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Facility management knowledge development in Malaysia: Added value in hospitality managerial competency

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Facility management knowledge development in Malaysia

Added value in hospitality managerial competency

Facility
management
knowledge

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Abstract

Purpose – The purpose of this paper is to clarify recent research on knowledge development in Facility Management (FM); identify types of knowledge and its degree of importance in the FM field within the Malaysian environment; and how does it benefit Hospitality Management (HM) in terms of managerial competency.

Design/methodology/approach – The nature of this study is quantitative. Data were gathered through questionnaires distributed to various practitioners in the FM field in the private sector and government sector in Malaysia.

Findings – The analysis results support that all types of knowledge, which was considered important, are required to develop a conceptual model of training syllabus for an intensive training program. The analysis results will be discussed in the context of hospitality management. In addition, a decision-making tree model was created to facilitate the training program in the future with the aim of developing a competency model.

Research limitations/implications – Most of the participants have experience with the FM field. Future research is recommended to include the conceptual model of training syllabus in analysis information relating to managers directly involved with the orientation of HM.

Originality/value – This paper presents a quantitative survey regarding the importance of knowledge in the FM industry in Malaysia and generally discusses the link between FM and Hospitality managerial competency. Further, this research delivers useful information for FM and HM managers who intend to further develop the practical training program based on the proposed decision-making tree model.

Keywords Knowledge, Facilities management, Training, Competencies, Hospitality management

Paper type Research paper

Introduction

Facility Management (FM) encompasses various disciplines to ensure workplace environment functionality by implementing integration between people, place, process and technology (IFMA, 2009). In Malaysia, facility management is an area that is still new in terms of the growth of knowledge and practice according to FM industry needs in Malaysia. As such, knowledge in the FM field needs to be studied to develop a competency model, and to ensure a glorious future in the FM field. There are several important factors that contribute to the success in developing a certification designation for managers in a particular industry such as understanding what knowledge related, skills and attributes (Koenigsfeld *et al.*, 2012).



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Knowledge is the key to success on people, place and process. Knowledge is very important to carry the best of FM practices (Nutt, 2000). As can be seen in Figure 1, knowledge connects people, place and process. Thus, without having knowledge on the people that inhabit a building and the processes involved in the building operation, it will be difficult for human to manage the place or building well.

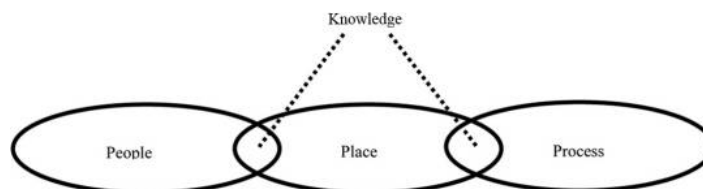
The concept illustrated in Figure 1 is fundamental to the FM field where human knowledge on workplace and processes in FM needs to be developed. Therefore, a research study on FM growth of knowledge, especially in Malaysia, is most needed (Syed Mustapa and Adnan, 2008). This shows the importance of raising and defining the knowledge of FM in Malaysia. In addition, the identification of the knowledge will also help to develop a conceptual model of training syllabus relevant for an intensive training program. In the future, the training program can be a guide to create an effective competency model in FM.

In a similar vein, an organization can enhance employee's career competency and, at the same time, influence career satisfaction by promoting an intensive training approach and interesting development programs (Kong *et al.*, 2012).

A competency model is very important for an organization to build an integrated framework in developing human-resource system (Chung-herrera *et al.*, 2003). Therefore, many types of organization including those in the Hospitality Management (HM) and FM will use a competency model. In addition, to benefit from the competency model, the HM needs to enhance their employee's capability because the HM industry is a broad category and additional fields within the tourism industry that include several assets such as hotels, club houses, restaurants, resorts and other lodgings. These assets consist of multiple groups such as facility maintenance, direct operations (servers, housekeepers, etc.), management (manager's responsibility), marketing, and human resources. In other words, service quality delivery drives the HM industry.

Background of study

Before going deeper to identify the knowledge needed and to develop the conceptual model of training syllabus in FM, the related issues must be first discussed properly. A research carried out by Syed Mustapa and Adnan (2008) has indicated the existence of four main problems in the implementation of FM in Malaysia. The first problem is the lack of participation from any organization due to the lack of understanding in preparing the foundation for a comprehensive FM implementation to achieve the objectives. The second problem is the lack of technical knowledge and specialists in problem solving. The third problem is the lack in preparation of complete guidelines for FM. The fourth problem is the absence of association institutions or statutory bodies which monitor and recognize the FM profession in Malaysia. All four problems are



Source: Adaptation from explanation by Nutt (2000)

Figure 1.
Implementation of a
job scope is based on
human, place and
process

interrelated among each other. However, the second problem relates to knowledge in the FM field that needs to be prioritized and studied in detail.

