

Universiti Teknologi MARA

**Primary Criteria of Buying Shoe
Decision among Female Students Using
Fuzzy Analytical Hierarchy Process**

Mazidatul Liana Binti Meor Hussin

**Report submitted in fulfillment of the requirements for
Bachelor of Science (Hons.) Management Mathematics
Faculty of Computer and Mathematical Sciences**

July 2020

STUDENT S DECLARATION

I certify that this report and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.



.....
MAZIDATUL LIANA BINTI MEOR HUSSIN
2017112669

AUGUST 5, 2020

ABSTRACT

Fuzzy Analytical Hierarchy Process (F-AHP) is one of the popular methods to study non-numerical data. Non-numerical data refers to the criteria for buying shoe decisions among female students. Various criteria influence a student to buy their shoes. Thus, this study aims to formulate a model that can evaluate the most highlighted criteria of the buying shoe decision. This research involves four main criteria whenever a decision to buy shoes is made. Those criteria are fashion, material, durability, and price. The data in this study were collected by the researcher through distributing questionnaires to several shoe shops in Arau and Kangar as they are the nearest shop the students can go. Next, the solutions were analyzed by using Microsoft (MS) Excel. From the results obtained, the criterion with the highest weight is price with 0.4742, followed by durability with 0.2763, material with 0.1279, and lastly, fashion with 0.1216. From the value above, it was analyzed that price influence students the most when buying shoes. This model can also be used with other non-numerical data to evaluate the criteria of preference.

TABLE OF CONTENTS

CONTENTS	PAGE
SUPERVISOR’S APPROVAL	ii
DECLARATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	viii
LIST OF TABLES	ix
LIST OF ABBREVIATIONS	x
 CHAPTER ONE: INTRODUCTION	
1.1 Background of the Study	1
1.2 Problem Statement	1
1.3 Objective of the Study	2
1.4 Scope of the Study	2
1.5 Significance of the Study	3
 CHAPTER TWO: LITERATURE REVIEW	
2.1 Evaluation of the Primary Criteria	4
2.2 Fuzzy Analytical Hierarchy Process (F-AHP)	4
2.3 Alternative Methods	5
2.3.1 Fuzzy Logic	5
2.3.2 Statistical Analysis	5
2.3.3 Fuzzy Analytic Network Process (FANP)	5
2.4 Summary	6

CHAPTER THREE: RESEARCH METHODOLOGY

3.1	Method of Data Collection	7
3.2	Measurement Instrument	7
3.3	Fuzzy Analytical Hierarchy Process (F-AHP)	7

CHAPTER FOUR: RESULTS AND DISCUSSIONS

4.1	Criteria and Decision-makers	12
4.1.1	Criteria	12
4.1.2	Decision-makers	12
4.2	Results and Discussions	13
4.2.1	The Evaluation of the Weight of the Criteria	13

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1	Conclusions	25
5.2	Recommendations	26

REFERENCES **27**

APPENDICES **29**