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**USABILITY EVALUATION MODEL
FOR MOBILE E-BOOK APPLICATIONS**

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UUM
Universiti Utara Malaysia

**MASTER OF SCIENCE
UNIVERSITI UTARA MALAYSIA
2017**

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FOR MOBILE E-BOOK APPLICATIONS**

By

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UUM
Universiti Utara Malaysia

**Thesis Submitted to Awang Had Salleh Graduate School of Arts and
Sciences, Universiti Utara Malaysia, In Fulfillment Of the Requirement
for the Degree of Master of Science**

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Abstrak

Penilaian untuk aplikasi e-buku mudah alih adalah terhad dan tidak menangani semua ukuran penting kebolehgunaan. Oleh itu, kajian ini bertujuan untuk mengenal pasti ciri yang mempengaruhi kepuasan pengguna terhadap kebolehgunaan aplikasi e-buku mudah alih. Lima ciri yang mempunyai kesan yang penting kepada kepuasan pengguna terhadap aplikasi e-buku mudah alih telah dikenal pasti iaitu pembacaan, keberkesanan, akses, kecekapan, dan pelayaran. Satu penilaian kebolehgunaan telah dijalankan ke atas tiga aplikasi e-buku mudah alih iaitu Adobe Acrobat Reader, Ebook Reader, dan Amazon Kindle. 30 pelajar dari Universiti Utara Malaysia telah menilai aplikasi e-buku mudah alih ini dan kepuasan mereka telah diukur dengan menggunakan soal selidik. Hasil kajian ini mendapati bahawa lima ciri tersebut (kebolehbacaan, keberkesanan, akses, kecekapan, dan navigasi) mempunyai hubungan positif yang signifikan dengan kepuasan pengguna. Ini memberikan pemahaman terhadap ciri utama yang meningkatkan kepuasan pengguna. Kajian ini juga telah membentuk senario tugas dan soal selidik kepuasan yang membantu dalam menilai aplikasi e-buku mudah alih.

Kata kunci: penilaian kebolehgunaan, kepuasan pengguna, aplikasi E-book.



Abstract

Evaluation for mobile e-book applications are limited and did not address all the important usability measurements. Hence, this study aimed to identify the characteristics that affect user satisfaction on the usability of mobile e-book applications. Five characteristics that have a significant effect on the user satisfaction of mobile e-book applications have been identified namely readability, effectiveness, accessibility, efficiency, and navigation. A usability evaluation was conducted on three mobile e-book applications namely Adobe Acrobat Reader, Ebook Reader, and Amazon Kindle. 30 students from Universiti Utara Malaysia evaluated the mobile e-book applications and their satisfaction was measured using questionnaire. The outcomes discovered that the five characteristics (i.e., readability, effectiveness, accessibility, efficiency, and navigation) have a significant positive relationship with user satisfaction. This provides insights into the main characteristics that increase user satisfaction. It also designed a task scenario and a satisfaction questionnaire which help in evaluating mobile e-book applications.

Keywords: Usability evaluation, User satisfaction, E-book applications.



Acknowledgement

First of all, all praise and thanks are to Allah SWT, and peace and the blessings of Allah be upon His messenger, Mohammed (Peace be upon him).

I would like to express my appreciation to my supervisor, Assoc. Prof. Dr. Azham Bin Hussain for helping me throughout all phases of my research. His comments and suggestions were crucial elements in completing the work. I am honestly thankful for his commitment and encouragement during my study.

I am also appreciative to all the lecturers who made contributions to and comments on my proposal, especially for Prof. Madya Dr. Haslina Bt Mohd, Dr. Rohaida Binti Romli, and Dr. Mohd. Hasbullah bin Omar. Also, my full thanks to Dr. Norliza Binti Katuk, I really appreciate her support and cooperation during my study.

My heartfelt gratitude goes to my constant inspiration that encourages me in all my life, both my precious mother and my dear father. Additionally, I express my deepest appreciation and love to my family members: my husband, my daughters, my sister, and my brothers.

I ask Allah, the Greatest, to grant paradise to my dear mother in law, who passed away while we were away from our homeland, may Allah grant her Mercy and Forgiveness.

Finally, I present this humble work to all my friends those who are always asking Allah to grant me success, and those who are supporting me in different ways.

I want to say to all “Jazakom Allah Khairan”.