Knowledge is the source of economic success, and managing such knowledge is a strategic advantage for creating business value, generating competitive advantage and influencing organizational performance (Gravier *et al.*, 2008; Pathirage *et al.*, 2008). Therefore, knowledge management (KM) is a suitable concept in managing the knowledge that includes three major processes, namely, acquisition, conversion and application of knowledge (Gold *et al.*, 2001). Many research studies regarding the implementation of KM in different organizations in Malaysia have been undertaken, such as in property companies (Razali and Juanil, 2011; Razali, 2008), accounting organizations (Chong *et al.*, 2011), higher education (Ramachandran, 2013; Ramachandran *et al.*, 2009) and public organizations (Bin Syed-Ikhsan and Rowland, 2004; Syed-Ikhsan and Rowland, 2004). A research by Razali and Juanil (2011) has emphasized the importance of nine KM strategies to be implemented by property companies in Malaysia, namely, attitude, technology, systematic working method, support from top management, knowledge culture in organization, thoughtfulness, knowledge creation, repository system in organization and innovation. The research by Razali and Juanil (2011) shows growing acknowledgement of KM in providing improvement to the organization activities and performance. Therefore, this paper emphasizes the acquisition of knowledge in FM and aims to present a conceptual model of training syllabus in the form of a decision-making tree to obtain an intensive training program in FM.

The objective of this paper is to study the knowledge development in FM within the Malaysian environment. Therefore, the research will identify types of knowledge and their degree of importance in the FM field. The findings will be the basis in creating the conceptual model of training syllabus. In other words, this result is required in future research to develop a competency model in FM. The second objective is to identify the added value to HM in terms of managerial competency.

This paper unfolds in the following manner. First, a review of relevant literature is provided beginning with an overview of studies that discuss the development of knowledge in FM. This review is followed by a discussion on other relevant literature in developing the competencies model for managers in HM. The problem statement is then developed for describing competencies in a specific view, which is identifying the knowledge needed in the form of ranking. The identification for the degree of importance among the knowledge that has been studied will be treated as among reliable contents in developing a conceptual model for training syllabus in FM. Other than that, studies that were carried out by previous researchers in developing competencies for managers in HM will be examined to identify the relationship between competencies in FM and HM. The finding is then discussed by focusing on the added value to the managerial competencies in HM. The proposed decision-making tree for future training program is then referred as the key in creating a competency model that is suitable with the Malaysian FM industry's demand.

The importance and growth of knowledge

In the past several decades, FM has been a professional integrated approach to support core business for many of business organizations, educational institutions and

government departments in managing facility resources effectively and offering a high degree of support services (Gao and Cao, 2011).

However, with rapid development of this profession, FM is suffering from an acute identity crisis and confusing field of activity where the theoretical research is far behind practice demand, which caused the difference of recognition and misunderstanding (Gao and Cao, 2011; Grimshaw, 2003; Nutt, 1999; Price, 2001). In other words, the field of FM is not yet supported by an adequate knowledge base to underpin best practice, to advance the field and to bridge the gap between its promise and performance (Nutt, 1999). According to Gao and Cao (2011), it is important to develop FM theory knowledge in a form of conception frame model to help people recognize the essence and core value of FM.

In the twenty-first century, high demands and drastic changes in marketing strategies create rival in a dimension of creating wider innovation capacity through growth of knowledge. Let us start with the definition of knowledge, which is considered as “justified true belief” and the main focus of theories is on the explicit nature of knowledge (Nonaka and Takeuchi, 1995). Whereas, KM can be defined as knowledge process and how knowledge is effectively managed to produce profit in an organization (Hsu and Sabherwal, 2012).

In addition, KM gives more focus on improving partnership in the best practical way, learning lesson, methodology in engineering system and rational when deciding that strategy (Olomolaiye *et al.*, 2004). Among the steps to ensure success in knowledge implementation of management are own learning environment and knowledge sharing. This is followed by providing well-defined vision and mission, leadership force that effectively spurs KM and create a reward system to volunteers that contribute and share knowledge (Olomolaiye *et al.*, 2004).

As knowledge is increasingly recognized as a source that is important in most organizations, this become meaningless if all aspects related to an organization’s physical assets and working environment can be neglected or taken for granted. In other words, knowledge in FM contains strategic values in terms of continuity between physical resources performance and as a result of service that is provided by that source to the clients (McLennan, 2000).

Knowledge is being patented or turned into service level that is agreeable when combined and applied more systematically (Waheed and Fernie, 2009). It will create an optimum usage in the working environment and facility output which can be considered as the core competency in an organization. Through this way, one can obtain more details in understanding the FM and various benefits that can be enjoyed. Because of all of these, to ensure that the FM moves actively, knowledge that is a correlation with FM should be explored and need to be developed.

