FACILITIES MANAGEMENT MODEL FOR STATE MOSQUE IN PENINSULAR MALAYSIA

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DEDICATION

The only way to get better is to
Surround yourself with people who believe in you.

With;

The sake of Allah S.W.T

Keeper of my soul, holder of my heart

The blessing of my parents,

Make this world a beautiful garden

The support of my siblings,

Stand without flinching, sharing laughter and wiping tears

The patience of my lecturer,

Make every day a little brighter

The best of my friends,

Make smile a little bigger, laugh a little louder

And as I believe,

"Nothing worth having comes easy"

Hence, I dedicated this thesis to them.

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"In the name of Allah, the Most Gracious and the Most Merciful"

ABSTRACT

Since the beginning of Islam, mosque has become a focal point of the religion where it serves as the place for worshipping, a centre of education, economic pursuit, community services and spiritual. However, the scope of mosque functions has become limited with rapid growth of world development due to several factors. In short, capacity of congregational and facilities that related to hygiene, safety and space utilisation has become among the issues that receiving close review in Malaysia. Based on the issues, the question arises on the capabilities of mosque management that require improvement to be more professional. Reviews of literature suggested that Facilities Management (FM) approach has the potential to be incorporated in the management of mosque. This study aims to examine the implementation of FM process in mosque in supporting the achievement of mosque's functions. The objectives of this study were to determine the elements of FM process implemented in mosque, to develop FM process model for mosque and to validate the FM process model. To achieve these objectives, the study adopted mixed methods approach. The study was situated within pragmatism paradigm which emphasised on qualitative approach. The implementation of FM process from 12 state mosques in Peninsular Malaysia were investigated using questionnaire survey, semi-structured interview and focus group discussion. Descriptive statistics were used to analyse the questionnaire survey data with Statistical Package for the Social Sciences (SPSS) software whilst interview data were analysed using content analysis software, namely NVivo. Results from the questionnaire survey revealed that, 50 per cent of the mosque has implemented most of the FM process model elements whereas other mosque still need further improvement to ensure the standards of FM process model is achieved. The results indicated that there is potential for improvement in mosque that possesses low position in implementing elements of FM process model. Results from interview revealed that FM has been implemented in mosque; though not exclusively and extensively. Furthermore, the results from interview derived four layers of FM process for mosque: elements, sub-elements, indicators and attributes. The study has developed and validated a model of FM process for state mosque in which it was divided into five key steps. Step 1 is FM formulation strategy, Step 2 is requirement analysis of services, Step 3 is solutions development, Step 4 is solutions implementation of services delivery and Step 5 is monitoring service provision, followed by the total number of 22 sub-elements, 60 indicators and 119 attributes. FM processes model developed in this research is necessarily important in contributing to the efficiency and effectiveness in managing mosque facilities.

