

Managing Property and Facilities in Higher Education Institutions

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Wan Zahari Wan Yusoff

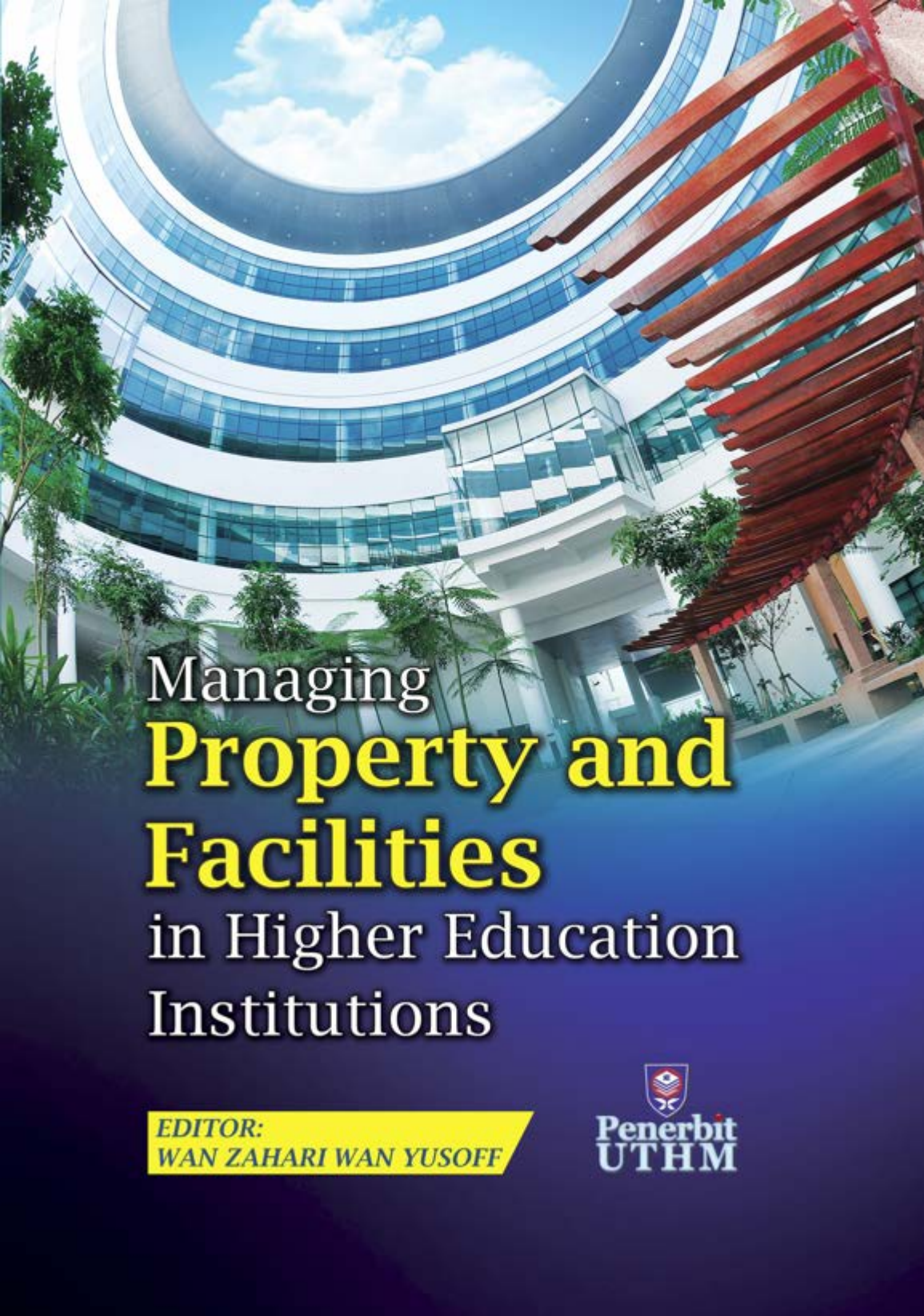
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Abstract: Property and facilities management is a vast area in the real estate discipline. Managing property and facilities particularly in Higher Education Institutions is complex and there is dearth of empirical literature in this aspect.

This book comprehensively discusses important and current issues involved in property and facilities management in Higher Education Institutions. It is a rich sources of information based on recent research in a Malaysian University. It is a much-needed contribution to the literature on property and facilities management in tertiary education Institutions.

