DETERMINANTS OF MOBILE TOURISM: AN EMERGING MARKET PERSPECTIVE

BY

CHIN YUK YOON
LIEW SING HANG
NG KAR KENG
PHOON JI HOE
POH SUE ANNE

A research project submitted in partial fulfillment of the requirement for the degree of

BACHELOR OF MARKETING (HONS)

UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF BUSINESS AND FINANCE
DEPARTMENT OF MARKETING

APRIL 2014

Copyright @ 2014

ALL RIGHTS RESERVED. No part of this paper may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, graphic, electronic, mechanical, photocopying, recording, scanning, or otherwise, without the prior consent of the authors.

DECLARATION

We hereby declare that:

(1) This undergraduate research project is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.

(2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

(3) Equal contribution has been made by each group member in completing the research project.

(4) The word count of this research report is 10850 words.

Name of Student:	Student ID:	Signature:
1. CHIN YUK YOON	10ABB04078	_____
2. LIEW SING HANG	10ABB03197	_____
3. NG KAR KENG	10ABB03698	_____
4. PHOON JI HOE	10ABB03748	_____
5. POH SUE ANNE	10ABB04075	_____

Date: _____

ACKNOWLEDGEMENT

Special thanks to those who make this research project possible. We would like to acknowledge the contribution of a number of people. This research study would not come to a success without their guidance, assistance.

First and foremost, we would like to extend our heartfelt appreciation to our research supervisor, Mr. Garry Tan Wei Han, for his great support and assistance throughout the way in completing the research. His precious time, efforts, and patience on guiding us throughout the process have been very helpful. He has enlighten us a lot with his insightful point of view, opinions and even sharing his personal experience and knowledge on the aspect of research along the way of completing the research.

Next, we would like to take this opportunity to thank Universiti Tunku Abdul Rahman (UTAR) which has provided us rich research databases that ease us in gathering fruitful information.

Thirdly, we would like to thank all the respondents who willing to spare their time and efforts by participating in our survey. Throughout the participating, valuable opinions and knowledge were gained to improve our research study. Their feedbacks are our backbone for the research study to come to a success.

Last but not least, we would also take this opportunity to thank to all our group members in contributing their ideas, effort, and time as well as being cooperative and worked hard to complete this Final Year Project.

To all of you, who helped us in a way or another, we are truly grateful and thank you again.

DEDICATION

We would like to dedicate this research mainly to our supervisor, Mr. Garry Tan Wei Han, who provides guidance, motivation, assistance, opinions, and useful experience to us throughout the way of completing this research. We deeply appreciate his contribution and hard work.

This dissertation is also dedicated to our family and friends for their supports and encouragements. Thanks for their understanding and patience that helped us a lot throughout the process of completing the research.

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

Page

LIST OF APPENDICES

Page

LIST OF ABBREVIATIONS

MCMC	Malaysian Communications and Multimedia Commission
Gen Y	Generation Y
TRA	Theory of Reasoned Action
TAM	Technology Acceptance Model
TPB	Theory of Planned Behavior
DOI	Diffusion of Innovation Theory
UTAUT	Unified Theory of Acceptance and Use of Technology
PE	Performance Expectancy
EE	Effort Expectancy
SI	Social Influence
FC	Facilitating Condition
WT	Wireless Trust
PR	Perceived Risk

ABSTRACT

Nowadays, mobile devices are commonly found among Generation Y's consumer and the number of users is growing rapidly along with emergence of smart phone. However, m-commerce in Malaysia is still at its infancy stage as compared to other developed countries. The purpose of this study is to identify the factors affecting the adoption of mobile device as a medium of online shopping that constitute to the consumption of tourism products among Generation Y consumers in Malaysia, in short, mobile tourism. Therefore, the study develops a model to predict on Generation Y's behavioral intention to adopt mobile tourism by extending Perceived Risk and Wireless Trust with Unified Theory of Acceptance and Use of Technology model. In order to test the validity of the model, Statistical Analysis System (SAS) is used to analyze the effect between performance expectancy, effort expectancy, facilitating condition, social influence, wireless trust, and perceived risk towards behavioral intention. Performance expectancy, effort expectancy, facilitating condition, social influence, and wireless trust is significant to have positive relationship towards Generation Y behavioral intention to adopt mobile tourism, whereas, perceived risk is significant to have negative relationship towards Generation Y behavioral intention to adopt mobile tourism. The research findings is believe to deliver invaluable theoretical and managerial implication that will contribute to the decision making process by tour agencies, software developers, government, and etc. to formulate their business strategies more accurately in developing mobile tourism platform.

CHAPTER 1: INTRODUCTION

1.0 Introduction

Chapter one provides the overview of the research. This chapter covers research background, problem statement, research objectives, hypotheses of study and significance of study.

1.1 Research Background

According to United Nation World Tourism Organization, Malaysia was nominated as one of the top 10 most-visited countries in the world with the record of 25 millions of visitors in year 2012 and earned about 20.25 billion USD (RM65.44 billion) (The Star Online, 2013). The total visitors to Malaysia show an increase of 3.3 percent from January to September in both year 2012 and 2013 with 18,153,643 and 18,756,476 respectively. Even though the result does not show the statistic during the peak period (October to December) yet the visitors that visited Malaysia has increased in year 2013 as compared to year 2012 (Tourism Malaysia, 2013). According to our Prime Minister Datuk Seri Najib Tun Razak, 26.8 million tourists will be attracted to Malaysia in 2013/2014 as it is the Visit Malaysia Year (New Straits Times, 2012).