Table of Contents

Permission to Use	iii
Abstrak	iv
Abstract	v
Acknowledgement	vi
Table of Contents.....	vii
List of Figures.....	xi
List of Tables.....	xii
List of Appendices	xiv
List of Abbreviations	xv
CHAPTER ONE INTRODUCTION	1
1.1 Overview of the Research	1
1.2 Statement of Problem.....	5
1.3 Research Questions	9
1.4 Research Objectives	9
1.5 Research Significance	10
1.6 Research Scope	11
1.7 Report Organization.....	11
1.8 Chapter Summary	12
CHAPTER TWO LITERATURE REVIEW.....	13
2.1 Introduction	13
2.2 E-book Development Background.....	15
2.3 The Visual Book and Web Book Experiment	18
2.4 Electronic Books ON-screen Interface (EBONI) Project	19
2.4.1 EBONI Methodology for Evaluating E-Books.....	20
2.5 Electronic Book File Formats	26
2.6 E-book for Mobile.....	28
2.7 Usability Models and Standards	30
2.7.1 Mobile Usability Models	38

2.7.2 Usability Evaluation Methods for Mobile	46
2.8 Usability Evaluation Models for Mobile E-Book.....	47
2.8.1 E-Book Usability Evaluation Characteristics	59
2.8.2 A Comparison with Some Usability Models	61
2.8.3 Metrics Used In Previous Studies to Evaluate Mobile E-Book Usability	62
2.9 Chapter Summary	67
CHAPTER THREE RESEARCH METHODOLOGY	68
3.1 Introduction	68
3.2 Research Procedure.....	68
3.2.1 Phase One (Identifying the Usability Characteristics and Metrics)	69
3.2.2 Phase Two (Developing the Proposed Model)	70
3.2.2.1 Questionnaire Development	71
3.2.2.2 Instrument Validity	75
3.2.3 Phase Three (Hypotheses Formulation)	76
3.2.4 Phase Four (Evaluating the Model).....	78
3.2.4.1 Population and Study Sample.....	79
3.2.4.2 Usability Testing.....	80
3.3 Data Analyzing and the Analysis Tools	81
3.3.1 Descriptive Statistics:	82
3.3.2 Correlation Analysis (Hypotheses Testing).....	82
3.3.3 Multiple Regression Analysis	83
3.4 Chapter Summary	83
CHAPTER FOUR MODEL EVALUATION	84
4.1 Introduction	84
4.2 Validity and Reliability	84
4.2.1 Validity	84
4.2.2 Reliability.....	85
4.3 Data Screening.....	87
4.3.1 Multivariate Outliers	87
4.4 Regression Analysis	88
4.4.1 Multicollinearity.....	89

4.4.2 Normality	90
4.4.3 Linearity	91
4.4.4 Homoscedasticity	92
4.5 Correlation Analysis.....	93
4.5.1 Discussion of the Correlation Results	95
4.6 Multiple Regression Analysis	98
4.7 Chapter Summary	102
CHAPTER FIVE USABILITY REPORT	103
5.1 Introduction	103
5.2 Overview to the Usability Testing	104
5.2.1 Profiles of Participants.....	106
5.3 Results	108
5.3.1 Time Taken	108
5.3.2 Difficult Tasks.....	109
5.3.3 Usability Satisfaction.....	109
5.3.3.1 Overall Satisfaction and Satisfaction among the E-Book Characteristics	
.....	110
5.3.3.2 Satisfaction by Gender	114
5.3.3.3 Satisfaction by Educational Level and E-Book Experience	115
5.4 Discussion and Recommendations	117
5.4.1 Discussing the Difficulties.....	117
5.4.2 The Recommendations	118
5.5 Chapter Summary	121
CHAPTER SIX CONCLUSION	122
6.1 Introduction	122
6.2 Objectives Achievement of the Study.....	122
6.3 Research Contribution.....	124
6.3.1 Theoretical Contributions	125
6.3.2 Methodological Contributions	125
6.4 Limitations of the Study	126

6.5 Future Work..... 127
References 129



List of Figures

Figure 1.1. Theoretical Framework	4
Figure 1.2. Research Design.....	5
Figure 1.3. The Percentage of Reading E-Book in Different Devices	7
Figure 2.1. E-books Reading Devices.....	29
Figure 2.2. ISO 9241.....	32
Figure 2.3. Usability Standard Categories	33
Figure 2.4. ISO 9241-11 Model for Usability	34
Figure 2.5. Nielsen Model for Usability	35
Figure 2.6. The Hierarchy of QUIM Model.....	37
Figure 2.7. PACMAD Model.....	40
Figure 2.8. mGQM Model.....	41
Figure 3.1. Usability Evaluation Model for Mobile E-Book Application	71
Figure 3.2. E-book Usability Testing Procedures.....	81
Figure 4.1. Normality Test for Satisfaction.....	91
Figure 4.2. Test of Linearity for Satisfaction	92
Figure 4.3. Test of Homoscedasticity for Satisfaction.....	93
Figure 5.1. The Smartphone Used In the Test.....	104
Figure 5.2. Some of the Participants	105
Figure 5.3. The Participant's Age and Educational Level	108
Figure 5.4. Kindle Flipping Mechanism	114