Keywords: Property, facilities, Malaysian University



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**Penerbit
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P R E F A C E



Facility management (FM) is a field that has difficulties in terms of determining its scope and parameters. This can be proven by the various definitions given by various researchers and institutions, whether from national or international level.

Some definitions given portray FM as the integration of three main strands activity which are property management (Real Estate), property operations and maintenance and office administration.

Another definition postulated FM as hybrid management discipline which involve management and technical expertise that covers human, work processes, premises and technology.

Yet, another version of FM definition expresses that FM can be grouped around client demands, which can be summarized under two main headings. The first being space and infrastructure, and the second being people and organization.

The definition given depends on the experience and contribution as well as the involvement of individuals or bodies that are directly involved in facility management profession.

This book was written as part of efforts to increase the reading materials in facility management discipline through sharing real experiences of the author who is directly involved in managing the facilities at the university, as well as researcher and postgraduate supervisor in UTHM. Hopefully this little contribution and effort can benefit the various parties who wish to explore the field of facility management.

A C K N O W L E D G E M E N T



I would like to express my gratitude to Allah SWT for through His limitless bounty this book could be completed. I would also like to express my appreciation to my post-graduate students under my supervision who were actively involved in preparing this book, especially Ihfasuziella, Fazira, Azwan and Jolene from *Universiti Tun Hussein Onn Malaysia* (UTHM) and fellow lecturer from *Universiti Teknologi Malaysia* (UTM), Rashidi who at the time of writing this book was pursuing his PhD studies at QUT under the supervision of Professor Chris Eves.

This book was written while I was on sabbatical leave in QUT, Brisbane. I would like to thank Professor Chris Eves, who also acted as a proofreader, friends in Buranda Mosque i.e. Ayoub and Shamree who contributed their expertise in providing ideas and revised the manuscript. Also to my good friend Zainal Sayadi for his contribution.

To my beloved family, wife and children who were in Malaysia during my stay in Brisbane. May your prayers bring success and blessings which can be shared with all of us.

Finally, I wish to express my gratitude to the top management of UTHM who had given me an approval for sabbatical leave and thus enabled me to write this book. Most of the contents of the chapters came from the research process and through supervising students at postgraduate level.

Yours respectfully,

Wan Zahari Wan Yusoff

CHAPTER 1



INTRODUCTION

This book was written with the objective of sharing some of the author's experiences in managing facilities in the University for 3 years from 2009 to 2012. At the same time the author also served as the Head of Centre for Facilities Management at UTHM. The articles published are the results of his research projects and his supervisions at the postgraduate level.

Duties and responsibilities for managing assets and facilities may be considered challenging and requires a multidisciplinary management approach which includes technical and management skills. For a rapidly growing university, it is not an easy responsibility. It is hoped that the publication of this book will help broaden the collection of readings, particularly in the areas of property and facilities management in Malaysia.

This book covers seven (7) interlinked chapters. Chapter one begins with the 'Introduction' that describes why this book is written as well as a brief introduction on each chapter. Chapter two, 'An alternative approach for funding infrastructure and facilities project in developing university campus', highlights the issues of difficulties to obtain funds in developing the infrastructure and facility due to the government financial resources which have become very limited. As there are 20 public universities in Malaysia, the provisions of the government's financial resources are becoming more limited. Therefore there must be an alternative way to overcome the problem and sole reliance on the government for funding can no longer continue. Thus a new concept called PPP /

CHAPTER 2



An Alternative Approach for Funding Infrastructure and Facilities Project In Developing University Campus

(Jolene Wong May Xuen & Wan Zahari Wan Yusoff)

Overview

Competitive global environment of today has led governments around the world to seek new ways to finance projects, build infrastructure and deliver services. The adoption of “public-private partnership”(PPP) or “private finance initiative” (PFI) is to bring together the strengths of both sectors; the public and the private. Both sectors are to facilitate the delivery of projects and services. However, each country uses a different type of mechanism in procurement design of projects based on the needs and nature of the development project. PPP/PFI is still new in Malaysia especially in (higher learning institutions) HLI development. Based on the lack of knowledge on the mechanism in PPP/PFI procurement, criticisms on the early stage of development are becoming more significant. Thus, the objective of this chapter is to identify the mechanisms of PPP/PFI in Malaysia by identifying the projects implementing PPP/PFI especially in the context of campus development in HLI. Further on to that the constraint and challenges of PPP/PFI implemented in Malaysia was studied as well. This chapter was carried out through the adoption of qualitative method and reviews of past findings and citations from reading materials on the similar research. The elements and mechanism of public-private partnership (PPP) or Private Finance Initiative (PFI) were collected via an interview session with personnel from Unit Kerjasama Awam Swasta (UKAS) which is responsible for public-private procurement in Malaysia. Personnel from private company involved in PPP/PFI were included as respondent for interview as