ABSTRAK

Sejak awal perkembangan Islam, masjid telah menjadi titik fokal kepada agama Islam dalam memberikan kemudahan bukan hanya untuk beribadah, malah sebagai pusat pendidikan, ekonomi, perkhidmatan komuniti dan kerohanian. Walau bagaimanapun, seiring dengan pertumbuhan pembangunan yang semakin pesat, skop fungsi masjid dilihat semakin mengecil. Secara ringkas, isu seperti kapasiti jemaah dan isu fasiliti berkaitan kebersihan, keselamatan dan penggunaan ruang merupakan isu yang mendapat perhatian di Malaysia. Berdasarkan isu tersebut, terdapat persoalan yang dibangkitkan terhadap keupayaan pengurusan masjid yang memerlukan penambahbaikan ke arah pengurusan yang lebih profesional. Merujuk kepada kajian literatur, Pengurusan Fasiliti (PF) adalah pendekatan yang mempunyai potensi untuk diadaptasikan ke dalam pengurusan masjid. Matlamat kajian ini adalah untuk mengkaji pelaksanaan proses PF di masjid bagi mendukung pencapaian fungsi masjid. Objektif kajian ini adalah untuk menentukan elemen proses PF yang dilaksanakan di masjid, untuk membangunkan model proses PF untuk masjid dan untuk mengesahkan model proses PF tersebut. Bagi mencapai objektif, kajian ini telah menggunakan kaedah penyelidikan campuran. Paradigma pragmastisme merupakan asas dalam kajian ini di mana ia memberi penekanan kepada pendekatan kualitatif. Kaedah soal selidik, temu bual separa berstruktur dan perbincangan kumpulan fokus telah digunakan untuk mengkaji pelaksananaan proses PF bagi 12 masjid negeri di Semenanjung Malaysia. Pakej Statistik Sains Sosial (SPSS) merupakan perisian yang digunakan untuk menganalisis data soal selidik secara deskriptif. Manakala data temu bual dan kumpulan fokus telah dianalisis secara analisis kandungan menggunakan perisian Nvivo. Hasil analisis soal selidik mendapati bahawa terdapat 50 peratus daripada 12 masjid negeri telah melaksanakan hampir kesemua elemen dalam model proses PF, sementara bakinya masih perlu penambahbaikan bagi memastikan piawaian yang digariskan dalam model proses PF dapat dicapai. Hasil analisis menunjukkan bahawa terdapat potensi untuk menambah baik prestasi masjid yang memperoleh keputusan rendah dalam melaksanakan elemen model proses PF. Hasil analisis temu bual mendedahkan bahawa masjid negeri telah melaksanakan PF walaupun ia tidak dilaksanakan secara eksklusif dan meluas. Malah dapatan kajian mendapati proses PF di masjid menghasilkan empat lapisan iaitu elemen, sub-elemen, indikator dan atribut. Berdasarkan dapatan tersebut, maka kajian ini telah membangunkan dan mengesahkan satu model proses PF untuk masjid negeri di mana ia dibahagikan kepada lima peringkat utama. Peringkat 1 adalah perancangan strategi PF, Peringkat 2 adalah analisis keperluan perkhidmatan, Peringkat 3 adalah pembangunan penyelesaian, Peringkat 4 adalah pelaksanaan penyelesaian bagi penyampaian perkhidmatan dan Peringkat 5 adalah pemantauan peruntukan perkhidmatan, diikuti dengan jumlah keseluruhan 22 sub-elemen, 60 indikator dan 119 attribut. Model proses PF yang telah dibangunkan dalam kajian ini adalah penting dalam menyumbang kepada kecekapan dan keberkesanan PF dalam pengurusan fasiliti masjid.

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LIST OF ABBREVIATIONS

BIFM	-	British Institute of Facilities Management
BSI	-	British Standard Institute
FM	-	Facilities Management
IFMA	-	International Facilities Management Association
JAKIM	-	Jabatan Agama Kemajuan Islam Malaysia
JAIN	-	Jabatan Agama Islam Negeri
JKRN	-	Jabatan Kerja Raya Negeri
MAFM	-	Malaysian Association of Facility Management
MAIN	-	Majlis Agama Islam Negeri
MPN	-	Majlis Perbandaran Negeri
SPICE-FM	-	Structured Process Improvement in Facilities Management
SPSS	-	Statistical Package for the Social Sciences

LIST OF GLOSSARY

TERMS		DEFINITION
Element	-	Main aspect that needs to consider in FM process.
Sub-Element	-	Aspect that needs to consider in FM process after the main aspect has been considered.
Indicator	-	Specific information on the process of FM in state mosque to guide audience on how to implement the process in details.
Attribute	-	A piece of specific information on the process of FM in state mosque as being caused of something or someone.
Market Availability	-	Needs and requirement of today's society particularly the congregation of mosque.
Strength	-	Advantage of mosque in terms of location, design, type of facilities available, etc.
Weakness	-	Disadvantage of mosque in terms of location, design, type of facilities available, etc.

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CHAPTER 1

INTRODUCTION

1.1   Introduction

A mosque is a sacred place of worship for Muslims. The word mosque is a conversion of the Arabic word '*masjid*' (in plural - *masajid*) (Mahazan, 2013). The word masjid is derived from the Arabic root '*sajada*' which means to prostrate (Rasdi, 1998; 1999). As prostration is the most honourable act in prayer and because of the proximity of the worshipper to Allah S.W.T, it has been chosen to indicate the act of prayer itself. Therefore, the mosque is literally the location of prostration (*sujud*) (Rasdi, 1998; 1999).

