Application of Facilities Management (FM) Helpdesk in Higher Educational Institutions in Malaysia

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Abstract—**In higher educational institutions, students, academic staff, and non-academic staff can be categorised as users since they make use of the services and products provided. The purpose of this paper is to provide an exploratory look at how facilities management (FM) helpdesk can be applied in higher educational institutions, with case study at Universiti Tun Hussein Onn Malaysia (UTHM). It discusses the manner in which the FM helpdesk functions as a user complaint system in improving the delivery of facilities management (FM) services in a public university. The research objectives are to study the existing service management system for users' complaint on facilities management and whether that system can contribute to user satisfaction in UTHM. A case study methodology was adopted, with semi-structured interviews and actual data collected generated from the monthly and annual report of FM helpdesk to analyze. These showed the total numbers of users' complaints about facilities management in UTHM. Therefore, the intents of this research are to know the effectiveness of the FM helpdesk as a user complaint system and also to obtain feedback on users' satisfaction using this system. As a result, this system could be a good tool to enhance the systematic management of users' complaints for better facilities management in UTHM.**

Keywords- facilities management, facilities management helpdesk, higher educational institutions, helpdesk, user complaint system

I. INTRODUCTION

In the facilities management field, there are various parties involved in an organisation and also have a range of expertise to manage the facilities [1]. Organisations such as higher learning institutions require an efficient and effective facilities management system in terms of providing good services to the users. If the building and other facilities are not managed properly, it will impact the organisation's performance [2]. Due to this matter, the administration of Universiti Tun Hussein Onn Malaysia (UTHM) considers the FM helpdesk as one mechanism or user complaint system in managing the facilities efficiently and systematically. There are various applicable models or systems which utilize the helpdesk concept that have been implemented locally or overseas [3]. Helpdesk is an electronic user complaint system which can handle, record and maintain complaints systematically and efficiently in the Development and Property Management Office, UTHM. Reports can be generated automatically either monthly or annually which assist in the orderly management and control of the facilities in UTHM.

There is no universal approach to managing facilities. Each organisation even within the same sector will have different needs. Understanding those needs is the key to effective facilities management measured in terms of providing good services in organisations [4]. Managing facilities in higher education is very critical due to the various parties involved in the organisation. One of the parties is the users of the facilities who at times get frustrated waiting on effective services such as after having reported for repairing a breakdown [5]. It happens when the central point through which problems or issues are reported are not subsequently properly managed and coordinated. Based on these issues, there is a need for solutions on how to handle the public complaints with efficiency and systematically. An effective user complaints system on managing the facilities should therefore be made available in the university to cater to users' needs.

The situations where reports cannot be generated effectively to show statistics, data, figures or any important information by the end of the year is also a reason why the helpdesk must be used efficiently. There are some reasons why the complete report is required, such as for audit purpose, for billing process, for administration work and so on. Hence, a practical report with graphical presentation such as bar charts, pie charts, and tables can depict the actual figures on the numbers of total complaints effectively. Helpdesk becomes an integral player in a university's ability to expand technology to the community. Its capability to keep up with the constantly changing and growing support needs has become an increasingly difficult challenge [6].

Helpdesk is seamlessly managed and reports on all maintenance activities and it is being seen as an integral part of the service function, responsible for bringing multiple resources to bear to solve issues to the client's satisfaction [7]. Due to this matter, the administration of Universiti Tun Hussein Onn Malaysia, (UTHM) has looked at the benefits of FM helpdesk as one mechanism that could better manage the facilities on online user complaint system efficiently and systematically.

TABLE I. NUMBER OF RESPONDENTS FOR THE LEVEL OF USER'S SATISFACTION IN DEVELOPMENT AND PROPERTY MANAGEMENT OFFICE, UTHM.

Level of Services	No. of Respondents	Percentage, %
Need to Improve	138	57
Good	39	16
Moderate	34	14
Satisfactory	32	13
Total	243	100%

Facilities Management, FM is a profession that

Table I shows the overall overview among the UTHM users regarding their level of satisfaction with the services provided by UTHM. Most of them opinionated that the university need to improve its services with about 13% satisfied, 14% moderate and 16% considering the services provided as good.
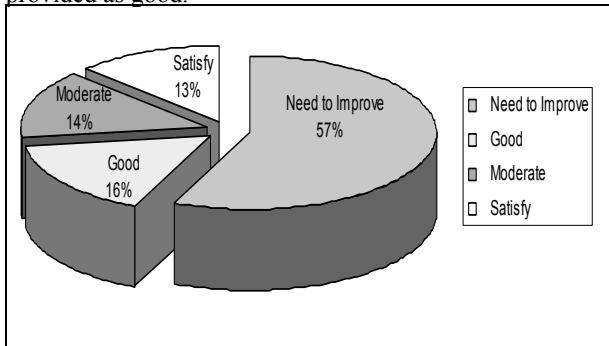

Figure 1. Level of User's Satisfaction in Development and Property Management Office, UTHM.

