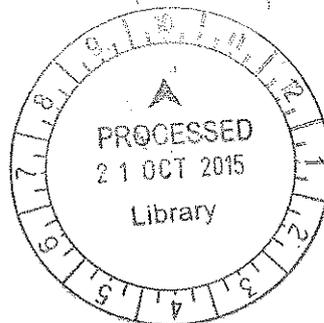


**A STUDY INTO THE BARRIERS OF VALUE  
MANAGEMENT IMPLEMENTATION IN PUBLIC  
SECTOR SARAWAK**

**BY  
ESTHER TAY SZE MAY**



TA  
EST  
2015

This report is submitted as a partial requirement for the degree of

**Bachelor of Science (Hons) in Quantity Surveying**

**Faculty of Science, Technology, Engineering and  
Mathematics**

**INTI INTERNATIONAL UNIVERSITY**

(April, 2015)

## DECLARATION BY THE CANDIDATE

I (Esther Tay Sze May, I13002490) confirm that the work in this report is my own work and the appropriate credit has been given where references have been made to the work of other researchers.

(Esther)

Esther Tay Sze May  
I13002490  
29<sup>th</sup> April 2015

## ABSTRACT

Value Management is a philosophy and set of techniques that used as guidelines to fulfill the client's needs at the lowest life cycle project cost while maintaining the required value, function and quality of the project. It has been widely accepted internationally and is now being used in the Malaysian construction industry. However, the application of Value Management in Malaysian construction industry is still low, especially in Sarawak. This paper provides a brief review of the historical development of and approaches to Value Management, as practiced internationally and in Malaysia. A further study has been carried out to determine the barriers of implementing Value Management in public sector of Sarawak by using online questionnaire. The paper concludes by discussing the main barriers and recommending the possible solutions for this issue.

## ACKNOWLEDGEMENT

First of all, I would like to express my deepest gratitude to my supervisor, Dr. Sam Man Keong, for all his support and guidance provided to me throughout my research process. It was a fortunate to be under his supervision and guidance, as he is a knowledgeable and experienced lecturer. The sincere advices and comments received from him had helped me a lot from the beginning to the end of this research. Besides that, his willingness to share his experiences and knowledge to me had enabled me to gain more knowledge from both academic and practical wise.

Besides that, I would also like to thank both of my examiners, Madam Zetty and Madam Nik, who have gave me guidelines and directions to improve and complete my research report.

In addition, I would like to thank my university, INTI International University, for providing me this opportunity to carry out a research. I was able to challenge myself and grow throughout the process.

Last but not least, I would like to express my gratitude to my parents, siblings and friends who have gave me unconditional moral support and encouragement during the preparation of research project. I would also like to thank all individuals and parties who have given their cooperation and support directly or indirectly.

## LIST OF CONTENTS

	Page
ABSTRACT.....	i
ACKNOWLEDGEMENT .....	ii
TABLE OF CONTENTS .....	iii
LIST OF FIGURE.....	vi
LIST OF TABLE .....	viii
LIST OF ABBREVIATION .....	ix
LIST OF APPENDICES.....	x
<b>CHAPTER 1: INTRODUCTION</b>	
1.1 Introduction.....	1
1.2 Importance of the Study.....	6
1.3 Problem Statement .....	7
1.4 Aim .....	7
1.5 Objectives .....	7
1.6 Key Questions.....	8
<b>CHAPTER 2 : LITERATURE REVIEW</b>	
2.1 Developments of Value Management.....	9
2.2 Value Management in Malaysia and Sarawak.....	11
2.3 Barriers of Implementing Value Management .....	16
2.4 Research Methodology .....	20

## LIST OF CONTENTS (CONT'D)

	Page
<b>CHAPTER 3 : RESEARCH METHODOLOGY</b>	
3.1 Brief Outline of Research Methodology.....	22
3.2 Population Sample .....	23
3.3 Sample Surveyed .....	24
3.4 Research Design.....	25
3.5 Research Methodology Framework.....	26
<b>CHAPTER 4 : DATA COLLECTION AND ANALYSIS</b>	
4.1 Data Collection .....	27
4.2 Data Analysis .....	28
4.2.1 Study 1 .....	28
4.2.1.1 Part A of Questionnaire.....	28
4.2.1.2 Part B of Questionnaire .....	32
4.2.2 Study 2 .....	38
4.2.2.1 Part A of Questionnaire .....	38
4.2.2.2 Part B of Questionnaire .....	41
4.3 Findings.....	47
4.3.1 Rank Correlation Analysis.....	47
4.3.2 Hypothesis Testing.....	49
4.3.2.1 Paired T-Test for Correlation Analysis.....	49
4.3.2.2 Two Means Sample T-Test.....	54
4.4 Problems Encountered .....	58

