that the maintenance performance is likely to improve if the facilities manager commits in communicating within the organisation. Without understanding the needs of all the parties, implementation of facilities management tasks will be in contrast with the organisation objective (Kamaruzzaman & Zawawi, 2010).

Taking into cognisance the importance of manager’s commitment, action to stimulate the commitment is required. Maxwell and Steele (2003) revealed that high level of salary pay may encourage the manager’s commitment. Furthermore, the amount of salary paid to facilities managers can be a significant factor that influences the maintenance performance, where it would indirectly affect the commitment of facilities managers (Au-Yong et al., 2014b). Thus, this paper also aims to investigate the relationship manager’s salary and their commitment.

RESEARCH DESIGN

In order to achieve the objective of the study, a conceptual model as shown in Figure 1 was developed for accommodating the implementation of research process:

![Conceptual model](image)

**Figure 1.** Conceptual model

This research adopted the mixed method approach that comprises of literature review, questionnaire survey, and semi-structured interview. This approach allows the researchers to address more complicated research questions and achieve higher reliability and validity of the research (Yin, 2009). Firstly, literature review conducted particularly on the competency and commitment of facilities managers and then followed by a preliminary survey. Secondly, close-ended questionnaires were drafted in five-point Likert scale and multiple choices based
on the findings of literature and preliminary survey. It covered three sections, namely the respondent’s particular, facilities manager’s characteristics, and maintenance performance.

Subsequently, the simple random sampling method was adopted in distributing the questionnaire. However, the survey targeted the relevant respondents, who are the facilities managers that have been or are currently working on the facilities management of office building. Meanwhile, population criteria included building requirement, which is high-rise office buildings (7-storey and above) located in Klang Valley, Malaysia. The high-rise buildings are usually equipped with more complex systems like HVAC system, lift system, and firefighting system. This would greatly require the competent facilities manager to take care of the facilities. Hoxley (2008) suggested that questionnaire survey requires a minimum response rate of 30 percent to produce reliable and convincing results. In this research, a total of 300 questionnaires were distributed to the facilities managers from different office buildings. 108 returned and valid questionnaires contributed to 36 percent of response rate. Thus, the collected data were reliable.

A correlation test was able to measure the relationship between the manager’s competency and maintenance performance through Statistical Package for Social Science (SPSS) (Diamond & Jefferies, 2006). The Spearman rank-order correlation was engaged for the analysis. It is suitable to analyse either or both variables are ordinal (Graziano & Raulin, 2010). Next, this study ran the binary logistic regression analysis to produce the prediction model for maintenance performance. Whereby, the probability of an event can be measured by using logistic regression (Chua, 2009). Basically, logistic regression function is as follow:

\[ Z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k + \varepsilon \]

Where,

\( Z \) = latent variable  
\( X_1, X_2, \ldots, X_k \) = independent variables  
\( \beta_0 \) = constant  
\( \beta_1, \beta_2, \ldots, \beta_k \) = change in \( Y \) for a change of one unit in \( X_1, X_2, \ldots, X_k \) respectively  
\( \varepsilon \) = error term

\( Z \) value is transformed using a link function to obtain the probability of the event occurring. In this research, the link function to obtain the probability of satisfactory maintenance performance is stated below:

\[ P [\text{satisfactory maintenance performance}] = \frac{e^Z}{1+e^Z}, \text{ the value is between 0 and 1.} \]

In order to investigate the relationship manager’s salary and their commitment, chi-square test for independence or relatedness was performed to analyse the relationship between two categorical variables (Diamond & Jefferies, 2006), namely manager’s salary and manager’s commitment.

Lastly, semi-structured interview was carried out with facilities managers with more than five years of experiences in facilities management. The interviewees were selected from the questionnaire respondents who fulfil the requirements. The interview aimed to obtain further
details and understandings about the manager characteristics toward maintenance performance. For example, one of the interview questions was “Does the degree of manager’s competency significantly influence the maintenance performance? How it influences the maintenance performance?” The interview allows the researcher to explore and uncover the respondents’ views in detail (Marshall & Rossman, 2006).