From the graph, we can see that the percentage of user's satisfaction level in UTHM is not at a high level. During the study period, there was no other research conducted on user complaint system that could provide a measure of the level of user satisfaction on UTHM facilities and services. This is attributed to the lack of research and specific issues discussed on FM helpdesk at the time of the study. Although limited, there has been a small amount of research conducted looking at the benefits of FM helpdesk. A completed study was done in the UK NHS District General Hospital during its final stages of commissioning [8]. It is more commonly referred to with the term "support service" where the development of the helpdesk itself is looked upon as a service centre [9]. Therefore, this research was done to explore the possibilities for improving the facilities management service in UTHM. It identifies problems in the process, system or service that hinder the provision of good level services in the university and whether the FM helpdesk as a user complaint system can play a role to improve the facilities management services in UTHM.

II. RELATED WORK

A. Facilities Management Concept in Higher Educational Institutions

Facilities Management, FM is a profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, process and technology [4]. It covers a wide range of scopes and many aspects must be seen. FM is the integration and alignment of the non-core services, including those relating to premises, required to operate and maintain a business to fully support the core objectives of the organisation [10].

Although FM services are non-core in nature, if managed correctly they should have a strategic importance for adding value to an organisation's core business delivery. In other words, FM is geared towards providing facilities of support service. Higher learning institutions are recognised as a service industry, which place greater emphasis on meeting the expectations and needs of their customers [11]. Support services are vital for institutions in providing better quality outputs to meet their customer's need [12].

There are various groups that can be categorised as the customers of a university, namely students, academic staff, non-academic staff, the general public and visitors. Facilities services are important resources to the university in providing for their core business, teaching and learning services [13]. The objectives of higher learning education are to provide in-depth knowledge, seek academic development, educate students, and coordinate national development demands. In order to deliver their core teaching and learning mission higher learning institutions need to have substantial infrastructure. This often includes an extensive estate and buildings. In the building there are important elements like process, technology and people which are needs and bear intricately-linked relationship to each other in the organisation [14].

Facilities management services are divided into three components, namely hard services, soft services and management services. Helpdesk is categorised as the management services which is a generic name typically associated with the end user support centre. It is seen as an integral part of the services function, responsible for bringing multiple resources to bear and solve issues to the client's satisfaction [15]. It is a resource designed to provide end users with information and assistance regarding problems with computers and related devices or software [16].

B. Facilities Management Helpdesk

Facilities management helpdesk differs from an information technology (IT) helpdesk. Providing a customer support service through the helpdesk for an organisation's entire property portfolio is very different and much more difficult than the IT helpdesk [17]. For example, calls which might range from a blocked toilet to a serious power failure, need more time and resources to deal with, a fact that will be reflected in the type of system required to record, process and mange such a wide variety of needs. The principle, through is essentially the same; to respond to a customer's

enquiry as quickly as possible and follow it through until it has been satisfactorily resolved [18].

Helpdesk in an organisation is very important to the running of the organisation. It has emerged as a very important part of organisations and has been recognised as a place where organisations can gain competitive advantage [19]. Over the last ten years, helpdesk has risen to prominence as one of the most important areas of the IT and customer services industry. However, not all helpdesks have the same requirements, for example the helpdesk operating in academic environments find themselves with distinct circumstances and problems [9].

TABLE II.   SUMMARY OF LITERATURE REVIEWS UPON HELPDESK ISSUES BY YEARS

Authors & Years	Title	Issues
1) RitaMarcella & Iain Middleton, 1996.	*The Role of the Help Desk in the Strategic Management of Information Systems.*	Focuses on the potential of the help desk in enabling an organisation or its customers to gather data on systems use, plan and implementation of IT development strategies and assess their impact on attitudes to IT.
2) Ian Stinton, 1996.	*Helping the Help Desk.*	Examines a unique product which intends to offer support to the supporters by using artificial intelligence to the handling of users' queries.
3) Iain A. Middleton & RitaMarcella, 1997.	I*n Need of Support: The Academic Help Desk.*	This research addresses the issues of distinguishing the help desk in academia and it also finds that it often suffers from difficulty in defining its role and obtaining recourse, examines how some institutions have successfully tackled these problems and offers some suggestions for strategies, future developments and sources of expert advice.
4) Jim Greer, Gordon McCalla & John Cooke, 1998.	*The Intelligent Helpdesk: Supporting Peer-Help in a University Course.*	This research discusses on help resources needed in institutions-wide and also at a course-specific level, due to the limited time of instructors to provide help and answers questions among the university's users. Also, help desk can be a tool that provides for the integration and application for helping university learning.
5) Rachel Niedzwiecki & Macauley Peterson, 2002.	*Help Desk Support: To Be or Not To Be Eligible.*	This paper is designed to review relationship and the related issues arising between helpdesk as a support with the Service Level Agreements (SLAs) in the university.
6) Yooncheong Cho, Roxanne Hiltz & Rutgers 2002.	*An Analysis of Online Customer Complaints: Implication for Web Complaint Management.*	The purpose of this paper is to investigate the current sources and causes of online complaints, seek effective ways of handling customers complaints by examining different product types and provide guidelines for successful e-CRM.
7) Michael Workman, 2003.	*Results from Organizational Development Interventions in a Technology Call Center.*	This study concurrently investigated the effect technology call center among the organisational development intervention focused on American economic sector.
8) Ye Chen, 2004.	*To Help Helpdesk : A Field Study of Online Help System in Campus Context.*	This paper reports on a field-based study of online help desk systems at the University of Maryland. The objectives of this research are to offer insights, enhance understandings, and provide a meaningful guide to design online help systems for educational institutions.
9) Daryl May, 2010.	*Facilities Management Help Desks.*	The purpose of this paper is to provide an exploratory look at facilities and estate management help desks in four different case study organisations.