## LIST OF CONTENTS (CONT'D)

	Page
<b>CHAPTER 5 : CONCLUSION AND RECOMMENDATIONS</b>	
5.1 Conclusion .....	60
5.2 Recommendation .....	63
5.2.1 Proposed Solutions.....	63
5.2.2 Hypothesis Testing.....	64
<b>REFERENCES .....</b>	<b>65</b>

## LIST OF FIGURES

	Descriptions	Page
Figure 3.1	Research Methodology Framework	26
Figure 4.1	Respondent's Involvement in Public Project for Study 1	29
Figure 4.2	Respondent's Awareness about VM for Study 1	29
Figure 4.3	Learning Channels about VM for Study 1	30
Figure 4.4	Application of VM in Construction Projects for Study 1	31
Figure 4.5	Types of Project that Applied VM for Study 1	32
Figure 4.6	Ranking of the Barriers of Implementing VM in Public Sector Sarawak for Study 1	33
Figure 4.7	Summary of Top 1 Factor – Lack of Training in VM	34
Figure 4.8	Summary of Top 2 Factor – Lack of Trained Professionals in VM	35
Figure 4.9	Summary of Top 3 Factor – Lack of Knowledge and Practice in VM	36
Figure 4.10	Summary of Factor – Failure in the Previous Project	37
Figure 4.11	Respondent's Involvement in Public Project for Study 2	38
Figure 4.12	Respondent's Awareness about VM for Study 2	39
Figure 4.13	Learning Channels about VM for Study 2	40
Figure 4.14	Application of VM in Construction Projects for Study 2	41
Figure 4.15	Ranking of the Barriers of Implementing VM in Public Sector Sarawak for Study 2	42
Figure 4.16	Summary of Top 1 Factor – Lack of Training in VM	43
Figure 4.17	Summary of Top 2 Factor – Lack of Trained Professionals in VM	44
Figure 4.18	Summary of Top 3 Factor – No Initiative by the Client (i.e. JKR Sarawak)	45
Figure 4.19	Summary of Factor – Failure in the Previous Projects	46

## LIST OF FIGURES (CONT'D)

	Descriptions	Page
Figure 4.20	Testing for a Linear Correlation	50
Figure 4.21	Output of Statistical Tool (STATDISK) for Paired T-Test	52
Figure 4.22	Scatterplot of Correlation Analysis Using STATDISK	53
Figure 4.23	Summary of Testing $H_0: p = 0$	53
Figure 4.24	Inferences about the Means of Two Populations	55
Figure 4.25	Output of Statistical Tool (STATDISK) for Two Means Sample T-Test	57
Figure 4.26	Summary of Testing $H_0: \mu_1 = \mu_2$	58

## LIST OF TABLES

	Descriptions	Page
Table 1.1	Successful VM Case Studies in Malaysia	14
Table 1.2	Summary of VM Study for IAB Project	15
Table 4.1	Summary of the Spearman's Rank Correlation Coefficient	48

## LIST OF ABBREVIATIONS

GDP	Gross Domestic Product
VM	Value Management
VfM	Value for Money
SCORE	Sarawak Corridor of Renewable Energy
AA	Airport Authority
KCRC	Kowloon-Canton Railway Corporation
MTRC	Mass Transit Railway Corporation
HA	Hospital Authority
VA	Value Analysis
UTM	Universiti Teknologi Malaysia
IVMM	Institute of Value Management of Malaysia
PSDC	Professional Services and Development Corporation
CIDB	Construction Industry Development Board
EPU	Economic Planning Unit
MAHB	Malaysia Airports Holdings Berhad
TNB	Tenaga Nasional Berhad
IAB	Institute Aminuddin Baki
QM	Quality Management
SPSS	Statistical Package for Social Science
LAM	Lembaga Arkitek Malaysia
BQSM	Board of Quantity Surveyors Malaysia
JKR	Jabatan Kerja Raya
df	Degree of Freedom
IEM	Institution of Engineers Malaysia
FFO	Federal Finance Officer