With the emergence of mobile and wireless networks, it has created a new platform for business to exchange product and service known as mobile commerce (m-commerce). Unlike e-commerce, m-commerce connects wirelessly in a mobile environment using handheld mobile devices. M-commerce was viewed as the use of wireless technology, usually mobile Internet and handheld mobile devices, for transaction processing, information retrieval and user task performance in consumer, business-to-business (B2B) and intra-enterprise communication (Chan & Fang, 2001; Kannan, Chang, & Whinston, 2001; Varshney & Vetter, 2001).

In recent years, statistics from Malaysian Communications and Multimedia Commission (MCMC) (2010) showed that there are more than 33,106,000 mobile phones subscribers in Malaysia with penetration rate of 116.6%. However, the hand phone users survey (2010) conducted by the MCMC revealed that only 39.9% of mobile phone users are aware of m-commerce and only 17.9% of these users purchased products and services via mobile phones. Furthermore, MCMC hand phone users survey report (2012) revealed that there are as much as 68.8% of smartphones users accessed the Internet via their devices, indicating Malaysian are gradually moving towards mobile platform.

It is also undeniable that mobile applications have brought smartphone, tablet and other portable devices to a whole new level in term of functionality. According to Wang, Liao and Yang (2013), mobile application is a software application designed to run on mobile devices. This mobile technology opens up a new opportunity to mobile market in replacing the traditional business model in the tourism industry because mobile apps help to connect users to Internet services via their portable devices more conveniently than ever before.

M-commerce in Malaysia is still at infancy stage as compared to other developed countries such as South Korea and Japan (Wong & Hiew, 2005) and limited research exists on consumers' behavioral intention to adopt mobile tourism in Malaysia. However, great potential exists in mobile tourism due to the statistics reported by Nielsen Digital Consumer Study 2011. The report revealed that there is an increase mobile shopping spending from RM 101 million in 2010 to RM 467 million in 2011, and predicted that mobile commerce will be valued at RM 3.43 billion by the year 2015 (Mobile88.com, 2012).

1.2 Problem Statement

Although the emerging of technology helps to boost tourists' experience during their vacation by using mobile service, yet we found that Generation Y (Gen Y) in

Malaysia are still not familiarize with the adoption of mobile tourism in Malaysia based on the MCMC report 2010.

Study showed that there has been a considerable growth in the adoption of mobile devices in m-commerce and mobile tourism. M-commerce tends to provide great flexibility in tourism industry for both travelers as well as suppliers. For travelers, they can access the web, news updates and conduct transactions using their mobile devices. From supplier's point of view, promotional messages can be amended easier and faster as compared to the use of traditional media (Lee & Mills, 2010). Unlike other industries which regard m-commerce as an added convenience to customers, tourism industry regard m-commerce as an essential part of their customers' travel experiences (Eriksson, 2002). The emergence of innovative mobile devices such as smartphones and Tablet PCs has opened up new ways of communication and non-location based access to information (Lee & Mills, 2010).

Recent studies also revealed that mobile phones influenced every stage in travelers' behavior, from searching information (Rasinger et al., 2007) to purchasing (Riebeck et al., 2008) and post purchase evaluation (Wang et al., 2011) as well as travel aspects such as providing directions, public transportation navigation and air travel (Hopken et al., 2010). Additionally, mobile tourist application such as AirAsia, MHmobile, Agoda, and Expedia was developed to assist tourist by providing them with information and services given his goal at that moment. Such findings imply that travelers are always looking for interesting, new alternatives to carry out their travel plans.

The rise of mobile subscribers, internet usage and people's zeal on tourism industry can benefit the mobile tourism in Malaysia. However, the insecurities of users and risk correlating during the process of mobile financial transactions such as software failure, and input mistakes, that caused them to barely trust and confidence on purchasing via new technology because of the fear of outflow on their personal privacy information and were de-motivated (Tai, 2013). The advancement of mobile and other portable devices is clearly becoming more and more advanced.

However, commercial technologies in this respective area have gained only a limited success. The network connectivity influences the adoption of mobile tourism because mobile shopping requires high 3G connection that enables shoppers to purchase tourism products online (Fort, 2013). Shoppers are unable to adopt mobile tourism without a proper network connectivity infrastructure. Therefore, mobile service providers have to look for ways to upgrade the infrastructures and provide wider coverage (Haque, 2004).

The lack of adoption towards mobile tourism in Malaysia may trigger the country's economy in future. As tourism industry is the third contributor after manufacturing and palm oil industry (New Straits Times, 2012). Hence, the purpose of this study is about developing a conceptual framework that explain and predict the core determinants that influence mobile tourism adoption in Malaysia. The research that we conducted focuses on generation Y. This is further supported by the statistics that revealed Malaysia has the youngest mobile internet user base in Southeast Asia with 64% of users ranging from the age of 18 to 35 (Mobile Marketing Association, 2013).

1.3 Research Objectives

Research objective provides a clear path and focus for researchers.

1.3.1 General Objective

The main focus of this research is to investigate the determinants that influence Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.

1.3.2 Specific Objectives

The factors examined in this research are performance expectancy, effort expectancy, social influence, facilitating condition, wireless trust and perceived risk.

The objectives of our research are as follows:

1. To examine the relationship between performance expectancy and Gen Y's behavioral intention towards adopting mobile tourism.
2. To examine the relationship between effort expectancy and Gen Y's behavioral intention towards adopting mobile tourism.
3. To examine the relationship between social influence and Gen Y's behavioral intention towards adopting mobile tourism.
4. To examine the relationship between facilitating condition and Gen Y's behavioral intention towards adopting mobile tourism.
5. To examine the relationship between wireless trust and Gen Y's behavioral intention towards adopting mobile tourism.
6. To examine the relationship between perceived risk and Gen Y's behavioral intention towards adopting mobile tourism.

