# Universiti Teknologi MARA

# Selection of Mobile Commerce Applications by using Fuzzy Analytic Hierarchy Process

Mai Khairun Amirah Bt Mohd Kamaruzzaman

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

**JUNE 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.

MAI KHAIRUN AMIRAH BT MOHD KAMARUZZAMAN 2017756097

. . . . . . . . . . . .

JUNE 25, 2020

#### ABSTRACT

The usage of digital technologies such as mobile phones and smartphones for online shopping is now actively practiced by online shoppers with access to the Internet. Mobile commerce applications (m-commerce app) are becoming the main attractions for shoppers that prefer to shop online at any time comfortless. The purpose of this study is to identify the factors influencing users' selection of mobile commerce applications and to determine the best mobile commerce applications. Fuzzy Analytic Hierarchy Process (FAHP) technique is specifically applied to determine the most important influencing factor and to rank the alternatives accordingly. Several relevant factors; privacy, design, convenience, and promotion have been adopted and three alternatives; Shopee, Lazada, and Go Shop are being ranked in this study. The results indicate that privacy is the most influential factor for selecting the m-commerce app followed by promotion, design, and convenience. Shopee is the top rank for the best m-commerce app choosing by the experts. Through this study, the contributions will be given benefits to clients, retailers, and mobile businesses to give pieces of information and improves for better shopping experiences.

**Keywords:** online shopping, mobile commerce, mobile commerce applications, Fuzzy Analytic Hierarchy Process (FAHP)

## **TABLE OF CONTENTS**

### CONTENTS

#### PAGE

SUPERVISOR'S APPROVAL	ii
STUDENT'S DECLARATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	V
TABLE OF CONTENTS	vi
LIST OF FIGURES	viii
LIST OF TABLES	ix
LIST OF ABBREVIATIONS	х

### **CHAPTER ONE: INTRODUCTION**

1.1	Background of the Study	1
1.2	Problem Statement	3
1.3	Objective of the Study	4
1.4	Scope of the Study	5
1.5	Significance of the Study	5
1.6	Summary	5

### **CHAPTER TWO: LITERATURE REVIEW**

2.1	Fuzzy AHP	6
2.2	Criteria for Selecting Mobile Commerce	7
2.3	Applications of Mobile Commerce (M-Commerce)	9
2.4	Summary	10

#### **CHAPTER THREE: RESEARCH METHODOLOGY**

3.1	Method of Data Collection	11
3.2	Method of Data Analysis	12
3.3	Summary	16

## CHAPTER FOUR: RESULTS AND DISCUSSIONS

4.1	Calculating the Importance Weights of Criteria	17
4.2	Calculating the Importance Weights of Alternatives	20
4.3	Decision Making	23
4.4	Summary	24

#### **CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS**

5.1	Conclusions	25
5.2	Recommendations	27
5.3	Summary	28
REFERENCES		29
APPENDICES		

33