can be performed in examining how availability charges are being derived and the important elements taken into consideration in fixing the availability charges that the government needs to pay. Besides that, research can also be conducted to set a guideline or a formula to derive the availability charges for a better understanding for both public and private sectors.

CONCLUSION

PPP/PFI procurement in Malaysia is an alternative way for project development which has the potential to grow further. It tackles the inadequacy of fund of government in project development.

Although PPP/PFI procurement is in the early stage in Malaysia, the interest in developing a more mature mechanism of PPP/PFI procurement, is rising drastically. Investors are looking for more PPP/PFI procurement as it generates long term secure income taking the government as its client. Thus, the potential of growth on PPP/PFI procurement is enormously significant in Malaysia. In future, PPP/PFI procurement may be the key to success in developing and shaping Malaysia into a developed country.

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CHAPTER 3



Space Management for an Effective Space Usage For Class Rooms in Academic Buildings

(IhfaSuziella Ibrahim & Wan Zahari Wan Yusoff)

Overview

Facilities Management (FM) in the property sector is a process that involves the achievement of organizational goals and to fulfil customer's needs, committed to continuous improvements in quality, reduce risk and ensure profits in relation to their building ownership and occupation. The existence of facilities management is to support the activities of the organization which is the core of achieving organizational goals. In facilities management, there are four essential components namely; people, process, technology and premises. In this study, the premises component was emphasized where the management of its space should be managed efficiently and effectively. The space management issue is becoming more crucial in many organizations, especially universities, due to the continual changes of demand for the academic space in each and every learning session owing to the increase in the number of students enrolled. Non systematic space management can result in space wastage. Waste of space will indirectly result in increased costs of a building. Implications of related cost in physical resources in large organizations such as Higher Education Institutions (HEIs) are very large. The purpose of this chapter is to identify the space usage for teaching and learning activities in academic buildings and develop a space management model towards an optimal space usage. This study involves the lecture rooms on the actual usage against the students' timetable which was made available by the Academic Management Office of the university (audit). This is important to evaluate the use of space for teaching and learning

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CHAPTER 4



Facilities Management (FM) Help Desk Services in Higher Educational Institutions

(Fazira Shafie & Wan Zahari Wan Yusoff)

Overview

This chapter provides an exploratory look at how a facilities management (FM) help desk can be applied in higher educational institutions, with Universiti Tun Hussein Onn Malaysia (UTHM) adopted as the case study. An efficient and effective facilities management services contribute to the productivity of an organisation in achieving its core activities. Higher educational institutions with teaching and learning as their core activities have several physical and non-physical facilities to manage. In reality, this involves complex challenges in meeting the needs and demands of dynamic and demanding stakeholders. Therefore, a mechanism must be identified and developed to meet these needs and demands. FM help desk has been identified as an online system for the university community to channel any complaints concerning the university facilities. It discusses the manner in which the FM help desk functions as a user's complaint system in improving the delivery of FM services in a public university. A case study methodology was adopted, with semi-structured interviews and actual data collected gathered from the monthly and annual report of the FM help desk for analysis. These showed the total numbers of users' complaints in relation to facilities management in UTHM. Therefore, the aims of this research are to determine the effectiveness of the FM help desk as a user's complaint system and also to obtain feedback on users' satisfaction using this system. The results showed that the majority of users were satisfied with

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CHAPTER 5



Indoor Environmental Quality (IEQ) in Academic Buildings from the Users Perspective

(Muhammad Azwan Sulaiman &
Wan Zahari Wan Yusoff)