From Islamic literature, the Prophet Muhammad (p.b.u.h) in a hadith as recorded by Imam Bukhari has stated that *"The whole earth is made as a place of worship and a means of cleansing for me"* (Rasdi, 2004). Thus, within the Islamic legal framework, a Muslim can pray almost anywhere. However, a mosque is purposefully built or adapted building which facilitates collective ritual worship in the form of the daily congregational prayers. Specifically, Saidon (2004) refers to mosque as a place, be it a building or not, dedicated for the purpose of mosque. Hence, mosque could become a general building if there is no worship activities performed therein.

Historically, mosque is as outstanding institution and well-known as a greatest symbol of Islamic civilisation. It plays a pivotal role in the spiritual, moral and social growth of Muslims life. In addition, mosque possesses a potential that enables it to address welfare issues of the surrounding society. Since the beginning of Islam, mosque has become a focal point of the religion where it serves as the place for worshipping, a centre of excellence for knowledge, economic pursuit, community services, giving religious instruction and political discussion (Mokhtar, 1997; Rasdi, 1998; 1999). Thus, the role of mosque is without doubt central and crucial to the well-being of the Muslim community (Mokhtar, 1997; Rasdi, 1998; 1999).

Moreover, Islamic literature highlights that the mosque is not constructed as a place just for only worshipping, but also serves to translate the holistic Islamic contents and education which are held in the mosque, and is able to produce a series of leading Muslim figures. It shows that the mosque played significant role and had great impact for Muslim development in the early days of Islam. Therefore, there is no doubt that mosque has a special value and holiness as God's house, and the most beloved place where Allah's presence is always felt.

However, the scope of mosque function has become narrow with rapid growth of world development. Presently, the main function of mosque is only seen as a place for worshipping by the community (Mahazan, 2013; Mohammad *et al.*, 2011; Mustari *et al.*, 2008; Rasdi, 2004). Consequently, mosque was highly congested during the great days of Islam, during Eid prayers. The position of the mosque as the highest institution in Islamic society seems to increasingly becoming marginalized and almost forgotten by today's generation, especially by some young people.

Furthermore, with the large Muslim population in Malaysia, large numbers of mosques are built across the length and breadth of the country, dispersed all over the urban and rural areas, costing million dollars per mosque (Najafi and Mustafa, 2014). However, only a small number of congregations come to the mosque (Najafi and Mustafa, 2014; Mahazan and Wan Mohd Fazul, 2013; Jamsari *et al.*, 2010; Roslan,

2008; Rasdi, 1999; 2004); the mosque appears to be underutilized (Allia *et al.*, 2013; Najafi and Mustafa, 2011; Rasdi, 2004). Moreover, the mosque is a beautiful monumental building, though, lacks spirit and could not offer benefit to the development of *ummah* (Saidon, 2004).

In this regard, researchers question the capabilities of mosque management institution in meeting the needs of today's society: whether the management approach used for managing the mosque is still relevant in this changing world or there is a need to change the existing management approaches (Allia *et al*., 2013; Mohamed Adil *et al*., 2013; Sulaiman, 2007; Roslan, 2008). Accordingly, comprehensive literature reviews relating to mosque capabilities have been conducted. These reviews revealed several factors to be responsible for this situation as presented in Table 1.1.

Table 1.1: Issues in the management of mosque identified in previous studies

No.	Author	Issue
1.	Mahazan (2013), Ali and Mat Said (2007)	Lack of competencies in leadership.
2.	Rasdi (1998;1999)	Less vigorous activities and programs
3.	Khalit (2011), Mohamed (2008), Muda and Omar (2008), Safar (2008), Haron *et al.* (2007), Rasdi (1998; 1999)	Lack of attention of conducive physical environment.
4.	Siraj *et al*. (2008), Bahrom (2008)	Poor financial management to implement mosque activities.
5.	Jamsari *et al*. (2010), Ali Khan *et al*. (2008), Rasdi (1998),	Approaches used are not user-friendly, youth-friendly, family-friendly and community-friendly.