1.4 Research Questions

Based on the objectives of our study, research questions that are need to be answered are as follows:

1. Does performance expectancy affect Gen Y's behavioral intention towards adopting mobile tourism?

2. Does effort expectancy affect Gen Y's behavioral intention towards adopting mobile tourism?

3. Does social influence affect Gen Y's behavioral intention towards

adopting mobile tourism?

4. Does facilitating condition affect Gen Y's behavioral intention towards adopting mobile tourism?

5. Does affect wireless trust Gen Y's behavioral intention towards adopting mobile tourism?

6. Does perceived risk affect Gen Y's behavioral intention towards adopting mobile tourism?

1.5 Hypothesis of the Study

Findings from past researches along with the objectives of the study lead to the development of the following hypotheses.

H1: There is significant relationship between performance expectancy and Gen Y's behavioral intention towards mobile tourism adoption.

H2: There is significant relationship between effort expectancy and Gen Y's behavioral intention towards mobile tourism adoption.

H3: There is significant relationship between social influence and Gen Y's behavioral intention towards mobile tourism adoption.

H4: There is significant relationship between facilitating condition and Gen Y's behavioral intention towards mobile tourism adoption.

H5: There is significant relationship between wireless trust and Gen Y's behavioral intention towards mobile tourism adoption.

H6: There is significant relationship between perceived risk and Gen Y's behavioral intention towards mobile tourism adoption.

1.6 Significance of the Study

Mobile commerce is gaining popularity and increasingly becoming an interesting research topic in tourism industry due to its potentiality in overcoming the barriers of e-commerce. Thus, the purpose of the study is to serve as a foundation for Malaysia tourism service provider to gain better insight of the factors influencing the behavioral intention towards mobile tourism adoption in Malaysia, enabling them to gather sufficient knowledge and capability to grab the upcoming golden opportunity.

Understanding the factors that drive Gen Y's behavioral intention towards mobile tourism adoption is crucial to business success and longevity. Constructs that has the greatest influence can act as guidance for tourism-related companies or Malaysian marketers who wish to build their market share in mobile tourism area. Simultaneously, this study can help them to understand how those factors are affecting consumers' behavioral intention towards adoption mobile tourism.

1.7 Conclusion

In brief, chapter one provides an overview of the study of mobile tourism. It highlighted some of the main aspects of m-commerce and mobile tourism to better understand Gen Y's behavior and acceptance towards new technology innovation. Further review of relevant studies and past researches will be continued in the following chapter.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

This chapter starts with a brief review of five related models that have widely adopted in past studies to predict the behavioral intention towards new technology. Then, this chapter continues with the six core determinants related to mobile tourism adoption, performance expectancy, effort expectancy, social influence, facilitating condition, wireless trust and perceived risk used in proposed conceptual framework. Lastly, this chapter will be covering all hypotheses that have been formed to test the relationship of these determinants towards Gen Y's intention to adopt mobile tourism.

2.1 Review of Literature

2.1.1 Mobile Tourism

Mobile tourism offered a new trend in the aspect of tourism industry involving mobile devices such as smartphone, tablet, and personal digital assistants (PDA) as tourist guide (Kenteris, Gavalas & Economou, 2009). Mobile tourism involves using mobile devices via wireless network and means of payment to conduct transaction (Hu & Liu, 2013). Mobile tourism provides convenience to consumer by launching mobile website which use to cater the unique features and content of mobile devices rather than simply transferring the websites content into mobile sites (Hu & Liu, 2013). As an electronic tourist guides, mobile tourism provide attractive characteristics such as convenience, ubiquity and positioning, users can access and receive related services and information in their specific location by employing global positioning system (GPS) technology (Kenteris, Gavalas, & Economou, 2009; Varshney, 2003). According to Gavalas & Kenteris (2011),

mobile tourism also help in personalized and consolidated user profiles, recommended content will be provided to match with the user preferences.

2.2 Review of Relevant Theoretical Frameworks

A number of frameworks that had been employed in the past to explain the information system usage behavior were being reviewed in our study. The models include Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB), Diffusion of Innovation Theory (DOI) and United Theory of Acceptance and Use of Technology (UTAUT) so as to investigate Gen Y's intention to adopt mobile tourism in Malaysia.

2.2.1 Theory of Reasoned Action (TRA)

According Fishbein and Ajzen (1975), Theory of Reasoned Action (TRA) is a well-established model that has been widely used to predict and explain human behavior in various areas. TRA consists of rational, volitional, and systematic behavior (Fishbein & Ajzen, 1975; Chang, 1998). In terms of behavior, TRA shows the individual has the control over it (Thompson, Haziris, & Alekos, 1994).

From technology perspective, there is a potential that a person forms an attitude towards a certain object whether with or without intention. The intention to behave initially affects one's actual behavior (Hansen, Jensen, & Solgaard, 2004). Wu (2003) defined that a person's behavior subjective norms is as important as the determinant of intention.

According to Fishbein and Ajzen (1975), TRA developed two key factors that only emphasize on technology usage. First, attitude towards behavior is defined as "the degree to which a person trusts that using a particular system would improve his or her job performance". Second, subjective norm involved the opinion of others and source of motivation before using a particular system.

Behavioral intention are presumed to capture the stimulating factors that influence a behavior, they act as a indicator of the amount of efforts that people are willing to exert and try in order to perform a particular behavior.

2.2.2 Technology Acceptance Model (TAM)

TAM was developed from TRA to explain and predict users' acceptance towards a wide range of new technology (Fishbein & Ajzen, 1975). It describes how consumers' behavior is related with their intentions while performing tasks (Davis, 1989). TAM helps to explain why a particular technology is accepted or rejected by users when the technology is first introduced (Wallace & Sheetz, 2014). In TAM, there are two main constructs, which is perceived ease of use (PEOU) and perceived usefulness (PU). According to Davis (1989), PEOU refer to "the degree to which users trust that adopting a specific technology would be easy" and PU defined as "the degree to which a person trusts that using a specific system would improve the job performance".