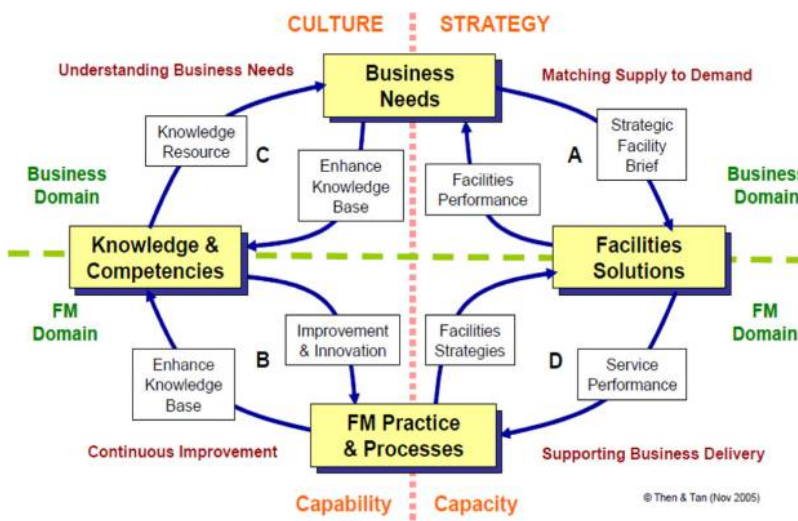
Continuity between knowledge, practice and profession in FM in Malaysia

In Malaysia, FM is an area that is still new in terms of the growth of knowledge and practice according to the FM industry needs in Malaysia. Kamaruzzaman and Zawawi (2010) stated that Malaysia has put great focus toward greater performance of FM in Malaysia using a holistic approach by integrating effort and collective responsibility.

If we look at the previous studies in terms of practical and development of the facility manager profession, it is found that there are many differences in terms of the direction between real practical, main requirement in profession and real knowledge level necessitated by the FM field. However, the major root to this FM whole process is to achieve customer satisfaction and the organization's objective.

Organizations that use the Balanced Scorecard method will be identified as the main requirement in the Balanced Scorecard, namely, development of learning and knowledge. Based on this need, studies are made against market demand and industry in the FM field. A question is raised on whether successful adapted practical FM do enough without the knowledge development that is suitable with the local industry environment in Malaysia.

Figure 2 shows the direct relationship between four strands in the business domain and FM domain. Therefore, more detailed study should be made because it is found that there is a strong association between four strands, namely, business, facility solution, competency and knowledge in FM, as well as process and practical in FM (Then and Tan, 2006; Buckler, 1998; Chotipanich and Nutt, 2008; Clark and Hinxman, 1999; Grimshaw, 1999; Kamaruzzaman and Zawawi 2010). Relationship and alignment between competency and knowledge with process and practical in FM can be studied in detail to improve the knowledge in FM. Producing an efficient process and continuous learning will lead to development of innovation in FM. Furthermore, continuous learning and development of innovation will help FM organizations to sustain in business, obtain customer expectations and add value to the core business of the customer (Lindkvist and Elmualim, 2010; Mudrak *et al.*, 2005; Goyal *et al.*, 2005; Quintane *et al.*, 2011; Junnonen, 2012).



Source: Adaptation from Then and Tan (2006)

Figure 2.
Alignment between
business component
and FM component

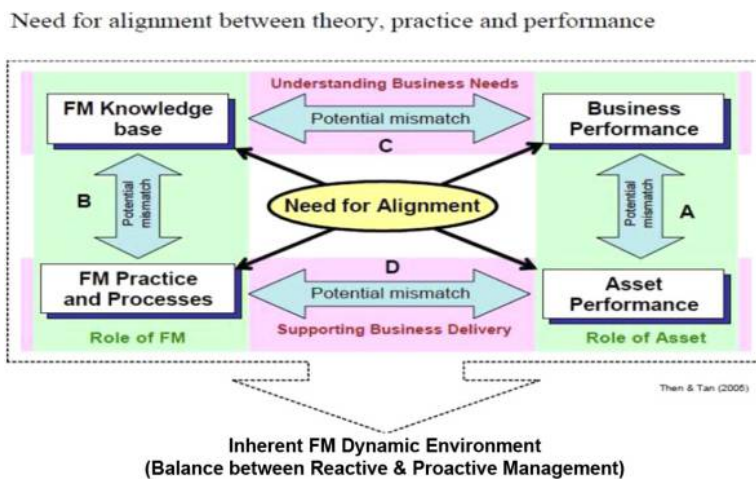
Relationship between requirements in managerial competencies influence of context on hospitality industry with the facility management's practice

The competencies required in hospitality environment are parts of the perceived need for interpersonal skills followed by the competency which is defined as a skill or personal attribute/ability that is required to be effective on the job that is critical to achieving targeted outcomes (Brownell, 2008). Furthermore, most of the competency models developed in the hospitality and tourism settings seem to provide limited focus on specific categories of behavior which might facilitate customer satisfaction, followed by the suggestion that a context specific model including both management and leadership components will assist hospitality and tourism managers by focusing on service quality and aligning organizational efforts (Testa and Sipe, 2012). Moreover, to increase hotel profit, top managers focus most on generic practice-oriented professional competencies and technical professional competencies (Jeou-Shyan *et al.*, 2011). According to Asree *et al.* (2010), good leadership competency such as self-managing, strategic positioning knowledge, critical thinking, leadership skill and industry knowledge and experience would improve the level of hotel's responsiveness in Malaysia toward its customer needs.

In a similar vein, FM evolved not only as an operational discipline to ensure that provided or constructed facilities are effectively managed but also as a strategic initiative capable of analyzing and responding to the changing needs of organizations (Okoroh *et al.*, 2003). The above literature discussion shows that competencies in FM have a potential to improve efficiency in managing organizational asset and further more add value to the hospitality organizational performance and services. In managing organizational asset, there are four important aspects that need to be connected to each other. The four important aspects are knowledge base, practice and processes, asset performance and business performance.