The studies suggest the need to make the management of mosque more professional, so that it will uplift its functions. Also, the studies suggest that, it is time for mosques to be managed as corporate bodies. Through this strategy, the mosques should not only be great with its physical structure or appearance but also its content should be able to have impact on the development of the community (Mohammad *et al*., 2011; Najafi and Mustafa, 2012). This effort should aim at

improving the size of the congregation at every prayer, religious and community related events.

Furthermore, mosque as a religious building is classified as a not-for-profit institution; it provides social service to the community. For a mosque to function as intended, it is imperative for it fulfil the needs of congregations. In the context of this research, the congregation can involve two groups: the local community and visitors from outside the surrounding areas.

According to Mohamed Adil *et al*. (2013), even though mosque is no longer used as state administration centres, their role in shaping the society still continues. The key challenge of managing the mosque today is how to ensure efficient and proper management practices (Mohamed Adil *et al*., 2013). Therefore, in order to uplift the function of the mosque in present era of modernisation, and sustain it in the future, the issue of professional management is critical. Mosque should be operated with a more professional management system to meet current needs and demands (Rasdi, 1998; Mohamed, 2008; Jaafar *et al*., 2013). With proper management, least resources could be used to achieve greatest honour and continuous improvement of the performance of the mosque (Sapri *et al.*, 2014; Hossein, 2014; Jamaliah *et al.*, 2013; Jaafar *et al.*, 2013).

1.2   Research Background

Facilities management (FM) emerged over the past decade in response to turbulent change in the business environment. According to Alexander (1992), pressure for rationalisation of business to reduce costs and improve flexibility has led to innovative approaches to managing facilities that support the business. Furthermore, requirement of corporate strategies to create competitive advantage for the organisation's core business, customer responsiveness and the continual improvement of quality demands a complete rethinking of all processes and

restructuring in an unprecedented scale (Alexander, 1992; Amaratunga and Baldry, 2003; Atkin and Brooks, 2009; Koukiasa, 2011). Therefore, at a time of fundamental change in the public and private sector, the recognition of the role of FM in business performance has gradually grown.

Atkin and Brooks (2009) define FM as "the integration of processes within an organization for operating, maintaining, improving and adapting the buildings and infrastructure of an organisation, in order to create an environment that strongly supports the primary objectives of the organisation". Also, the International Facility Management Association (IFMA) (2003) defines FM as "a profession that encompasses multiple disciplines, in order to ensure the functionality of the built environment, by integrating people, place, process and technology". Both definitions clearly state that FM covers a wide scope of activities in an organisation's business, and can contribute in several ways to its success.

According to Amaratunga *et al.* (2000), FM is a subset of general management and thus, it has the ability to support and make positive contribution to organisational success. This picture of FM functions underlies Becker's (1990):

"FM is responsible for co-ordinating all efforts related to planning, designing and managing buildings and their systems, equipment and furniture to enhance the organisation's ability to compete successfully in a rapidly changing world."

(Becker, 1990)

This research is being carried out on the basis of Becker's definition of FM. According to Lavy *et al*. (2010), poor FM could negatively impact an organisation such as failure to support the functioning of organisation, not contributing to the organisation's mission, being cost inefficiencies, inadequacy and unavailability of the facility for future needs. Therefore, it suggests that FM should be placed in mosque strategies as it has the ability to improve mosque performance and enhance its functionality.

On the contrary, an effective FM approach provides the needed support to an organisation's mission for the realisation of future facility requirements, greater cost efficiency and the ability to anticipate consequences of current management decisions. Therefore, organisations have to begin managing facilities proactively and creatively with commitment and a broader vision if they want to realise significant benefits from their enormous investment in facilities (Pathrige *et al.*, 2008; Amaratunga, 2001).

Strong relationship between customer satisfaction and perceived service quality has been acknowledged (Zeithaml, 2000). Previous research has shown repeatedly that service quality influences organisational outcome such as performance superiority (Poretla and Thanassoulis, 2005), improving customer relations, enhancing corporate image and promoting customer loyalty (Newman, 2001; Szmigin and Carrigan, 2001; Caruana, 2002; Ehigie, 2006). Sultan and Wong (2010) also argue that, customer satisfaction directly determines customer loyalty, which, in turn, is a central determinant of customer retention. Hence, delivering quality service to customers is a must for success and survival in today's competitive world regardless of the type of organisation, profit or not-for-profit organisation.