## LIST OF APPENDICES

	Page
Appendix A	
A.1 Sample sizes for different sizes of population at a 95 per cent confidence level	A-1
Appendix B	
B.1 Summary of Responses for Study 1	B-1
B.2 Summary of Responses for Study 2	B-10
Appendix C	
C.1 Questionnaires	C-1
C.2 Summary of Part B of Questionnaire for Study 1	C-7
C.3 Summary of Part B of Questionnaire for Study 2	C-8
C.4 Means Summary of Study 1 for Hypothesis Testing	C-9
C.5 Means Summary of Study 2 for Hypothesis Testing	C-10
Appendix D	
D.1 t Distribution	D-1
D.2 Critical Values of the Pearson Correlation Coefficient r	D-2

## CHAPTER 1

### INTRODUCTION

#### 1.1 Introduction

As a developing country, Malaysian economy has shown a decent growth records within Asia as one of Asia's best grew since independence in 1957 to date with multispectral economy based on services and manufacturing. Despite its small contribution to GDP, Malaysian construction industry is among the sectors which received lot of demand due to the primary concern to fulfill the needs and insufficiency of infrastructures. Hence, Malaysian construction industry becomes crucial due to its role as a leading indicator and determinant of domestic performance by providing the physical infrastructure for industrial production and reproduction (Ramly and Shen, 2012).

Kamal et al., (2012) stated that "the industry is made up of many components includes thousands of contractors, workers, developers, client organizations (government and private), management, engineering, architectural, and surveying consultants, manufacturers, material suppliers, plant hirers". The government and all the other components play an important role in the growth and development of Malaysian construction industry.

As we are moving into the globalization era, a recognition and promotion of a new method and approaches are required to improve the image of the industry (Ramly and Shen, 2012). At this juncture, it is clear that fundamental changes are now needed in order for the Malaysian construction industry to achieve greater efficiency and address the overarching challenges and demands. Moreover, the clients nowadays concern on value matters to achieve the best from their investments. As mentioned by Fong (1998), the clients of the construction industry place increasing demands upon the industry due to the advancement of technological, uncertain economic conditions, social pressures, and fierce competition from both national and internationally. The performance of projects, capital and running costs, time required from the conception of projects to occupation, and the value for money of projects became the main concern of the clients. Therefore, this is when Value Management (VM) comes into its place. As stated by Fan and Shen (2011), "VM is a useful tool that can help the industry to meet these challenges".

VM is the name given to a process in which the functional benefits of a project are made explicit and appraised consistent with a value system determined by the client (Kelly, Male & Graham, 2004). It is a systematic process used by a multidisciplinary team to improve the value of projects through the analysis of functions (Fong and Lam, 1998). It focuses on improving value by identifying alternate ways to reliably accomplish a function that meets the performance expectations of the customer (SAVE International, 2007). Besides, VM is also known as the technique concerned with defining, maximizing and achieving "value for money" (VfM) (Designing Buildings Wiki for *Value Management in Building Design and Construction* - CIOB, 2013). Fong (1998) defined VM as "an organized function-oriented team approach directed at analyzing the functions of a product, system, or supply, for the purpose of enhancing its value by identifying and eliminating its unnecessary costs and achieving the required performance at the lowest life cycle project cost".

Some people may treat VM as a tool for cost reduction, however, that should not be the case as its main aim is not to reduce the cost but to improve the value by essentially involves the elimination of unnecessary cost incurred by the project designs without affecting the functional quality of the overall project (Perera et al., 2011).

To put it simple, VM is a goal-setting process (Jaapar et al., 2007; Jaapar et al., 2009) which acts as a guideline to meet the client's requirements for the project at a lower cost while maintaining the value, function and quality of the project. A fundamental tenet of a VM is that the basic functions, which refer to the necessary purpose of the project, must be preserved (SAVE International, 2007).

VM is holistic and unique than many methods or systems like supply chain management, risk management, total quality management and others. It uses techniques that provide value for money to the client, like the supply chain, risk management, procurement, system engineering, concurrent engineering, safety management and partnering during the development stage of the VM workshop and when developing alternatives (Olanrewaju, 2013).

As stated by Fong (1998) VM is able to make a valuable contribution toward a better solution to the problems faced by the construction professionals. Since VM study is conducted at the early stage of a construction project, it provided an effective way to deliver objectives and fulfill user's requirements to seek the maximum benefits of the project that is able to stand the test of time