Knowledge base should be studied in detail because there is a big gap, especially between process and practice in FM with knowledge base in FM (Then and Tan 2006; Nutt, 1999). Figure 3 shows that understanding in business is the basic area of knowledge to be applied in FM for the purpose of achieving the best business performance. Every organization needs to minimize any gap or inequality between the four important aspects so that FM can be practiced with best quality. Because of this, knowledge on FM needs to be studied in-depth, focused and explained similar to the specialization in the fields of engineering, architecture and quantity surveying (Tay and Ooi, 2001).

In conclusion, the knowledge for professionalism in FM and on FM industry requirement in Malaysia needs to be studied. When the levels and the demand for knowledge have been identified, there will be a demand in creating an intensive training program. The training program must be adapted with the academic environment and industry market requirement in Malaysia. Through training programs such as implementation, knowledge base and structured curriculum, the FM profession in regard of the competency model will be acknowledged as professional discipline in the future (Nutt, 1991). Furthermore, the future competency model will reduce the gap between knowledge, practice, procedure and processes in the implementation of FM within the context of HM.



Source: Adaptation from Then and Tan (2006)

Figure 3.
Show necessary
review to reduce gap
between theory,
practical and
performance in
facility
implementation of
management

Research method

To achieve the research objectives, this research has used a quantitative approach. A questionnaire form was designed based on nine competency areas that define the practice area of competent facility practitioners (IFMA, 2009). Competency areas will be considered as the basis for the types of knowledge, not including the skills to identify the level of importance among the types of knowledge (Korsten, 2003). A survey instrument was subsequently created that consists of 9 main types of knowledge and 132 sub-parameters of knowledge. Part One of the survey requested demographic information such as age, employment sector, and current areas of work. Part Two of the survey presented all list of main and sub-competencies. Each competency was rated in terms of importance using a 5-point Likert scale where 5 represented critically important and 1 represented not important. By measuring how important a competency is, the managers and supervisors can show how critical these competencies can be within a particular profession.

Further examination may then determine whether competencies selection based on important ranking helps to explain any differences or relationship between managerial competency in hospitality and FM. In addition, the results also help to develop a decision-making tree.

Sample and data collection

Based on random sampling, data were collected from a target sample of the organizations that have practiced in the management of asset and facilities in the Federal Territory of Kuala Lumpur, Malaysia. A total of 120 organizations were identified inclusive of government agencies and private companies. Therefore, practitioners among the mid-level managers or the operational employees will be the respondent representatives for each of the organization.

First, the researcher approached the selected organizations, and distributed a self-administered questionnaire that was completed by the respondents and collected on

the spot by the researcher. A total of 80 questionnaires were collected, giving a response rate of 67 per cent. Data were then screened and purified to ensure that the dataset met the requirements for “Statistical Package for Science (SPSS)” analysis. In this study, the analysis methodologies that produce quantitative information are easily explained in terms of the survey results. Furthermore, the analysis can also help to achieve the objectives of the study more precisely. The data and information that were collected through distribution of questionnaires were among the accountable tasks where it shows correlation with project management field practice, maintenance area and FM field. After that, the conceptual model of training syllabus was created in the form of the decision-making tree. The conceptual model of training syllabus will be the basis to plan an intensive FM training program. Statistics solution is divided into three stages in order to produce a systematic structure of the analysis.

The first stage involves nominal analysis of data, namely, respondents’ background information which uses analytical method based on frequency distribution. Frequency distributions in this percentage form are made against respondents’ background. This frequency distribution analysis is purposed to seek distribution that has been pronounced among respondents that directly contributes to classification type and knowledge degree of importance in FM field. The researcher has singled out the respondent from the target group that is knowledgeable and experienced in project management, maintenance management and facility management, namely, in the public sector and in private sector.

The second stage involves ordinal analysis of data, namely, the type of knowledge which uses two analytical methods, namely, the measurement of data normality and reliability. This frequency distribution analysis aims to determine whether or not the data achieved normal distribution. This is followed by the level of accountability/reliability survey questions where this both strands can leverage on the objective of the study for purpose of identifying the type and knowledge degree of importance in the FM field.

The third stage involves descriptive analysis which relates the type and knowledge degree of importance in the FM field for the purpose of achieving the objectives of this study. The descriptive analytical method has been divided into three sections. The first section relates to the frequency distribution analysis in the form of percentage to identify the percentage of the respondents who agree with the type of knowledge that is needed. The second section discusses the mean analysis of the average distribution for the main parameter degree of importance, namely, the nine types of knowledge with its sub-parameter. The third section involves the analysis using Kruskal–Wallis test to specify whether the respondent background influences the difference of view on the survey question.

Findings

The first stage of the summary has shown that most of the respondents who were involved in this questionnaire study were aged between 30 and 40 years (Table I). The highest percentage was from age 30 to 40 years (50 per cent), followed by age 20-30 years (26.2 per cent) and age 40-50 years (23.8 per cent). Table II presents the respondents profile in terms of employment sector. Private sectors organization comprised more than half of the total number of organizations that participated in this survey. Table III shows

that most of the respondents involved in the maintenance management field, followed by facility management and project management.