As highlighted by Lee and Ritzman (2005), customers play important role in organisational process within the domain of operations management. Before the placement of strategies and organisational structure, the customers are the first aspect considered by managements. FM being responsible for integrating people, places and processes by focusing on meeting user needs and requirements implies that considering the FM approach at mosques is vital. The literature indicates that users and their satisfaction are important when having experiences from any organisations. In the context of this research, mosques congregations are the users of mosques. Therefore, to recruit and retain the users of mosques, mosque management should aim at enhancing satisfaction whilst at same time reducing dissatisfaction of users. This objective could be achieved if mosque services are delivered to a higher quality standard.

Jaafar *et al.* (2013) stressed that appropriate management practices would contribute to improvement in the performance of a mosque. The research identified that management of mosque facilities is becoming crucial as it contributes to mosque success in delivering quality services to the community. Moreover, the importance of FM to mosque management has been acknowledged by the Director of Malaysia Islamic Development, Datuk Wan Mohamad Datuk Sheikh Abdul Aziz (2012) NB: send the following to reference sections: *Daily News, 09 December 2012*), who suggests that mosque should be equipped with good facilities for all ages in order to enhance its functionality as a place for community development. According to the Director, this initiative is one of the Government's aspirations to return the strength of the community (*ummah*) through the potential of mosque development. Therefore, FM is seen to be the approach that is relevant for the mosques.

Accordingly, adaptation of effective FM in mosque management should not be seen as trivial and non-urgent, but rather as a major issue in the transformation of mosque. As mentioned by Amaratunga and Baldry (2000), FM is a subset of general management, whose adoption has the potential to improve the process through which mosque can be managed, in order to support their effectiveness, and to make a positive contribution to the success of mosque institution. This is could make the mosque sustainable. In the context of this research, sustainable refers to the word '*imarah*', which means to prospering the mosque with a variety of beneficial activities. Thus, the requirement to introduce the concept of FM within the role and functions of mosque is seen as vigorous.

1.3   Problem Statement

As discussed, FM is a distinct management discipline, which is concerned with the overlap between people, process and place. The literature indicates that, FM approach has the potential to be applied in all kinds of organisations. This potential is due to the changing environment of organisations which focuses on customer requirement. In addition, customers' perspective is increasingly becoming a priority

in organisational performance management (Sapri *et al*., 2009; Atkin and Bjork, 2007; Kincaid, 1994; Leaman, 1991).

The development of FM theory realises that understanding business organisation, managing people, premises, services, the working environment and resources are some of the core competencies of FM (Sarshar *et al.,* 2002). As stressed by Sarshar *et al*. (2002), FM has been recognised as a business process within the competencies.

Organisation performance relies on the settings of FM process required by the facilities manager in managing organisation facilities. The optimisation of FM requires a broad and clear understanding of the interdependencies of the organisation's process and FM process (British Standards Institute (BSI), 2007). However, the literature shows that the FM process have been abandoned by organisations in their effort of delivering facilities services (Wan Hamdan and Hamid, 2011; Hamid, 2009; Atkin and Bjork, 2008; Weisinger, 2006). Furthermore, understanding of process initiative aspects of FM behaviour in particular, remains relatively undeveloped (Hamid, 2009; Fleming, 2008; Redlien and Giller, 2008; Atkin and Bjork, 2007; Sarshar *et al*., 2002; Amaratunga and Baldry, 2002).

According to Amaratunga and Baldry (2002), a process perspective of FM clearly focuses on the tasks and activities that are taking place in an organisation. They indicate that FM process emphasises on how work is done rather than what is done within the organisation. Failure to focus on FM process in the organisation would lead to declining financial success as well as dissatisfied customers' expectation (Amaratunga and Baldry, 2002). Furthermore, Amaratunga and Baldry (2002) explain that organisational performance expectations would be achieved through mechanism of internal FM processes. Thus, facilities manager should focus on critical internal operations to enable them to satisfy customer needs (Kaplan and Norton, 1992).