A literature review of helpdesk based on the various scope and issues of the helpdesk over a period of 14 years shows that helpdesk information is limited with a small amount of research conducted looking at the benefits of facilities management (FM) helpdesk as summarised in Table II. Nevertheless, the literature survey on helpdesk has been most useful in identifying various related issues arising from helpdesk as a call centre, IT helpdesk, online customer complaint system, support system, information system, and lastly about facilities management helpdesk. Although limited, there has been a small amount of research conducted looking at the benefits of FM helpdesk [20].

A completed study by a student of Sheffield Hallam University looked at facilities and estate management helpdesk in four different case studies of organisations. The findings suggest that the key factors for success of a facilities management (FM) helpdesk include mapping out all customer requirement, recruiting the correct operating staff, ensuring an appropriate working environment, and customer's communication once the helpdesk is operational [9]. Other authors have discussed how to get the helpdesk up and running. Among the points raised are staffing issues and

a debate as to whether staff on helpdesk need to be experts or generalists. He contends that most helpdesk managers prefer staff with good communication skills, customer service, experience and an ability to handle stress, over and above other attributes [21].

C. Helpdesk Categories Used in University Application

TABLE III.   THE HELPDESK JUSTIFICATIONS

HELPDESK CATEGOROES	JUSTIFICATION FOR THE HELPDESK FUNCTION IN PUBLIC UNIVERSITIES
1. INQUIRIES, FEEDBACK & COMMENTS	- Questions and Answering - To solve the problem - For inquiries, given feedback from the administrator - For comments related issues
2. IT SERVICES	- IT Services and Public Complaints for IT solution - IT Maintenance and Repairs - Help for IT technical problem - Remote Control
3. LIBRARY	- Loan of Book from Library - Online Book at the Library - Asking questions to the librarian - Access the Digital Collection such as E-Journal, E-Book and others
4. COMPLAINT (ALL SERVICES)	- Complaints about the process or system in the organisation - In university, complaint on learning and teaching process - Complaint on staff behaviours - Safety Issues, Administrator and others
5. FACILITIES MANAGEMENT	- For complaints on the breakdowns of electrical, mechanical, civil equipments etc. - Maintenance and Repairs - Reports can be generated from the Facilities Management Helpdesk

D. Application of Helpdesk in Public Universities

Table III and IV show the details about the categories and justifications of helpdesk categories employed in several public universities in Malaysia. Referring to Table IV, there are only two universities utilizing the FM helpdesk in their management to handle the facilities management aspects in the university. As seen in Table III, five categories are identified to show the functions of helpdesk application in the public universities in Malaysia.

TABLE IV.   HELPDESK IN PUBLIC UNIVERSITIES

NAME OF UNIVERSITIES IN MALAYSIA	CATEGORIES / FUNCTIONS OF HELPDESK				
HELPDESK JUSTIFICATIONS	INQUIRIES, FEEDBACK & COMMENTS	IT SERVICE	LIBRARY	COMPLAINT (ALL SERVICES)	FACILITIES MANAGEMENT
1. Universiti Teknologi Mara, UiTM					☺
2. Universiti Teknologi Malaysia, UTM	☺	☺			
3. Universiti Putra Malaysia, UPM			☺		
4. Universiti Sains Malaysia, USM				☺	
5. Universiti Utara Malaysia, UUM		☺			
6. Universiti Sains Islam Malaysia, USIM	☺				
7. Universiti Tun Hussein Onn Malaysia, UTHM		☺		☺	☺
8. Universiti Kebangsaan Malaysia, UKM		☺			