TAM has been widely adopted and served as a major theoretical framework in the research of information system field such as online shopping (Gefen et al., 2003), personal computers (Davis, 1989), mobile technology adoption (Kim et al., 2008) and etc. Taylor and Todd (1955) also found TAM to be able to explain 53 % of variance in behavioral intention.

2.2.3 Theory of Planned Behavior (TPB)

Theory of Planned Behaviour (TPB) is an enhanced model of TRA by integrating a new construct, perceived behavioral control (PBC), in which Ajzen (1991) defined as the ease or difficulty an individual perceived when performing particular behavior. Ajzen (2010) stated that TPB was developed and designed based on the assumption of human beings who usually aware of the circumstances of the information are available and the consequences of their actions. TPB was

found to be able to predict 44.05% of variance in behavioral intention after the inclusion of TPB as compared to the initial 37.27% variance in the TRA model (Hagger, Chatzisarantis, & Biddle, 2002). Additionally, Khalifa and Shen (2008) also stated that TPB is a model that has been widely used in past studies to explain IT adoption and m-commerce adoption (Khalifa & Cheng, 2002).

2.2.4 Diffusion of Innovation Theory (DOI)

DOI theory is described as a social process in which an innovation or a new idea is communicated through channels over a period of time to different parts of society members (Rogers, 1995). This theory not only focuses on awareness and knowledge but also on decision making process and attitude change that resulted in the adoption and process of innovation (Rogers & Singhal, 1996). In DOI, four main components are identified, that is innovation, communication channels, social system, and length of time (Rogers, 2003). Adopters are classified into innovators, early adopters, early majority, late majority, and laggards, and sometimes including non-adopters.

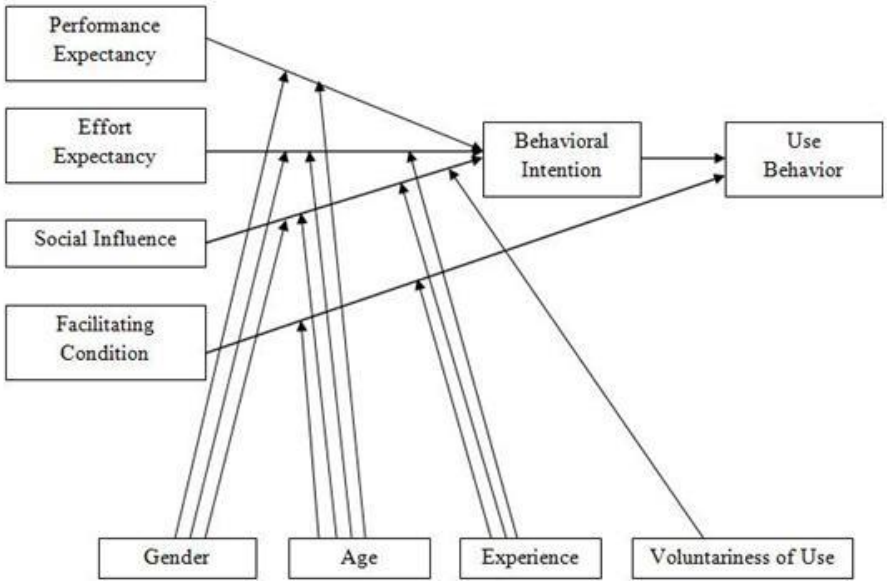
DOI model comprises of five core constructs to determine the adoption rate of new technology, which is relative advantage, compatibility, observability, complexity and trialibilty. Relative advantage is similar to PU as they both refer to the usefulness of new technology adoption for the sake of performance. Complexity is similar as PEOU since complex innovation tends to lower PEOU (Im & Ha, 2012). Innovation and technology must be easy to learn and use in order to increase the adoption rate of innovation or it will discourage the adoption of innovation. Rogers (2003) revealed that DOI accounted for 49% to 87% of variance in adoption.

2.2.5 Unified Theory of Acceptance and Use of Technology (UTAUT)

UTAUT is developed based on the combination of eight well-established theories - i.e TRA, TAM/TAM2, Motivational Model (MM), TPB, Decomposed Theory of Planned Behavior (DTPB), Model of PC Utilisation (MPCU), Innovation Diffusion Theory (IDT) and Social Cognitive Theory (SCT) with the aim to explain and predict behavioral intention to adopt a new technology (Venkatesh et al., 2003). This model has been proven to be superior as compared to other predominant models (Venkatesh et al. 2003; Park et al., 2007; Venkatesh & Zhang, 2010). UTAUT consists of four core determinants that affect behavioral intention which includes performance expectancy, effort expectancy, social influence and facilitating condition. Venkatesh et al. (2003) empirically identified that performance expectancy, effort expectancy and social influence affect the behavioral intention to use a technology, while facilitating condition and behavioral intention will have direct influence on the adoption behavior. UTAUT also has been tested with dependent variable variance of 70%, higher than TAM and TPB (Min, Ji, & Qu, 2008).

Initially, UTAUT was applied to study technological innovation acceptance in organization such as e-commerce applications (Sutanonpaiboon & Pearson, 2006). Later on, Martin and Herrero (2012) further extended the model to study consumers and private users' acceptance towards information systems such as mobile internet adoption by end users (Wang & Wang, 2010). In recent studies, UTAUT has been widely employed as the base model in m-commerce field such as mobile learning (Wang, Wu & Wang, 2009), mobile Internet (Wang & Wang, 2010), mobile shopping services adoption (Yang, 2010) and mobile banking (Yu, 2012).