The issues of FM process appear to be the problem of mosque. Mosque management dispensed with the issue as discovered in the theory of FM that dealing with management process. This is due to the initial study conducted in this research which discovered the barriers in managing mosque facilities. The initial study was conducted with the Federal Territory Islamic Affairs Department during the *"Bengkel Penyelarasan Pentadbiran dan Operasi Masjid/Surau di Wilayah Persekutuan"* (19 February 2013) that was attended by 100 people comprising the heads of mosque (the *Imams*) and committee members of mosque management in Selangor as reported in Sapri *et al.* (2014). The authors identify a number of barriers involves in managing mosque facilities relating to FM process as presented in Table 1.2.

Table 1.2: Barriers in Managing Mosques Facilities (Sapri *et al.*, 2014)

No.	Barriers in Managing Mosque Facilities	Frequency	Issue that related to FM process
1.	Lack of staff	10	-
2.	Lack of knowledge	9	√
3.	Lack of expertise	9	√
4.	Lack of fund allocation	9	-
5.	Lack of senior management commitment	7	√
6.	Insufficient space	6	√
7.	No salary provision for staff	6	-
8.	Inconsistency in policy	4	√
9.	Vandalism	3	-
10.	Low quality equipment provided	2	√
11.	Delay in reactions from contractors	1	√

The outcome reveals that committee members of mosque should begin to realise the importance of FM as new wave management approach in today changing world. The potential of FM to be adopted in the management of mosque has been strengthened as indicated by the result of the initial study. Within the FM concept, the identified barriers are important to an organisation's success. For instance, knowledge can be seen as the factor that contributes to mosque productivity. According to Puddy *et al.* (2001), knowledge is a source of economic success.

Effective knowledge management would create business value and generate competitive advantage (Tiwana, 2000). It is suggested that a process-oriented knowledge management approach is among the initiative to guide the successful implementation of knowledge management strategy (Ronald and Ulrich, 2006).

Since FM is a coordinating process-based function, a high level of management process capability is central in improving FM capability within mosque management. Therefore, this research explores the level of FM processes by mosque management. According to Amaratunga and Baldry (2002), FM process is mainly an analysis of the organisation's internal processes which focuses on the internal business. It helps to analyse the organisation and its environment by assessing the strengths, weaknesses, opportunities, and threats of the organisation. Accordingly, to be able to effectively implement FM in organisation, thus FM should be involved at strategic level. This improvement could be achieve by moving from functional thinking that is, what work is done to process thinking that is, how work is done.

1.4   Research Gap

Review of literature shows that, research on FM has been widely discussed in various case studies such as in higher education institutions, health care services, commercial buildings and office buildings studies focusing on religious buildings such as mosque is still lacking. This is not surprising as information on the importance of FM in supporting non-profit organisations to achieve their core business objectives appears to be limited. Furthermore, review of literature reveals that task-oriented or functional thinking in FM seems to be outdated, but rather the how work is done or the process thinking seems to be the wayforward for FM implementation in organisations. The situation of task-oriented thinking could lead to situation in which people are likely to resist activities that do not contribute to short term tangible result. Accordingly, many facilities managers now believe in the process thinking as the tool to optimise FM in organisation's business process. However, little studies have been done on the process thinking within FM context.

Thus, a clear FM process should be developed in order to assist FM practice in the organisation. Hence, research that focuses on FM process in order to explore the potential of FM approach in the context of mosque institution is vital to be conducted.

1.5 Research Questions

The main question addressed in this research is how can FM approach be effectively adopted in mosque management in order to support the role and functions of mosque institution? Four sub-research questions were generated in answering the main research question and are as follows:

i. What are the mosque implementations of FM process model?
ii. What are the elements of FM process for mosque?
iii. How can FM process model for mosque be developed?
iv. How is the development of FM process model relevant for mosque?