**FINDINGS AND DISCUSSION**

The correlation analysis result indicated the relationship between manager’s competency and maintenance performance as shown in Table 1. Basically, a correlation coefficient of less than 0.3 points to a weak relationship; a coefficient of 0.3 to 0.5 denotes a moderate relationship; and a correlation coefficient of 0.5 or more points to a strong relationship between two variables (Gray & Kinnear, 2012; Saunders et al., 2009). However, SPSS determines significantly correlated variables with the significance value of 0.05 or below.

<table>
<thead>
<tr>
<th>Spearman’s rho</th>
<th>Manager Competency</th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>.411**</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.01 level (2-tailed).

The result demonstrated that the manager’s competency is significantly correlated with the maintenance performance, with coefficient 0.411 (p < 0.05). Sustainability of a building requires planning, implementation, operation and maintenance, evaluation, and improvement activities. In order to ensure its success, it involves advanced skill, knowledge, and technology inputs from the facilities management staff, especially the facilities manager. The result validated that the facilities manager must be able to consider economic, environmental and social aspects from strategic level to the operational level in assuring the optimal performance (Meng, 2014). Moreover, the continuous improvement of the facilities manager is compulsory to update the demands of facilities management that emerge from time to time (IFMA, 2015; Peters, 2015). During the interview session, the interviewees also validated the result by signifying the initiative of facilities managers to perform their tasks with updated technologies and multidisciplinary skills in order to satisfy the clients’ need. For instance, the interviewees’ conversations are quoted as follows:

“… Facilities manager must be able to bring in new technologies to be applied in the facilities management industry in order to improve the service outcome.”

“… Facilities manager is employed to solve the problems that the client cannot solve. So, the manager must be skilful to handle the problem and ensure the functionality of building and facilities.”

“… As a facilities manager, I am expected to be capable in providing service as required by the client to make sure minimal facilities problem occurs with optimal use of resource, manpower, and time.”

In order to validate the correlation analysis result, logistic regression analysis was conducted, where manager’s competency as the independent variable and maintenance
performance as the dependent variable. In the analysis, maintenance performance was coded with the value of 0 and 1. Whereby, “not satisfied” and “satisfied” were labelled as 0 and 1 respectively.

By using forward stepwise method, SPSS produced a logistic regression model (see Table 2) revealing the manager’s competency significantly predicts the odds of satisfactory maintenance performance with \( X^2 = 22.20, p < 0.05 \). In this case, the manager’s competency (MC) could predict 27.8% of the variance in maintenance performance. It was a high percentage as the model only included a predictor. Furthermore, the p-value for Hosmer-Lemeshow goodness of fit was 0.09, which was more than 0.05. Thus, the model adequately fit the data. Then, the logistic regression equation was produced as follows (see Table 2):

\[
Z = -4.881 + 0.999 \text{MC}
\]

<table>
<thead>
<tr>
<th>Step 1*</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
<th>95% C.I. for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ManagerCompetency</td>
<td>.999</td>
<td>.260</td>
<td>14.708</td>
<td>1</td>
<td>.000</td>
<td>2.715</td>
<td>1.629 - 4.522</td>
</tr>
<tr>
<td>Constant</td>
<td>-4.881</td>
<td>1.094</td>
<td>19.906</td>
<td>1</td>
<td>.000</td>
<td>.008</td>
<td></td>
</tr>
</tbody>
</table>

a. Variable(s) entered on step 1: ManagerCompetency.

The score of the manager’s competency was quantified from 1 to 5 that represented “very low degree of competency” to “very high degree of competency” respectively. The criteria for the degree of manager’s competency were tabulated in Table 3. Achievement of four criteria would contribute to the score of 5; while none would contribute to the score of 1. Then, the score could be inserted to the equation in order to obtain the probability of satisfactory maintenance performance. Table 4 showed the probability of satisfactory maintenance outcome based on the degree of manager’s competency. Therefore, the manager’s competency is significantly influencing the probability of satisfactory maintenance performance. A high level of manager’s competency is likely to increase the probability of performance satisfaction towards the facilities management. The probability was indeed low because there might be some other predictors or moderating variables that affecting the change of probability.