The second-stage summary is indicated through testing data normality where all data, namely, the type of knowledge related to leadership and management, operation and maintenance, planning and project management, communication, finance, human factors and environment, quality assessment and innovation, property management and technology are scattered by normal. The reliability level of the survey questions has shown that the level of accountability/reliability of all questions which consist of nominal data of the respondent background and ordinal data of respondent type of knowledge to be averaged at 0.872, fulfilling the Cronbach's coefficient alpha of 0.87.

For the third stage, an analysis summary from the first section indicates the list of main parameter of nine types of knowledge with its sub-parameter that represent level of importance. This important knowledge intends to create a conceptual model of training syllabus for an intensive training program in the FM field. The second section is the mean analysis value for average distribution of main parameter of knowledge. This mean value indicates the degree of importance, namely, nine types of knowledge as the main parameter and sub-parameter in each type of knowledge.

Table IV, indicates that the types of knowledge for operation and maintenance stay at the most important ranking with the highest mean value, while the type of knowledge for property management stays at the least important ranking with lowest mean value. On the other hand, analyses on the average mean for group of sub-parameter, which represents the degree of importance, create the foundation of ranking for every sub-parameter proposed. Table IV also shows that the average types of knowledge have low standard deviation which means that the data point was very close to the mean value. Therefore, operation and maintenance has the lowest standard deviation.

Age	No.	Percentage of total respondents
20-30	21	26.2
30-40	40	50
40-50	19	23.8
Total	80	100

Table I.
Age of respondents

Employment sector	No.	Percentage of total respondents
Government sector	23	29
Private sector	57	71
Total	80	100

Table II.
Employment sector
of respondents

Current areas of work	No.	Percentage of total respondents
Project management	4	5
Maintenance management	48	60
FM	28	35
Total	80	100

Table III.
Current areas of
work

Table IV.
Statistic analysis to
identify the degree of
importance in FM
knowledge by using
mean value

Type of FM knowledge	Leadership and management	Operation and maintenance	Planning and project management	Communication	Finance	Human factors and environment	Quality assignment and innovation	Property management	Technology
Mean	4.4547	4.4808	4.4149	4.4775	4.4771	4.4113	4.3309	4.0927	4.3635
SD	0.31431	0.30184	0.36093	0.34420	0.43311	0.30451	0.30289	0.48898	0.37203

On the basis of the results that have been achieved, Table V shows the highest ranking among main parameter of nine types of knowledge and the highest ranking of sub-parameter in each type of knowledge.

Table V shows the top three main parameters of knowledge as a group that obtained high mean value that are, operation and maintenance, communication and finance. Each of the three main parameters of knowledge is accompanied by three sub-parameters of knowledge.

Table VI shows the second group of three main parameters of knowledge that obtained moderate mean value that are, leadership and management, planning and project management, and human factors and environment. Each of the three main parameters of knowledge is accompanied by three sub-parameters of knowledge.

Table V.

Comparison between ranking parameter and ranking sub-parameter for operation and maintenance, communication and finance

Code no.	Type of knowledge (Parameter)	Average mean	Code no.	Sub-parameter for each type of knowledge	Average mean
1.0	Operation and Maintenance	4.4808	1a	Strategy improve energy efficiency in operation	4.66
			1b	policy, practice and procedure for M&E system	4.61
			1c	energy utilization management (peak period and external peak period)	4.60
2.0	Communication	4.4775	2a	Writing	4.55
			2b	Interpretation and understanding	4.55
			2c	Presentation skill	4.53
3.0	Finance	4.4771	3a	Monitor and control operating cost	4.53
			3b	Facility finance analysis of data	4.50
			3c	Financial management	4.48

Table VI.

Comparison between ranking parameter and ranking sub-parameter for leadership and management, planning and project management and human factors and environment

Code no.	Type of knowledge (Parameter)	Average mean	Code no.	Sub-parameter for each type of knowledge	Average mean
4.0	Leadership and management	4.4547	4a	Understand FM field	4.61
			4b	Human resource planning	4.55
			4c	In accordance FM organization's scope of duties	4.55
5.0	Planning and project management	4.4149	5a	Long-term strategic planning	4.59
			5b	Evaluate project implementation effectiveness result	4.53
			5c	Long-term and short-term for facility planning	4.51
6.0	Human factors and environment	4.4113	6a	Emergency procedures experienced employee/customer	4.58
			6b	Safety training needs	4.58
			6c	Functional of emergency system	4.55

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Table VII shows the third group of three main parameters of knowledge that obtained low mean value that are, technology, quality assessment and innovation, and property management. Each of the three main parameters of knowledge is accompanied by three sub-parameters of knowledge.

In the light of the findings that can be summarized from Tables V, VI and VII, various summaries can be made, as follows:

- The Parameter and sub-parameter for type of knowledge that is in the same group, which are at the highest ranking of mean value, indicate that the main parameter of knowledge for operation and maintenance and sub-parameter of knowledge for strategy improve energy efficiency in operation.
- The main parameter of knowledge that obtained the lowest mean value is property management, while the sub-parameter of knowledge that obtained the lowest mean value is property asset inventory.