List of Tables

Table 2.1 The Evaluation Model Proposed in The EBONI Project	26
Table 2.2 E-Book Formats	27
Table 2.3 Mobile Devices Limitations Categories	38
Table 2.4 Comparison of Different Usability Standards, Models, and Guidelines	43
Table 2.4 continued.....	44
Table 2.5 Recommendation To Improve The Usability For E-Book	57
Table 2.6 Usability Characteristics of E-Book Applications	61
Table 2.7 Comparison with ISO 9241-11, Nielsen, and PACMAD Models	62
Table 2.8 Previous Publications for Evaluating the Usability of E-Book from 2010-2015	63
Table 3.1 Study Procedure	69
Table 3.2 Characteristics and Related Metrics	73
Table 3.3 E-book Evaluation Characteristics and Hypotheses.....	77
Table 4.1 Scale Reliability Statistics	85
Table 4.2 Cronbach's Alpha for Each Independent characteristic.....	85
Table 4.3 Items Removed From the Scales.....	86
Table 4.4 Reliability Statistics after Deleting Five Items	86
Table 4.5 New Alpha for the Independent Variables	86
Table 4.6 Descriptive Statistics for P Values of M_D.....	88
Table 4.7 Testing of Multicollinearity	90
Table 4.8 Cohen's Guideline of Correlation Strength	94
Table 4.9 Correlation Test between All Variables	95
Table 4.10 Summary of Results for Hypotheses Testing Results	97
Table 4.11 Model Summary.....	99
Table 4.12 Regression Model between the independent variables and the dependent variable.....	100
Table 4.13 Acceptable R ² Values	99
Table 5.1 Descriptive Statistics for Participants Mobile and E-Book Application Experience.....	106

Table 5.2 Distribution of Participants by Mobile Applications and Ebook Applications Experience.....	106
Table 5.3 Descriptive Statistics about Gender, Age, and Educational Level.....	107
Table 5.4 Distribution of Participants by Gender	107
Table 5.5 Statistics for 15 Tasks in Minute	109
Table 5.6 Satisfaction Comparison between the Three Applications	111
Table 5.7 Satisfaction Level among Gender	115
Table 5.8 Satisfaction Score and Level among Educational Level	116
Table 5.9 Satisfaction Level among E-Book Experience	116
Table 5.10 Recommendations	119



List of Appendices

Appendix A Pilot Study Results	141
Appendix B Questionnaire	143
Appendix C New Reliability for Each Question	149
Appendix D Outliers	150
Appendix E Multicollinearity.....	151
Appendix F Normality	152
Appendix G Correlations	154
Appendix H Regression Results	155
Appendix I Overall Satisfaction Results	156



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List of Abbreviations

B	Beta Coefficients
CPU	Central Processing Unit
DRM	digital rights management
EPUB	Electronic Publishing
EBONI	Electronic Books ON- screen Interface
E-book	Electronic Book
E-reader	Electronic Reader
F	Statistical Significance of the Model
HCI	Human Computer Interaction
IR	Information Retrieval
IEEE	Institute of Electrical and Electronic Engineers
ISO	International Organization for Standardization
iOS	iPhone Operating System
mGQM	Mobile Goal question Metric
NASA-TLX	National Aeronautics and Space Administration Task Load Index
PDF	Portable Document Format
PDA	Personal Digital Assistant
PACMAD	People At the Centre of Mobile Application Development
R ²	R-squared values
SPV	Subjects per Variable
SPSS	Statistical Package for Social Science
Sig	Significant
TOC	Table of Contents
UUM	Univirsti Utara Malaysia
UK	United kigdom
U.S	United States of America
UTAUT	Unified Theory of Acceptance and Use of Technology
VIF	Variance Inflation Factor

CHAPTER ONE

INTRODUCTION

1.1 Overview of the Research

The E-letter in the Electronic book is the novel word in the industry of publication (Rao, 2003). In the world of literature, the e-book is the most considerable development since the Gutenberg press (Siegenthaler, Wurtz, & Groner, 2010), and it is intended to transform the reading routine of many in the upcoming years (Subba Rao, 2003). On the one hand, due to that the e-book can successfully support the educational mission, it becomes a popular topic (Jeong, 2012). Furthermore, in the twenty-first-century reading is moving in the direction of e-format, which expected to become more common in the long run, and readers are exhibited to different electronic reading materials by using the e-book systems (ChanLin, 2013).

Nowadays, reading e-books is becoming popular; In U.S. the increasing in reading e-book among adults had been increased from 23% in 2013 to 28% in 2014, this increase has been influenced by the increasing number of adults who own e-readers devices or tablets (Zickuhr & Rainie, 2014). E-reading applications for non-dedicated devices, also becoming available from the most leading book retailers and multiple third-party developers, some are free and others premium paid. Examples of these applications are Amazon Kindle, Kobo eReader and Sony Reader (Wikipedia, 2015; Zickuhr & Rainie, 2014). With This technology the potential of publication growth becoming possible as the short time needs for publishing (Shin, 2011).

The contents of
the thesis is for
internal user
only

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