<table>
<thead>
<tr>
<th>Table 3. Criteria for the degree of manager’s competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competency of facilities manager</td>
</tr>
<tr>
<td>Criteria</td>
</tr>
<tr>
<td>• Possess academic qualification (diploma/degree in relevant field)</td>
</tr>
<tr>
<td>• Accumulate of working experience</td>
</tr>
<tr>
<td>• Regularly attending competency development activities</td>
</tr>
<tr>
<td>• Registered member of relevant professional body</td>
</tr>
</tbody>
</table>
Literature highlighted the commitment of facilities managers could affect the relationship between their competency and maintenance performance (Arditi & Nawakorawit, 1999; Fu & Chen, 2015; Meng, 2014). However, lack of manager’s commitment is the issue occurred in facilities management industry (Korpela et al., 2015; Mushchanov et al., 2015). Thus, action to raise the manager’s commitment is necessary. The chi-square analysis result summarised that unsatisfactory salary payment contributes to low commitment of facilities manager (See Table 5). Pearson’s chi-square has a value of 6.171 with significance of less than 0.05 indicating significant relationship between manager’s salary and manager’s commitment (see Table 6). The minimum expected cell frequency is 15, which is more than 5. Hence, the main assumptions of chi-square are not violated (Coakes & Ong, 2011). The result confirmed the arguments of Maxwell and Steele (2003) and Au-Yong et al. (2014b) that it is important to allocate satisfactory salary amount for the facilities manager in order to encourage their commitment in professional development and communication in facilities management.
### Table 6. Chi-Square Tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>6.171</td>
<td>1</td>
<td>.013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction</td>
<td>5.186</td>
<td>1</td>
<td>.023</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>6.146</td>
<td>1</td>
<td>.013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>.022</td>
<td>.012</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>6.114</td>
<td>1</td>
<td>.013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>108</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 15.00.
b. Computed only for a 2x2 table

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**Improving the Competency and Commitment of Facilities Managers**

The study proposed that actions should be taken in order to improve the competency and commitment of facilities managers constantly. The research result convinced that appropriate salary paid to the facilities managers would promote the commitment of the managers to develop their competency via training programs or professional practices continuously. Meanwhile, recommendations to improve their competency and commitment were discussed in the interview session. The interviewees were in view that the organisation should encourage the facilities management staffs to achieve specific level of competency by providing financial support. The organisation should also allow the staffs to spend some times for attending courses, workshops, trainings, seminars, and other activities that help to develop their competency. Further study about the actions to enhance competency development is recommended. In addition, study on the effect of manager’s commitment towards the relationship between manager’s competency and maintenance performance is suggested.

**CONCLUSION**

This research emphasised the competency and commitment of facilities managers to reach the satisfied maintenance performance level. The findings demonstrated that competency of facilities managers is significantly correlated with maintenance performance. The criteria to be a competent manager includes possess of relevant academic qualification, accumulate of working experience, regularly attending competency development activities, and registered member of relevant professional body. Furthermore, a prediction model generated through SPSS included manager’s competency as the significant predictor of the maintenance performance. The model revealed that higher degree of manager’s competency is more likely to contribute satisfied maintenance performance. Then, the study determined that the commitment of facilities manager could be influential to the relationship between manager’s competency and maintenance performance. However, lack of commitment becomes an issue in the industry. The recommendations to stimulate manager’s commitment was identified, they are allocation of appropriate salary and encouragement from the organisation to continuously develop the manager’s competency. As a conclusion, the efficiency of facilities management cannot rely solely on the facilities manager; the organisation must support and assist the manager in professional development. Consequently, the competent and committed manager is able to perform the tasks effectively and support the organisation to achieve the organisational goals.
REFERENCES


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