The result obtained from the second section analysis has achieved the aim of identifying the degree of importance among main parameter and sub-parameter of knowledge.

Meanwhile, the summary from the third section analysis indicates that all respondents give similar views in this study regardless of background difference such as age, employment sector and current areas of work.

Finally, based on all the summaries of the analysis, it can be concluded that all findings fulfill the purpose of this study and have achieved the objectives of identifying types of knowledge. All these findings will be discussed in more detail in terms of comparison with the competencies in HM. This comparison will determine the relationship between the competencies in FM and HM.

Table VII.
Comparison between
ranking parameter
and ranking sub-
parameter for
technology, quality
assessment and
innovation and
property
management

Code no.	Type of knowledge (parameter)	Average mean	Code no.	Sub-parameter for each type of knowledge	Average mean
7.0	Technology	4.3635	7a	Communication technology in FM	4.49
			7b	Program to create policy, practice and procedure	4.46
			7c	Technology system and FM technology's patterns of change	4.43
8.0	Quality assessment and innovation	4.3309	8a	Increase facility service effectiveness of delivery	4.54
			8b	Comply rule and legislation	4.53
			8c	Resembling audit obligatory to follow rule instructions	4.46
9.0	Property management	4.0927	9a	Property development	4.26
			9b	Updating property documents	4.25
			9c	Property asset inventory	4.20

Discussion and implications

Discussion regarding findings obtained with the objective of the research

The first-stage analysis has indicated that most of the respondents were from the maintenance management and FM fields, while the least number of respondents were from the project management. This indicates that the probability for respondent in giving their views on ascertaining types of knowledge needed is very high.

The second-stage analysis has shown that the data scatter is normally based on Normal Q-Q Plot test and satisfies the Cronbach's alpha coefficient. This indicates a high probability for determining the degree of importance for the type of knowledge needed to form a conceptual model of training syllabus.

The third-stage analysis has proven that all respondents give similar views in this research regardless of background difference such as age, employment sector and current areas of work. All respondents agree that all types of knowledge proposed are needed and important in FM, as well as for developing an intensive training program.

Other than that, third-stage analysis has identified the degree of importance for the type of knowledge main parameters and sub-parameters based on the average mean value. The respondents also give a positive feedback where operation and maintenance knowledge obtained the highest ranking among the nine types of knowledge proposed for the syllabus in the FM training program in Malaysia. Thus, the findings can be made as an example conceptual model of training syllabus by any department or government agency or among industry players in Malaysia. It can be considered as an achievement of a holistic and competitive FM field development.

Discussion regarding findings obtained with an example of research in the hospitality industry

For creating a good training module, the paper compares the findings with a research that has been done by [Koenigsfeld et al. \(2012\)](#) regarding the development of a competency model for private club managers in the USA. This research is one of the good examples that represent HM.

According to [Koenigsfeld et al. \(2012\)](#), the research is the first to examine the knowledge properties of the competency model for private club managers in the USA. The researcher concluded that knowledge area of human legal resources is the most important in managerial competency for private club managers in HM, as shown in [Table VIII](#).

The most important type of knowledge that is needed for FM in Malaysia is operation and maintenance. Despite the difference in terms of the most important area of knowledge in a manager's competency, the main output of both research studies focused on the plan to develop competency strategically to achieve organizational objectives. Both FM and HM emphasized that an organization will have difficulties if it does not give full attention to leadership or managerial competency; if it lacks knowledge in ensuring the facilities and services are well maintained in all respect. This indicates that all items in both competency proposals are related to each other and fulfill the objective of this study.

The FM area of competencies recognized by IFMA (2009) that include leadership and management, communication and human factors, as well as environment are related to the competencies of club managers (as discovered by [Koenigsfeld et al., 2012](#)). There are several content for knowledge area in leadership and management that can add value

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Table VIII.
Research findings
related to private
club manager's
competency in HM

Means, standard deviations, and reliabilities ($n = 298$)					
Factors	Number of variables	Mean	SD	Inter-item correlations	Reliability (α)
Factor 1. Golf	6	3.99	0.042	0.570	0.888
Factor 2. Facility maintenance	8	3.91	0.009	0.578	0.916
Factor 3. Human resources-legal	6	4.44	0.003	0.579	0.887
Factor 4. Leadership-interpersonal	8	4.43	0.010	0.417	0.850
Factor 5. Food and beverage	6	4.22	0.021	0.448	0.827
Factor 6. Club governance	4	4.35	0.007	0.513	0.857
Factor 7. Sports and recreation	3	3.69	0.071	0.528	0.777
Factor 8. Accounting	4	4.22	0.018	0.441	0.758
Factor 9. Marketing	3	3.83	0.031	0.436	0.700
Factor 10. Strategic management	3	4.15	0.026	0.343	0.610

Note: Cronbach's α provides an estimate of the inter-item reliability or consistency; mean scores are based on a scale of 7 = critical important to 1 = not important

Source: Adaptation from Koenigsfeld *et al.* (2012)

such as creating a policy regarding decision-making and identifying the needs of organization's business, customer and industry. Meanwhile, the knowledge area for communication is important for managers, i.e. in marketing their service products and convincing the customer on their organization's objective. In addition, human factors and environment give an added value in indentifying the employees' needs such as working in a comfortable and suitable environment. The human factor is very important to ensure that the productivity of the organization is at the highest achievement.