Overview

Indoor Environmental Quality (IEQ) is a key component in the evaluation of meeting the concept of green buildings that aim towards sustainable development. An imbalance of IEQ contributes to the sick building syndrome (SBS). This Chapter focuses on identifying the framework in the evaluation of IEQ in the context of academic buildings at the institutions of higher education. The investigations include two factors; the level of IEQ and the level of users' satisfaction in the academic buildings. Survey and on site scientific measurement approaches have been carried out for data collection. The data were then analyzed using Statistical Package for Social Science (SPSS). Experimental studies on the academic building focused on a proposed IEQ evaluation framework based on four main elements of IEQ being; Thermal (temperature and humidity), Noise Comfort, Indoor Air Quality (air movement CO₂ concentration) and Lighting. Experimental results obtained were compared to the Malaysia Standard MS 1525:2007. The results showed that the element of temperature, air movement and the CO₂ concentration in the subject buildings are at accepted levels. Meanwhile the elements of relative humidity, sound and lighting are below the same prescribed standards. The framework that has been developed as the measurement model can be used in the evaluation of Indoor Environmental Quality (IEQ) at any academic building in Malaysia.

CONCLUSION AND RECOMMENDATION

Based on data obtained from the measurement process in the field study, it can be concluded that the quality of the indoor environment (IEQ) in the Academic Building UTHM is at a moderate level as the prescribed standard set by Malaysian Standard (2007). The performance is reasonably satisfactory in terms of temperature, air movement and CO_2 concentration. However, the lighting element, sound intensity and humidity are below standard. In view thereon, the study revealed that there should be an initiative and efforts to achieve the recommended standard for providing a conducive environment of teaching and learning activities in UTHM. The IEQ framework suggested in this study is also beneficial to be applied in measuring the IEQ performance of any academic buildings in Malaysia.

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CHAPTER 6



Material Selection from Life Cycle Costing Sensitivity For Academic Buildings

(Noorsidi Aizuddin Mat Noor & Chris Eves)

Overview

Life Cycle Cost Analysis provides a form of synopsis of the initial and consequential costs of building related decisions. These cost figures may be implemented to justify higher investments, for examples in the quality or flexibility of building solutions through a long term cost reduction. The emerging discipline of asset management is a promising approach to this problem because it can do things that techniques such as balanced scorecards and total quality cannot. Decisions must be made about operating and maintaining infrastructure assets. An injudicious sensitivity of life cycle costing is that the longer something lasts, the less it costs over time. This chapter will consider this life cycle cost analysis as an economic evaluation tool and collaborate with various numbers of analysis. LCCA quantifies incurring costs commonly overlooked (by property and asset managers and designers) as replacement and maintenance costs. The purpose of this chapter is to examine the Life Cycle Cost Analysis on building floor materials particularly in education building. By implementing the life cycle cost analysis, the true cost of each material will be computed projecting 60 years as the building service life and 5.4% as the inflation rate percentage to classify and appreciate the difference among the materials. The analysis results showed the high impact in selecting the floor materials according to the potential of service life cycle cost next.

From an understanding of life cycle cost analysis, effective methods of evaluating and forecasting budget will help decision making in adjusting to the trends. Perhaps, it is becoming more apparent that there will be an increasing need for such change, as it affects asset, building and materials which should be managed properly and efficiently. Choosing flooring material as an asset for the property management case study is one of the initial stages to show the impact.

RECOMMENDATION

It is recommended that further research examines the implementation of the analysis towards the other asset from the public sector or private sector. Besides that, further research should also study the delivery of value for money on more specific issues including different type of materials usage, different project sizes and different project locations.

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CHAPTER 7



Discussion and Conclusion

Managing Facilities at the University is an interesting and challenging task as it involves everything from the smallest of things to the greatest. The popular definition of facility management provided by International Facilities Management Association (IFMA, 2005) states that Facility Management is the hybrid discipline which involves the management expertise and technical expertise which include human capital management, work processes, premises and technology. This definition has been widely adopted within the discipline of facility management globally. In the context of managing facilities at universities, generally it can be summarized into the followings: management of operations and maintenance in the areas of civil works, electrical, mechanical and landscapes.

- It covers maintenance of infrastructure such as roads, sewers and drains, maintenance of buildings, including damage to toilets, door handles and roof etc.
- Renovation works on buildings and offices.
- Work on the electrical and mechanical, including lighting, ventilation, air-conditioner, fan and etc.
- Work on landscaping and beautification.
- Preparation of the budgets.
- Preparation of contract documents and appointment of contractors.
- Maintenance of sports facilities including football field, hockey field, swimming pools, etc.