

**UNIVERSITI TEKNOLOGI MARA**

**STAKEHOLDERS DECISION-  
MAKING CRITERIA FOR  
ADAPTIVE REUSE STRATEGY:  
MALACCA AND PENANG  
HERITEGE CITIES**

**NOORZALIFAH BINTI MOHAMED**

Thesis submitted in fulfillment  
of the requirements for the degree of  
**Master of Science**  
**(Green Architecture)**

**Faculty of Architecture, Planning and Surveying**

**October 2017**

## ABSTRACT

Adaptive reuse is an important strategy for achieving sustainability, as it ensures a continuous building life cycle and prevents building destruction. Adaptive reuse has the greatest potential to significantly decrease the environmental load of the built environment within the next 20 to 30 years. However, owners and practitioners still lack of point of references to justify and evaluate their decision-making with regard to the adaptation practice. The decision to reuse a building entails a complex set of considerations, including issues of economic, social, environmental, legislative and architectural. This research, therefore, aims to explore the unique criteria of decision-making among practitioners when considering to adaptive reuse an existing building asset. Thirty (30) unique criteria of decision-making were identified through detailed literature review. The quantitative method of a self-completion questionnaire survey were conducted among stakeholders, including architects, valuers, planners, government department, developers and the building owners gather their opinion and view on criteria that influence the decision-making. The analysis of the survey revealed seven (7) key criteria that are influencing the decision-making to adaptive reuse the existing building: (1) building value; (2) building suitability; (3) structural condition; (4) official plan and zoning; (5) building code; (6) client requirement and (7) heritage designated. In this regard, while 'building value' criteria were the primary determinants influencing the decision to reuse or demolish, the suitability and structural condition of the asset juxtaposed with regulations were also considered. Additionally, issues associated with the environmental, economic and social tenets of sustainability were identified as being important, but were given less priority when considering reuse. As current building stock is rapidly becoming obsolete, emphasis is increasingly placed on them during the adaptive reuse decision-making process to ensure sustainable outcomes. The developed criteria identify the critical areas that owners, developers and key project stakeholders need to consider when deciding to either reuse or demolish an existing building. It also can be used to evaluate the economic, physical and social implications of undertaking a heritage project.

## ACKNOWLEDGEMENT

Firstly, I wish to thank God for giving me the opportunity to embark on my MSc and for completing this long and challenging journey successfully. My gratitude and thanks go to my supervisor Dr. Kartina binti Alauddin for her patience, guidance, advice, criticism, and motivation in all stages of this study. I would also like to thank for the insight and theoretical information she provided me during my graduate study.

My appreciation goes to the Dr. Muhammad bin Derus for his valuable suggestions and comments on research method. Special thanks to Syamimi, Nadia, Omar and Hafiz for helping me with this project and friendship throughout this study.

I would also like to express my greatest gratitude to my family for their trust and support and my beloved husband Radhwan bin Hussin for his presence in my life and big support during the period of my study.

Finally, this thesis is dedicated to the loving memory of my very dear mother and late father for the vision and determination to educate me. This piece of victory is dedicated to both of you. Alhamdulillah.

# TABLE OF CONTENT

	<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 CONTENT</b>	<b>vi</b>
<b>LIST OF TABLES</b>	<b>x</b>
<b>LIST OF FIGURES</b>	<b>xiv</b>
<b>LIST OF ABBREVIATIONS</b>	<b>xv</b>
<b>CHAPTER ONE INTRODUCTION</b>	<b>1</b>
1.1 Background of Study	1
1.2 Problem Statement	3
1.3 Research Questions	5
1.4 Research Aim and Objectives	6
1.5 Research Aim and Objectives	6
1.6 Limitation of Study	7
1.7 Significance of Study	8
1.7.1 Government	8
1.7.2 Stakeholder or Practitioner	8
1.7.3 Building Owners	8
1.7.4 Researchers	9
1.8 Literature Review	9
1.9 Research Methodology	10
1.9.1 First Research Stage: Preliminary Study	12
1.9.2 Second Research Stage: Identify Objective and Scope of Study	12
1.9.3 Second Research Stage: Identify Objective and Scope of Study	12
1.9.4 Fourth Research Stage: Develop the Instrument	14

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of Study

Malaysia intends to be a developed country by 2020 through the development of low-carbon, sustainable, inclusive and efficient use of resources. Socioeconomic development will shift from costly, conventional development path to the green growth path that will ensure sustainable socioeconomic development carried out at a very early stage of planning and subsequent to implementation and evaluation (*Unit Perancangan Ekonomi, Jabatan Perdana Menteri, Rancangan Malaysia Kesebelas, 2015*). Green growth leads to changes as it is not only a strategic thrust of its own, but also a development platform that includes the three pillars of sustainable development, namely economic, social and environmental, and enable the country to face future challenges better. According to eleventh Malaysia Plan, the successful implementation of green growth will boost economic growth, changing the thinking and behavior of people and influencing the Government policy, industrial production strategy and the individual consumption patterns. This will correct the perception of the green growth being costly for long term investment.

Buildings are concentrated in urban areas, where it becomes the focus of efforts to reduce carbon emissions related to building. In particular, the existing buildings constitute a part of the entire building stock all over the world and it is not possible to preserve them all intact. As a developing country, Malaysia has a large stock of invaluable, existing buildings. However, according to Ahmad and Rahman (2010), most of these existing buildings are not conserved well and most of them are in poor conditions due to damages. According to the statistic of Jabatan Warisan Negara (2015), there are 368 national heritage sites, consisting of sites, building, monument and object. Recently, a myMetro newspaper article stated that in 2015, there were 112 national heritage sites recognised. Since the heritage department was established in 2006, as much as 496 locations had been appointed as national heritage sites.