The knowledge areas for club manager's competency comprise several similar aspects to FM such as strategic management, FM and facility services. These knowledge areas show the relationship on how to manage all facilities and services effectively and strategically. These knowledge areas can also be related to the competency areas in FM, namely, operation and maintenance, planning and project management and property management. Operation and maintenance competency indicates the procedure in operating and maintaining the facilities such as lighting, air-conditioning system, landscape, equipment used in serving food and beverage, facility in sport centers and recreational areas. On top of that, planning and project management competency give an added particularly for planning strategically and managing the project effectively. This is because at the end of the day, the organization will obtain several benefits such as cost savings and managers gain additional experience in managing and monitoring the project. Property management helps the organization to identify the value of the asset in terms of adding or disposing an asset such as sports facility or diversity types of recreation facility. In addition, the asset information needs to be documented and put in a proper inventory in order to manage the asset effectively.

Furthermore, knowledge areas for finance in FM can be related to the knowledge of accounting in club manager's competency. Besides the similar terminology, knowledge of finance can add values in terms of monitor and control the operating cost, and analyze the finance's data to get the trend.

There are two knowledge areas in FM which are not mentioned in the club manager's competency, namely Technology and Quality Assessment and Innovation. These two knowledge areas give added values to the club manager's competency such as working with technology using wireless internet and computerized system. For instance, there must be a wireless Internet ("wifi") service to attract attention of the customer in a club facility. Quality assessment and innovation gives an advantage to the organization because this knowledge is to ensure the delivery of high quality service with and encourage innovation to improve the organizational strategic objective.

From the discussion, the researcher suggests that both competencies are merged to create a universal managerial training and competencies. Then, everything can be connected, as well as the findings obtained by [Then and Tan \(2006\)](#) regarding the relationship between business needs, knowledge and facilities solutions.

Implication of conceptual model of training syllabus to both FM and HM field

The common factor that influences FM practice is training ([Adewunmi et al., 2009](#)). Training is important for facilities managers to balance the management and technical skills to function effectively at management level, supervisory and operational level in FM ([Chotipanich, 2004](#); [Moore and Finch, 2004](#); [Kincaid, 1994](#)). For example, in Malaysia, a research done by [Asree et al. \(2010\)](#) has identified two important factors that influence responsiveness to customer needs and would improve hotel revenue namely leadership competency and organizational culture of learning.

A conceptual model of training syllabus can be established based on the results of the analysis regarding the level of importance among the main parameters and sub-parameters within the knowledge areas in FM and HM. This paper indicates a concept formation of training syllabus criteria that can be created based on the parameters and sub-parameters of the nine types of knowledge. The combination of [Tables V–VII](#) makes it feasible for the development of a conceptual model in the form of "decision-making tree". The purpose is to assist the design of syllabus for an intensive training program, not only for FM but also for HM. As such, this study suggests a form of "decision-making tree" that is considered as an element of innovation in FM training program and training methods, with added value to the HM field. Therefore, the research achieved the second objective. Following this is the proposed method to use the "decision making tree" as a guide to design the syllabus for training program.

The first step is to identify the category element in the training module that needs to be developed. [Nutt \(2000\)](#) has concluded that knowledge connects human, place and process. The knowledge on human behavior, culture and psychology, as well as the operations process that takes place inside a building, is essential to ensure that the building is managed in accordance to the needs of the occupants and requirements of the operations process. This research has formulated that a conceptual model of a training syllabus needs to be divided according to the human element, place and process to develop human knowledge on the workplace and processes in FM and HM.

The second step involved the preparation of codification on the main parameters and sub-parameters for all types of knowledge as established in [Tables V–VII](#). This was followed by an analysis using the "decision-making tree". The objective of the conceptual model for training syllabus training was to achieve three categories of level, namely, Level 1 that involves understanding and explaining knowledge scope; Level 2 that involves implementation of what is understood which encompasses theory and

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practical; and Level 3 that involves skill to evaluate, process and act as specialist referrals which is the most important level.

Modules A and B shown in Figure 4 are the groups of the proposed training syllabus that have been created based on the average mean of every sub-parameter that were analyzed in Table V–VII. Module A includes the sub-parameters for types of knowledge that have an average mean value between 4.66 and 4.54. Module B includes the sub-parameters for types of knowledge that have average of mean value between 4.53 and 4.20.

The group classification was based on frequency analysis, which shows the average mean value as the factor that determines the sub-parameters' degree of importance in every type of knowledge. Module A consists of the sub-parameters for the types of knowledge that have a high average mean value. Module B, on the other hand, consists of the sub-parameters for the types of knowledge that have a light average mean value. To obtain the right selection of the proposed training syllabus, careful planning should be made for every module that has been identified either in the strategic level, tactical level or operation level.