Figure 2.1 UTAUT Framework



Adapted from: Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly, 27*(3), 425-478.

2.2.6 Extended UTAUT Model

According to Min, Ji and Qu (2008), the integration of constructs from the most influential, widely used IT adoption models such as TRA, TPB and TAM has made UTAUT as the most comprehensive model to explain the behavioral intention of using an innovation. However, they also stated that UTAUT is yet a perfect model. Besides, Venkatesh et al. (2003) also suggested that revision and modification can be apply to UTAUT model as needed particularly in distinct IT application such as m-commerce field.

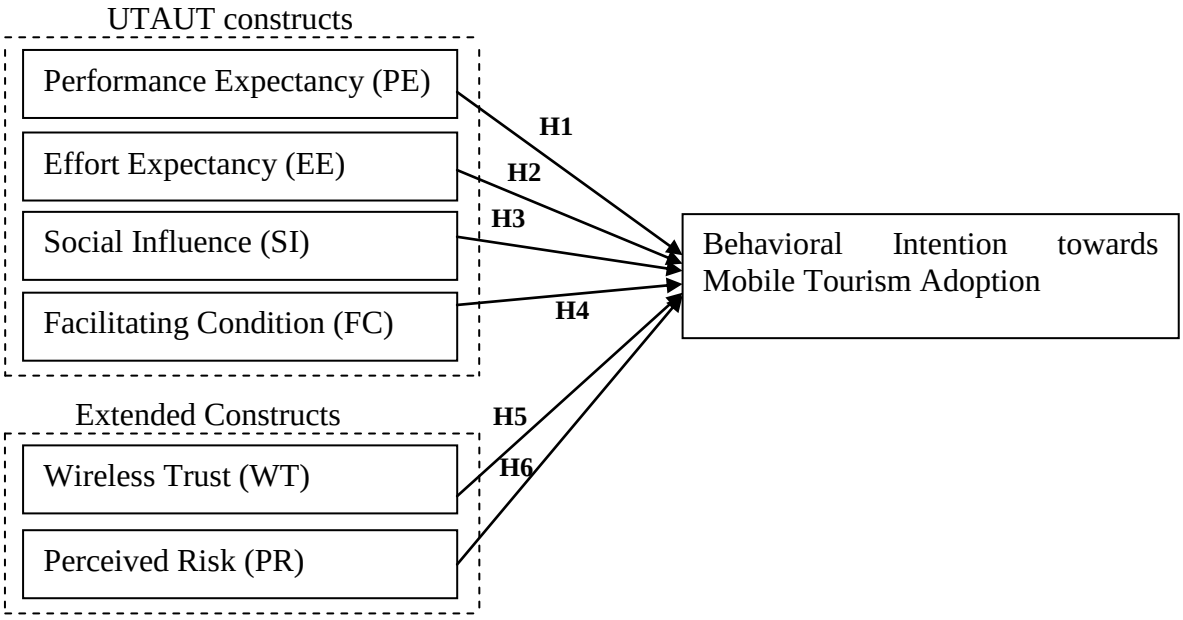
In recent years, there are increasing amount of efforts from researchers to extend UTAUT model by adding new variables, especially trust and perceived risk such as information and communication technology (ICT) services (Lee, Kim, & Song, 2010), m-commerce (Min, Ji, & Qu, 2008), mobile wallet (Shin, 2009) and Internet banking (Emad, Pearson, & Setterstrom, 2010). The imperfection of UTAUT was further supported when Im, Kim and Han (2008) stated that trust and perceived risk has been overlooked in the original UTAUT. To our knowledge,

extension of UTAUT model by integrating trust and perceived risk on mobile tourism is yet to be tested in Malaysia. Thus, our study in mobile tourism seek to contribute to the IS research community.

Previous technology adoption literatures also proved that trust and perceived risk are critical factors in explaining users' use intention. Research conducted by Pavlou (2003), Warkentin et al. (2002), and Lee, Kim and Song (2010) shown trust and perceived risk has direct effect on intention to use. Leong, Hew, Tan, and Ooi (2013) shown that the effect of trust on intention to use mobile credit card. User's trust on technology and m-commerce service providers is crucial in determining m-commerce success (Siau & Shen, 2003). Hence, Lee (2005) postulated that trust will be playing an important role in reducing consumers' uncertainty and ultimately, their transaction intention. In the context of our study, perceived risk is an important factor as any technology failure during transaction via mobile devices may lead to consumers' financial or psychological loss.

2.3 Proposed Conceptual Framework

Figure 2.2 Proposed Conceptual Framework - Extended UTAUT



2.4 Hypotheses Development

2.4.1 Performance Expectancy (PE)

Performance expectancy is developed from five different constructs, which is perceived usefulness (TAM/TAM2), extrinsic motivation (MM), job-fit (MPCU), outcome expectation (SCT) and relative advantage (IDT) and is similar as these constructs. Venkatesh et al. (2003) explained that PE as "the extent to which a person believes system will assist him or her to achieve an enhancement in the job performance". PE are proven to have influential impact towards the adoption of particular system because users believer there is positive relationship between use and performance (Agarwal & Karahanna, 2000).

Previous researchers found that there is significant relationship exists between PE and usage intention in Malaysia (Ndubisi & Jantan, 2003; Ramayah & Suki, 2006; Amin, 2007). The findings showing the existence of positive relationship between PE and usage intention was also seen in mobile personal computer usage (Ndubisi & Jantan, 2003; Ramayah & Suki, 2006) and mobile banking (Amin, 2007). Tourists are always in search for more useful information on-the-go while traveling. Services that tourists seek during their trip are most probably transportation, reservation, safety information, directories and context-aware services (Goh, Ang, Lee & Lee, 2010). When mobile tourism services help users save time and acquire relevant information in their hands whenever needed, users are expected to have positive intention towards mobile tourism. Thus, the following hypothesis is put forward:

H1: Performance expectancy has significant influence on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.