1.6 Research Aim and Objectives

The aim of this research was to examine the implementation of FM process in mosque in supporting the achievement of mosque's functions. To achieve the research aim of this study, the following research objectives were established:

i. To determine the elements of FM process implemented in mosque
ii. To develop FM process model for mosque
iii. To validate the FM process model

1.7   Scope of Research

The scope of this thesis covers two major disciplines: facilities management and mosque institution. Within the discipline of FM, the literature review involves a number of domains: the definition of FM, its functions and various model of FM that focuses more on FM process as it claimed could contribute to enhance organisation performance in more comprehensive. Meanwhile, the mosque institution literature focuses on the definition of mosque, comparison between the historical and current role and functions of mosque, and describes the major theoretical about the application of FM approach in the context of mosque management.

For data collection, all state mosques in Peninsular Malaysia were selected as the scope for empirical study. A total of twelve state mosques have been choosen to gather the required data in which the person who involves in managing the state mosque facilities has been identified to become the respondent. Selection of the respondent has been made by using purposive sampling in order to have a targeted sample that could share their knowledge and experience specifically.

1.8   Outline of Research Methodology

Research methodology refers to the procedural framework within which the research is conducted. Table 1.3 presents the summary of research processes involved in this study. Details of the research processes are discussed in Chapter 4.

Table 1.3:   Summary of research processes

OBJECTIVE	ACTIVITY	OUTPUT
Review of literature		
To review of relevant FM and mosque management concepts; organisational change theories and FM process models.	➢ Comprehensive review of literature through books, journal article, newspaper, academic website	FM definition, role and functions, stage-by-stage FM process model, role and functions of mosque and application of FM approach into management of mosque
Initial Study		
To identify the issue and problem in ensuring the need to conduct research.	➢ Focus group discussion ➢ 100 people (10 people per group) of mosque management ➢ Analyse data using NVivo 11	Barriers in managing mosque facilities
Main Study		
Objective 1: To determine the elements of FM process implemented in mosque	i. Quantitative Approach ➢ Questionnaire Survey ➢ 12 manager of state mosque in Peninsular Malaysia ➢ Analyse data using SPSS statistics 21	Mosque implementation of FM process model
	ii. Qualitative Approach ➢ Semi structured interview ➢ Face-to-face interview with 12 manager of state mosque in Peninsular Malaysia ➢ Analyse data using NVivo 11	Elements of FM process for mosque
Development of Model		
Objective 2: To develop FM process model for mosque	➢ Design model using Microsoft Visio 2010	FM process model for mosque
Validation of Model		
Objective 3: To validate the FM process model	➢ Focus group discussion ➢ Feedback from expert ➢ Analyse data using NVivo 11	FM process model for mosque

1.9   Structure of the Thesis

The thesis is structured into seven chapters outlined as follows:

Chapter 1   :   This chapter presents the overview of the complete research involving the background of the research, problem statement, research gap, research questions, research aim and objectives, scope of research, research contributions and outline of research methodology and structure of the thesis.

Chapter 2   :   This chapter provides a comprehensive review on relevant literature covering the overview of FM concept in terms of definition of FM, significance of FM in an organisation, and discussed FM process model in details. Furthermore, it also discussed the potential of FM approach in supporting mosque functions. It covers areas such as introduction to mosque building in terms of its definition, role and functions of mosque, the need for sustainable *(imarah)* mosque, and the requirement for transformation of mosque management through FM approach.

Chapter 3   :   This chapter presents the methodology involved in conducting this study. It includes a review of research philosophy, research approach, data collection in terms of sampling, instrument and selected area for empirical study, data analysis, model development and validation processes.

Chapter 4   :   This chapter describes the results of data analysis from questionnaire survey. It presents the mosque implementation of FM process in Peninsular Malaysia.

Chapter 5   :   This chapter explains the results of data analysis from interview. It helps to determine the elements of FM process for mosque.

Chapter 6   : This chapter clarify the establishment of FM process model for mosque from both, quantitative and qualitative data analysis obtained in Chapter 5 and Chapter 6. It covers the elements and sub-elements of FM process for mosque and the validation of the model is also discussed.

Chapter 7   : This chapter provides a conclusion of the overall study by discussing the achievement of research objectives, contributions and its limitations. Some recommendations are also mentioned at the end of this chapter for the improvement of this study and as an initiative to provide an idea for future research.

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