Modules A and B are divided into three small groups consisting of training module for human self-development and organization, training module for manage and

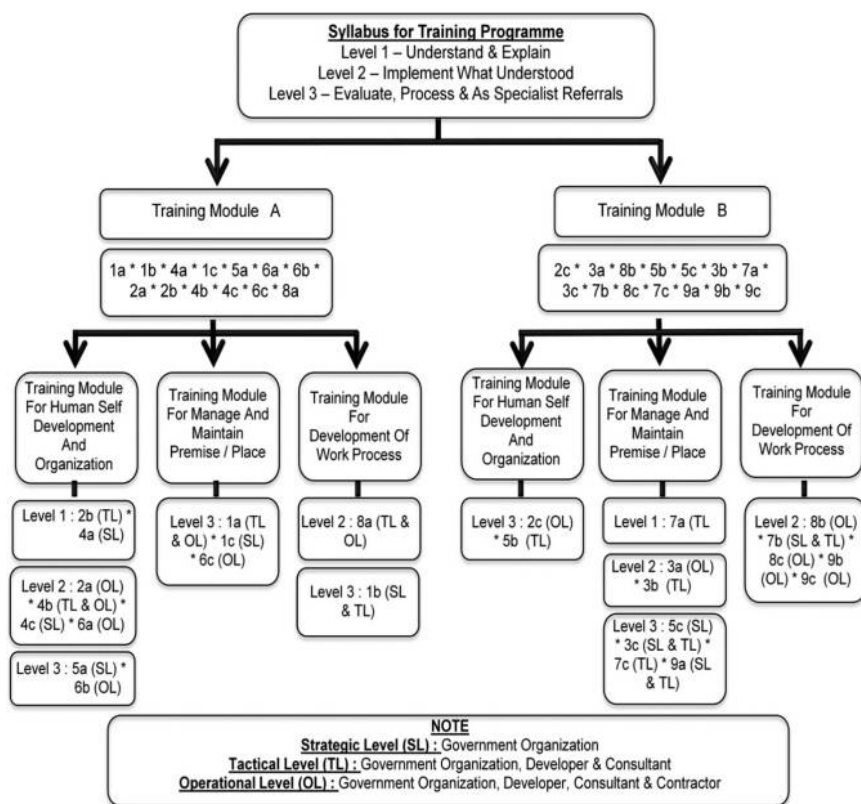


Figure 4.
 “Decision-making
 tree” as a guide for
 training syllabus

maintain premise/place and training module for development of work process. Three key elements were identified, namely, human development, place and process so that the knowledge that was developed is parallel to the practical FM and HM field in Malaysia.

For training module selection, careful planning should be considered to identify the target group whether for the Strategic Level (SL) which involves government organizations; the Tactical Level (TL) that involves government organizations, developers and consultants; or Operation Level (OL) which involves government organizations, developers, consultants and contractors. For example, for Training Module A, the training program executor wants to implement Training Module for Human Self-Development and Organization. The target output is to achieve Level 3 which means that the training participants are able to assess, process and act as specialist referrals. Then Subject 5a, namely, Long-term Strategic Planning in Planning and Project Management as the major knowledge is chosen. The target group for this subject is Strategic Level which involves government organizations because of the role in legislating a long-term strategic plan to spur the country's development.

The summary of the analysis by using the "decision-making tree" for selecting suitable syllabus for training program in both FM and HM field is shown in [Figure 4](#).

Conclusion

This study is carried out to determine the types of knowledge required according to FM industry in Malaysia. The determination of the knowledge will be made as a guide to plan a training program that is practical for reducing the gap between knowledge and practice in FM. This study is very important to ensure the quality skill and knowledge within human resource developed together with management of knowledge development facility in Malaysia, especially related to HM and FM.

Therefore, this paper proposed a conceptual model to assist the development of suitable training program for FM and HM fields in Malaysia.

Overall, this paper has highlighted the important knowledge regarding the FM and HM field as practiced by practitioners in Malaysia. With the competitive advantage of the FM and HM business being compromised and becoming more challenging due to globalization, educators and practitioners of FM and HM field in Malaysia need to evolve through the acquisition of the requisite skills, introducing reforms in training program and innovations that is necessary for survival in the new economy environment.

Limitation and suggestion for further research

The analysis based on the data gathered from the practitioners led to the possibility of bias. Most of the participants have experience with project management, maintenance and facility management. The results are limited to the nature of statistical analysis that is used in analyzing the data. The statistics derived by exploratory factor analysis could not make any inferences beyond the development of the factors. Future research is recommended to include the conceptual model of the training syllabus for analyzing information related to managers who are directly involved with the orientation of HM.

There are three key elements in the training program formation process for FM and HM; analyses for training needs in the facility management field, translation of all training needs into a plan of action, and assessment for improvement purpose and effectiveness of the training program ([Korsten, 2003](#)). It is important to suggest several

workshops, which involve industry practitioners in the FM and HM fields to develop a training module that is effective in terms of formatting the training, and learning objectives, providing descriptions on the training program implementation method and illustrating examples that are realistic and practical to be applied in the training program.

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