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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**

# **USABILITY EVALUATION MODEL 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”.

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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 Retrival
IEEE	Instistute of Electrical and Electronic Engineers
ISO	International Organiztion 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 <sup>2</sup>	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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