

UNIVERSITI TEKNOLOGI MARA

**Supplier Selection for Contractors
Using Fuzzy TOPSIS Algorithm**

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ABSTRACT

In modern society, the demand for quality product and reasonable price is rising as our country economy is worsen day by day. Home construction increases exponentially as the human population rising rapidly. The construction industry in Malaysia is among the major economic sectors that contribute significantly towards the economic growth of the country (Khan, Liew, & Ghazali, 2014). However, the major constraint or problem in this respect has always been in defining the criteria for quality housing and choosing the right supplier. To solve this problem, a system has been proposed for supplier selection and focusing on selecting the right supplier. The main objective of this study is to develop a system which is supplier selection by using Fuzzy Technique of Order Preference Similarity to the Ideal Solution (Fuzzy TOPSIS). This system gives an output of the closeness coefficient of the supplier where the supplier with closeness coefficient that are closest to value '1' are the best supplier. The evaluation process of the system is done by functionality test by several experts and contractors. Fuzzy TOPSIS has been proven to be one of the best methods in decision making and ranking as it has been widely used in many fields (Kacprzak, 2018). The future work of this project is to develop a system by using the same domain but with different algorithm and compare the result with the current result obtained from the system.

TABLE OF CONTENTS

CONTENT	PAGE
SUPERVISOR APPROVAL	i
STUDENT DECLARATION	i
ACKNOWLEDGEMENT	i
ABSTRACT	ii
LIST OF FIGURES.....	i
LIST OF TABLES.....	ii
CHAPTER 1.....	1
INTRODUCTION	1
1.1 Background of Study.....	1
1.2 Problem Statement	2
1.3 Objectives	3
1.4 Scope	3
1.5 Significance of Study	3
1.6 Expected Outcome.....	4
1.7 Summary	4
CHAPTER 2.....	5
LITERATURE REVIEW	5
2.1 Supplier.....	5
2.2 Supplier Selection	5
2.3 Supplier Selection Criteria.....	6
2.4 Related work on Selection.....	7

2.5	Multi-Criteria Decision Making.....	9
2.6	Fuzzy Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS)	12
2.7	Related work on Fuzzy TOPSIS.....	13
2.8	Related work on Fuzzy TOPSIS in Supplier Selection 14	
2.9	Summary	14
CHAPTER 3.....		15
METHODOLOGY		15
3.1	Project Methodology Framework	15
3.2	Phase 1: Preliminary Study	19
3.3	Phase 2: Data Collection.....	19
3.4	Phase 3: System Design	20
3.5	Phase 4: Implementation.....	26
3.6	Phase 5: Testing and Evaluation	26
3.7	Gantt chart	27
3.8	Conclusion	28
CHAPTER 4.....		29
RESULT AND FINDING		29
4.1	Supplier Selection Framework	29
4.2	Data collection and preparation	31
4.3	User Interface.....	34