

**UNIVERSITI TEKNOLOGI MARA**

**THE DEVELOPMENT OF SPACE  
AUDIT ASSESSMENT FRAMEWORK  
FOR MALAYSIAN PUBLIC  
UNIVERSITIES**

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**PhD**

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## AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

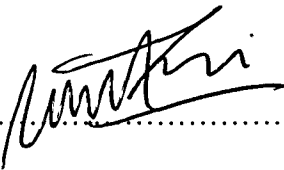
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## ABSTRACT

Space management is essential to ensure the continuity of the university's operations. Currently, most public universities in Malaysia are still reporting many issues arising in space management, especially the use of academic building space. The implication not only effects on strategic planning of the university, but also effects on a burden of government-imposed administrative expenses with the increasing cost of new developments. The main issues are the lack of guidance and implementation of space audit assessment by the organisations of public universities in Malaysia. Therefore, the aims of this research are to identify significant criteria of space audit assessment for public universities in Malaysia and becoming the main framework of this study. The research method was conducted by applying the mixed-method approach by combining quantitative and qualitative methods. The data collections of quantitative methods were through questionnaires on pilot studies for 20 selective respondents from 16 Malaysia public university and validation findings for 23 selective focus group experts in space management from various institutions such as academicians, government servant and professional practices for expert feedback. The data collections for qualitative methods a fieldwork studied at sites and also as a main case study with applied on five criteria of space audit assessment frameworks on academic building only at three selected public universities in Malaysia. The data analysis of questionnaires was used the Statistical Package for the Social Sciences (SPSS) software with focused on Reability analysis and Frequency analysis. The data analysis on fieldworks studied were used content analysis with focused on five criteria in space audit assessment frameworks for Malaysia public universities. The criteria are space capacity analysis, space occupancy analysis, space frequency analysis, space utilisation analysis and space condition analysis. The findings revealed five criteria for space audit assessment are vital and essential to be carried out by competent parties to determine the level of academic space management performance of public universities in Malaysia. The main contribution of the space audit assessment framework implementations is offered benchmark, references and guidance in assisting university management in making decisions. It also contributed to the space allocated on user requirement, planning a number of students' enrolment, time tabling management, budgeting allocations for maintenance management (existing building) or new development (if required for new building) and strategic management planning of academic programme growth for the future.

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## TABLE OF CONTENTS

	<b>Page</b>
<b>CONFIRMATION BY PANEL OF EXAMINERS</b>	<b>ii</b>
<b>AUTHOR'S DECLARATION</b>	<b>iii</b>
<b>ABSTRACT</b>	<b>iv</b>
<b>ACKNOWLEDGEMENT</b>	<b>v</b>
<b>TABLE OF CONTENTS</b>	<b>vi</b>
<b>LIST OF TABLES</b>	<b>xiv</b>
<b>LIST OF FIGURES</b>	<b>xviii</b>
<b>LIST OF ABBREVIATIONS</b>	<b>xxi</b>
<b>CHAPTER ONE: INTRODUCTION</b>	<b>1</b>
1.1 Introduction to the Research	1
1.2 Background to the Research	1
1.3 Statement of the Problem	3
1.4 Research Aims and Objective	6
1.5 Research Questions	6
1.6 Scope of the Research	7
1.7 Significant of the Research	9
1.8 The Limitation of Research	10
1.9 Research Design	10
1.10 Outline Thesis	12
<b>CHAPTER TWO: A REVIEW ON SPACE MANAGEMENT AND SPACE AUDIT ASSESSMENT IN UNIVERSITY</b>	<b>15</b>
2.1 Introduction	15
2.2 The Significant of Facilities Management in University	16
2.2.1 The Relationship Between Facilities Management and Space Management	18
2.3 Reviewing Space Management Concepts in Universities	22
2.3.1 Space Management Definition	22