2.4.2 Effort Expectancy (EE)

Effort expectancy is defined as the extent of ease associated with consumers' use of technology or system (Venkatesh et al., 2003). EE is similar as PEOU (TAM/TAM2), ease of use (IDT) and complexity (MPCU). Website setting, access time, and the efforts in developing views are effort of acceptance and ease of technologies (Venkatesh et al., 2003; Park, Yang, & Lehto, 2007). According to UTAUT model, female's technology acceptance are normally depends on effort expectancy. Based on the results from previous researchers, EE are considered to be more essential to people with lower education levels and people in earlier stages of adoption are most likely to be more sensitive to EE factor as the technology presents a sort of hurdle to them (Szajna 1996; Venkatesh and Morris, 2000). From the context of this study, ease of use of mobile tourism can be related to ease of access to mobile tourism sites and navigating its features. Effect of EE towards the intention to use mobile tourism is expected to be significant. Hence, the following hypothesis is formulated:

H2: Effort expectancy has significant influence on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.

2.4.3 Social Influence (SI)

Social influence refers to "the extent to which consumers perceive that important others (e.g., friends and family) believe they should use a particular technology" (Venkatesh, Thong, & Xu, 2012). This construct was supported by research from Teo & Pok (2003), Ainin, Lim & Wee (2005), Lu & Su (2009), and Tan, & Ooi (2013) in the adoption of WAP-enable mobile phones, mobile data, wireless mobile data services, online banking and mobile credit card respectively. Social influence signifies subjective norm in TRA, TAM2, C-TAM-TPB, TPB, image in IDT and social factors in MPCU (Venkatesh, et al., 2003).

SI focuses on the role and views of friends, peer groups, relatives, and superiors (Tan, Ooi, Chong, & Hew, 2013). Venkatesh and Davis (2000) explained the SN impact on behavioral intention. They stated that a new technology will only be adopted by potential users when they are influenced by the people who are important to them.

Subsequently, study conducted by Yang (2010) explained that individual behavioral intention to adopt mobile shopping services is considered to be altered by the important others' perception of mobile shopping services use. Taken the above together, it supports Singh, Srivastava and Srivastava (2010) argument stating that m-commerce users depend largely on their social interaction. In the context of our study, users are more likely to rely on perception of others regarding mobile tourism services. Thus, the following hypothesis is posited:

H3: Social influence has significant influence on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.

2.4.4 Facilitating Condition (FC)

Venkatesh et al. (2003) defined facilitating conditions as "the degree to which an individual believes the existence of organizational and technical infrastructure to support the use of technology". In UTAUT, FC captures three different constructs, facilitating conditions (MPCU), perceived behavioral control (TPB and C-TAM-TPB), and compatibility (IDT) (Ratnasingam, 2005). Training or technical support are also objective factors of FC that make users to adopt new system more easily (Armida, 2008). According to Venkatesh et al. (2003), FC is a concept that relates to use behavior as well as intention, especially during the absent of effort expectancy. While another researcher suggest that FC have an influence on acceptance intention instead on effective use of the technology (Eckhardt, Laumer, & Weitzel, 2009). UTAUT model establishes that the FC perceived by the users is a direct factor of the adoption of a technology, as they reveal the environmental factors that incentivize or limit their adoption (Venkatesh et al.,

2003). Our study adopted literature of Yang (2010) stating that Internet-enabled mobile devices that come with fine interface for mobile sites browsing increase the likelihood of intention to use. Hence, if it is technical infrastructure are readily available, allowing users to grasp the idea of mobile tourism instantly, they are expected to use it. The following hypothesis is put forth:

H4: Facilitating condition has significant influence on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.

2.4.5 Wireless Trust (WT)

Wireless trust was developed by Lu, Yu and Liu (2005) so as to adapt to current mobile technology era. Past studies conducted by Doney and Cannon (1997); Jarvenppa and Tractinsky (1999) redefined trust to suit the electronic and mobile commerce environment. Jarvenppa & Tractinsky (1999) defined trust as "a consumer's willingness to rely on seller in an online environment and take action in circumstances where such action makes consumer vulnerable to the seller".

According to Siau and Shen (2003), trust of m-commerce service providers and trust of technology are used to explain the user trust towards the wireless mobile system. Trust of m-commerce service providers is referring to the users is not only looking for the acceptance of new technology, but also looking for the services provided by service operator in term of payment system, transaction standards and others. While, the utility of the newly technology such as convenience and usefulness constitute the trust of technology from users.

Lu, Liu, Yu & Ku (2004) and Lu, Yu, & Yao (2003) proposed that wireless trust issues can affect consumers' intention to adopt wireless mobile technology for commercial activities as well as important data services. Wireless trust is built on the confidence level of consumers in a company's ability in term of system reliability, data transmission security and privacy protection (Liu & Arnet, 2002). Lu et al. (2004) stated that it is imperative for users to have confident in software

applications that they rely on for data transmission, and these data are correct and well-protected. In the context of this study, users must willing to trust and believe that mobile tourism services is reliable during transactions. This lead to the formulation of the following hypothesis:

H5: Wireless trust has significant influence on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.

2.4.6 Perceived Risk (PR)

Perceived risk is the expected losses for buying and it is a major obstacle to discourage consumers from buying (Zhou, 2011; Wong, Lee, Lim, Chua, & Tan, 2012). This was further supported by Chang (2010) that in adopting mobile phones for commercial transaction such as shopping. According to Huei (2004), PR is one of the influencing determinants for adopting m-commerce. In order to attract and retain online customers, it is essential to reduce PR towards online transaction (Floh & Treiblmaier, 2006). This factor has similar result to adopting m-commerce as m-commerce is extended from e-commerce (Malik, Kumra, & Srivastava, 2013). When PR of consumers increased, it will cause the adoption to decreased (Lee, Lee, & Eastwood, 2003).