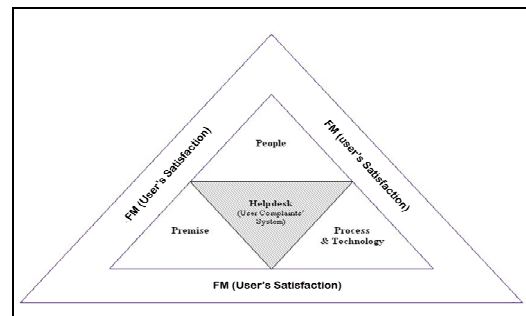## III. THEORETICAL AND CONCEPTUAL FRAMEWORK

Figure 2.   Theoretical Framework

The theoretical framework of this research is illustrated by Figure 2 above. The framework is based on the FM concept that combines the four important elements in FM which refers to process, people, premise and technology. According to IFMA, 2009 FM is a profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, process and technology. It covers a wide range of scopes and many aspects must be seen. In the facilities management field, there are various parties involved in the organisation and also have a range of expertise to manage the facilities [22]. With reference to the theoretical framework above, a helpdesk system becomes the core-centre within the four elements of premise, people, technology and process of work in a one organisation. To exemplify, in a building there is a person or staff entrusted to undertake the process by using available technology. Here, we can look up to the helpdesk system as being a recovery system for the recovery of services in order to handle the facilities management function in UTHM.
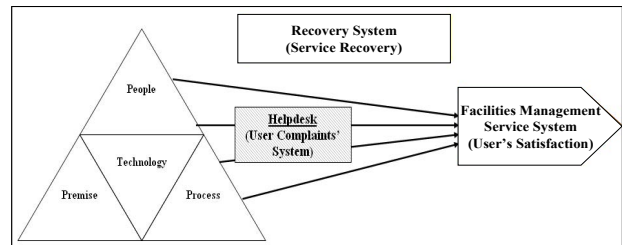

Figure 3.   Conceptual Framework

IV. METHODOLOGY

The central methodology was to utilise a case study approach and interview. These approaches will help this research to achieve its stated objectives for final results. The application of FM helpdesk has been implemented since September 2009 in the Development and Property Management Office, UTHM. The data was captured from actual monthly and annual reports of helpdesk to obtain the details of the total number of users' complaints pertaining to facilities management in UTHM. The data was also derived through a user survey by conducting an interview with UTHM users, involving academic and non-academic staff as the respondents. The research approach adopted for this

research refers to the development study is by means of the longitudinal study depicted in Figure 4 below.
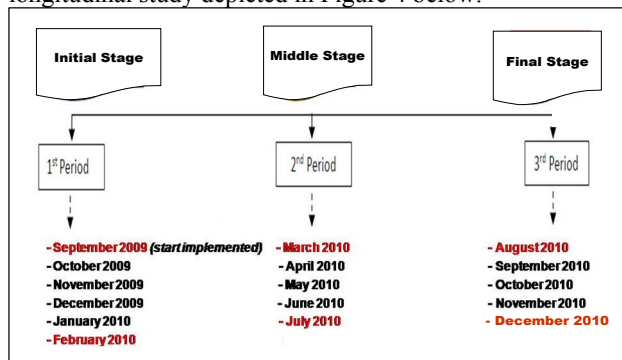

Figure 4. Longitudinal Study on Users' Satisfaction in UTHM (Helpdesk System)
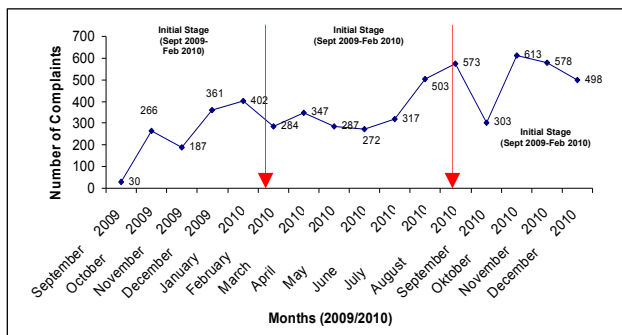
V. FINDINGS

Figure 5. Findings Regarding the Total Numbers of Complaints in Facilities Management Helpdesk System in UTHM

Figure 5 above shows the initial findings on total complaints of facilities management services in UTHM commencing from September until December of 2010. Each stage covers a period for six months. The graph shows that it is not stagnant; there were variations throughout the study period. These covered all the three stages of the time period to obtain the numbers of total complaint on a monthly basis by using the FM helpdesk system.

VI. CONCLUSION

Consequently, conducting this research on the application of helpdesk in UTHM can improve the facilities management system in the university. For the expected results, this implemented system can help the Development and Property Management Office, UTHM to achieve the standard level of users' satisfaction among the users in UTHM. Thus, this research will show that this online user complaint system can provide significant benefits and

enhanced work system for better facilities management in the university.

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