UNIVERSITI TEKNOLOGI MARA

KNOWLEDGE SHARING FRAMEWORK FOR SUSTAINABLE VALUE PLANNING IN MALAYSIAN PUBLIC CONSTRUCTION PROJECTS

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ABSTRACT

Malaysia is pursuing the status of a high-income nation by the year 2020. In tight economic conditions, the government has to improve the value of public spending through increasing its sustainability with the lowest possible investment. Although construction projects contribute to the country's economic growth and fulfil social needs, they also contribute to environmental deterioration. Besides that, construction projects in Malaysia are criticised for low productivity and failure to achieve client satisfaction. Due to these reasons, the government has introduced the Green Growth concept to promote sustainable development for public projects and Value Management (VM) to improve the projects' value for money. Value Planning (VP) is the front end of VM, conducted during the early project planning stage. Due to various advantages of integrating sustainability considerations during the early stages, VP is the best platform to achieve value for money and project sustainability at the same time. Sustainable Value Planning (SVP) is a concept that integrates both value for money and sustainability targets in a single mechanism. Effective knowledge sharing is the key driver for SVP. Despite the recognition of the importance of effective knowledge sharing within VP, its contribution in nurturing sustainability integration into the practice remains unclear. Thus, this study is conducted with the aim of developing the Knowledge Sharing Framework For Sustainable Value Planning. This framework explains the constructs involved and their relationships during the SVP in the context of knowledge sharing for Malaysian public construction projects. This study was conducted based on the philosophy of pragmatism and adopted the abductive approach. A two-phase Exploratory-Explanatory research was conducted employing the Mixed-Method Research design. Both quantitative and qualitative data were collected and analysed using various data analysis techniques such as Template Analysis and Partial Least Square of Structured Equation Modelling. This study arrived at a few findings, including: (1) the sustainability themes to be used during SVP; (2) factors that influence knowledge sharing effectiveness during VP; (3) relationship between perceived project sustainability performance and knowledge sharing effectiveness; and (4) The Knowledge Sharing Framework for SVP. Seven constructs were identified that explain the knowledge sharing phenomenon during SVP: (1) individual attitudes towards knowledge sharing; (2) perceived complexity of the knowledge domains (3) subjective norms of sharing knowledge (4) dependency on online repositories; (5) knowledge sharing effectiveness; (6) team synergy; and (7) perceived project sustainability performance. Using questionnaire survey involving the Value Assessment Laboratory participants, the relationships amongst the constructs were tested. The response rate of the survey is 84% and 280 observations were finally analysed. Eight direct relationships and two mediating effects were identified that explain the relationships between these Based on the findings of this study, effective knowledge sharing constructs. significantly influences the sustainability considerations during VP. It also partially mediates the relationship between team synergy and the perceived project sustainability performance.

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> "Strive not to be a success, but rather to be of value." Albert Einstein

TABLE OF CONTENTS

	Page
CONFIRMATION BY PANEL OF EXAMINERS	ii
AUTHOR'S DECLARATION	iii
ABSTRACT	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	xiv
LIST OF FIGURES	xviii
LIST OF PLATES	xxi
LIST OF ABBREVIATIONS	xxii

CHAPTER ONE: INTRODUCTION TO THE RESEARCH	1
1.1. Introduction	1
1.2. Background To The Research	1
1.3. Problem Identification	4
1.4. Aim And Objectives Of The Research	8
1.4.1. Aim	8
1.4.2. Objectives	8
1.4.3. Purpose Of The Research	8
1.5. Scope Of The Research	10
1.6. Main Terminologies of The Research	10
1.7. The Overview Of Research Methodology	12
1.8. The Overview Of Work Done	15
1.9. Guide To The Thesis	18
1.9.1. Chapter One: Introduction To The Research	17
1.9.2. Chapter Two: Sustainability, Value Planning And	18
Sustainable Value Planning	
1.9.3. Chapter Three: Theoretical Framework For Knowledge	18
Sharing In Sustainable Value Planning	

CHAPTER ONE INTRODUCTION TO THE RESEARCH

1.1. INTRODUCTION

This chapter presents an overview of the study. The background of the research topic is discussed, from which research gaps are introduced. Problem statements and research questions are highlighted to define the research gaps. As guidance to the whole research, aim and objectives of the research were defined and presented in topic 1.3. The scope of the research was subsequently discussed in Topic 1.4. Topic 1.5 lists main terminologies used within the research to help readers develop preliminary understanding about the areas of concern. Topic 1.6 presents a brief discussion on the methodology adopted for the research. Overview of the work done is then presented in Topic 1.7. Topic 1.8 explains the flow of this thesis to help readers visualise the overall structure of the thesis. Topic 1.9 discusses the significance of the research and ends this chapter.

1.2. BACKGROUND TO THE RESEARCH

Proper planning is essential to ensure the success of any project including construction projects. Within the context of construction projects, the planning stage covers Stage 0 (Strategic Definition) to Stage 4 (Technical Design) of the RIBA Plan of Work Version 2013. Project planning encapsulates activities of identifying the client's business case and strategic brief, defining project parameters, developing project briefs, preparing concept designs and preliminary cost models, establishing developed designs and project strategies as well as preparing technical designs (RIBA, 2013). In any construction project, clients' needs are usually directly associated with the need to enhance their core business. To address these needs, project proposals are produced. With the assistance of technical experts, the project proposal defines the project purpose, methodological approach and strategies to execute the project. Besides that, it also highlights key features of the project design so that errors can be minimised during the detail design development as well as construction stage.