In addition, Ba and Pavlou (2002) have stated that the potential risk of illegal scenarios and fraud has been a major concern for consumers and also the service provider. This was further supported by Tan et al. (2013) that failure in technology could be a potential reason that leads to financial or psychological loss. Mobile monetary transactions make consumers' perceived risk in term of financial loss of money or insecure in the sense of using credit card online (Forsythe et al., 2006; Ghosh & Swaminatha, 2001; Malik, Kumra, & Srivastava, 2013). In the context of this study, financial risk is described as whether users think it is risky to disclose their personal along with credit card information while using mobile tourism, which they have no control over it. If users perceived mobile adoption as risky, perceived risk will negatively affect users' intention

towards mobile tourism adoption. Taken the above together, we proceed with the following hypothesis:

H6: Perceived risk will negatively influence Gen Y's behavioral intention mobile tourism adoption in Malaysia.

CHAPTER 3: RESEARCH METHODOLOGY

3.0 Introduction

This chapter explains the methodology used to obtain relevant information for our research purposes. Arrangements of this chapter are as follows: research design (3.1), data collection methods (3.2), sampling design (3.3), research instrument (3.4), constructs measurement (3.5), data processing (3.6) and data analysis (3.7).

3.1 Research Design

Research design is a framework specifying the methods for collecting information and analyzing data (Burns & Bush, 2010).

3.1.1 Quantitative Research Design

Quantitative research design emphasizes on objective measurement and numerical analysis of statistics gathered through surveys. Quantitative research basically was implemented to generalize results from a large number of samples (Babbie, 2010). The research is conducted using descriptive research design.

3.1.2 Descriptive Research

Descriptive research is used to describe the characteristic of the population being studied (Burns & Bush, 2010). It describes things such as consumers' attitude and behavior towards certain product or situation and market potential (Armstrong & Kotler, 2006). Descriptive research was adopted to

determine the six identified factors that influence Gen Y's intention to use mobile tourism in Malaysia.

3.2 Data Collection Methods

This part involved the process of collecting and gathering information and data for the use of the research. It includes primary and secondary data sources.

3.2.1 Primary Data

Primary data is data collected by researchers for a specific purpose to address the issue at hand (Malhotra, 2004). It is obtained from first-hand sources by means of observation or surveys. The primary data for this study was collected using survey in four areas, which is Kuala Lumpur, Penang, Perak and Johor. Five people were assigned to distribute the questionnaire to respondents. Exposure of mobile tourism is relatively low to Malaysian, hence hybrid survey method was used involving both person-administered and self-administered to ensure respondents understand the questions. We will be there to assist those respondents who faced difficulty while answering the questionnaire. For those who able to comprehend the questionnaire well, we leave the respondents to control survey. After compiling all the data from the questionnaire, it will be analyzed using SAS software.

3.2.2 Secondary Data

Secondary data is the data that has been collected previously for research purposes other than problems at hand (Malhotra, 2010). This study used secondary data to clarify and support our constructs in our proposed framework. Various sources are accessed to acquire relevant data such as

electronic journals, reference books, online journal databases such as EBSCOhost, ProQuest, Emerald and others.

3.3 Sampling Design

Sample design can be explained as a framework that acts as the fundamental of a survey sample and influence many other factors in a survey (Shapiro, 2008). This part consists of method used to identify sample size, target population, method of selecting respondents, and sampling technique.

3.3.1 Target Population

According to Malhotra and Peterson (2006), total population is the collection of objects that possess information sought by researcher to conduct their research. As the nature of our study is regarding mobile technology adoption, the target population is Gen Y who own mobile devices and may have experienced in mobile transaction in Malaysia.

3.3.2 Sampling Location

Sample units and list of respondents from few areas are chosen in conducting this research. Few geographic areas were chose by us to facilitate our research. These locations were Kuala Lumpur, Penang, Perak and Johor. According to report revealed by MCMC (2013), these locations are chosen due to the high mobile phones penetration rate of 203.5, 142.3, 114.6 and 128.7 respectively. Therefore, 500 set of questionnaires were distributed to the people that stay in the place that mentioned earlier.

3.3.3 Sampling Elements

Target respondents vary considerably from working adults, students and anyone who are comfortable using technological gadgets often, especially mobile devices. This study focuses more on generation-Y, those who are born between 1980 to1994 (age 17 to 31), who have higher tendency to use new technology innovation (McCrindle, 2006).

3.3.4 Sampling Techniques

Non-probability sampling technique is adopted for this research where there is no fix probability of chance in selecting a sample, but depends on researcher's judgment (Malhotra, 2004). In convenience sampling, respondents are chosen due to their existence in that area at that time. It also enables us to better identify potential respondents with characteristics suitable to our research purpose. Furthermore, snowball sampling is applied where the initial respondents are asked to identify others who are similar to the target population of interest (Malhotra & Birks, 2007). As a result, the respondents in our targeted population will have more or less the same demographic and psychographic characteristics.

3.3.5 Sample Size

Malhotra (2004) defined sample size as the number of elements to be included. In this study, 500 respondents from Kuala Lumpur, Penang, Perak and Johor have participated during our survey. Majority of respondents are targeted based on our judgment and aforementioned respondents' criteria.

3.4 Research Instrument

3.4.1 Purpose of using Questionnaire

According to University of Bristol, questionnaire was used as a mechanism for data collection. Benefits of questionnaire are the ease of distributing to large number of respondents at low cost, enable researcher to collect data about individual belief, knowledge, behavior, and attitude (Oppenheim, 1992)

3.4.2 Questionnaire

Questionnaire design is imperative as the value of final research conclusions depends largely on the quality of the questionnaire (Bernard & Makienko, 2012). Close-ended question are used in the questionnaire whereby set of response alternatives has been provided, asking respondents to select response that are closest to their perception (Given, 2008). It usually associated with structured format.

Generally, the questionnaire is divided into two sections. Section A comprises of 11 questions regarding demographic profile such as age, academic qualification, respondent industry and others. Nominal scale is used whereby named questions are classified into one or more categories describing characteristics of interest.

In Section B, a total of 25 questions was designed to investigate the factors influencing users' behavioral intention towards adopting mobile tourism. This section includes performance expectancy, effort expectancy, facilitating condition, social influence, wireless trust, perceived risk and behavioral intention towards adopting mobile tourism. Likert scale with 7-point was used in this section.

3.4.3 Pilot Test

Pilot test used prior to actual survey which examines the reliability of each constructs in the study. It allows researcher know that whether the questionnaire wording are clear enough for the respondents to comprehend the questions in the questionnaire (Burgess, 2001).

Prior to questionnaire distribution, the questionnaire was reviewed by our supervisor, Mr. Garry Tan to see whether there is any problem with it. 50 respondents from Universiti Tunku Abdul Rahman were chosen to conduct the survey and feedbacks regarding the questionnaire were obtained.

3.4.4 Data Collection

The questionnaire is distributed to respondents through survey and the questionnaires are collected back immediately. Out of 500 questionnaires, there is only 450 set of questionnaire qualified to use in the research as some of the questionnaire are incomplete. As a result, there is 90% of respond rate from the entire questionnaire distributed.

3.5 Constructs Measurement

Table 3.1 Constructs Measurement

Constructs	Adopted from
Performance Expectancy	Venkatesh et al., 2003
Effort Expectancy	Venkatesh et al., 2003
Facilitating condition	Venkatesh et al., 2003
Social Influence	Venkatesh et al., 2003
Wireless Trust	Lu, Yu, & Liu, 2005
Perceived Risk	Floh & Treiblmaier, 2006

Each constructs in the framework was tested using seven-point likert scale with anchors of "strongly disagree" to "strongly agree". Such scales can provide balance between enough points of perception without maintaining too many response rates (Sauro, 2010). These variables were adopted from the sources as shown in Table 3.5.

3.5.1 Scale Management

3.5.1.1 Nominal Scale

According to Stevens (2012), nominal scale refer to label that cannot be quantified. Basically, nominal scale can be used to categorize age, gender, occupation, marital status, and race (Stevens, 2012). In the research, total of four questions has been designed using nominal scale.

3.5.1.2 Ordinal Scale

Ordinal scale measures qualitative concepts. It is the direction of the values of what is significant (Stevens, 2012). Therefore, ordinal scale is used to

determine "greater than or less than" types of questions. The example of question that used ordinal scale is:

Age: ❑ Below 20 Years Old ❑ 21-25 Years Old
❑ 26-30 Years Old ❑ 31-35 Years Old
❑ 36-40 Years Old ❑ Above 40 Years Old

3.5.1.3 Likert Scale

Likert (1932) developed this method to measure attitudes by answering a sequence of statements about an issue, in relations of the degree to which the respondents agree with them. In Section B questionnaire, 7-point likert scale has been used ranging from "strongly disagree", "disagree", "slightly disagree", "neutral", "slightly agree", "agree", and "strongly agree". Example of likert scale used in this questionnaire is as below:

No	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
B2	**Effort Expectancy (EE)**							
EE1	Learning how to use mobile tourism does not require a lot of my mental effort.	1	2	3	4	5	6	7
EE2	I find mobile tourism easy to use.	1	2	3	4	5	6	7
EE3	Learning to use mobile tourism features is easy for me.	1	2	3	4	5	6	7
EE4	My interaction with mobile tourism is clear and understandable.	1	2	3	4	5	6	7

3.6 Data Processing

3.6.1 Data Checking

Data checking was conducted as an early detection for errors or any problems exists in the questionnaire during pilot test. Incomplete questionnaire were reviewed in an effort to identify any possible problems in the questionnaire so that fair adjustment can be made. Data checking is used to mitigate the risk of generating vague results that might affect our research purpose.

3.6.2 Data Editing

Data gathered from questionnaire may lack of uniformity (Nikhil, 2009). This process is to ensure and improve the consistency, accuracy and reliability of the collected data (Nikhil, 2009) so that the data can be presented in meaningful manner. Redundant questions are amended or omitted from our questionnaire to increase the reliability of data collected later on. Some respondents with unsatisfactory or irrelevant responses are filtered out from our research for certain cases.

3.6.3 Data Coding

Data coding is a process where number are usually assigned to the responses in each variables categories to be used in data analysis (Nikhil, 2009). Data coding allows researcher to convert the bulk information into form that is more easily analyzed by computer software (Buckley, 1997).

3.6.4 Data Transcription

Data transcription is a process of translating source of data to software readable format so that computer processing of the data can be done. Since raw data was completed during data coding, these data will be directly keyed in into SAS software for analysis.

3.6.5 Data Cleaning

Data cleaning is used to check inconsistencies, detected errors from the data and treatment of the missing responses so as to improve the reliability of the data. The possible errors are missing information, miscoding data or invalid data (Rahm & Hong, 2000). In this stage, consistency check is run using SAS software to determine data that are logically inconsistent or outliers where corrections may be required.

3.7 Data Analysis

Data analysis is used to develop explanations, detect patterns, describe facts, and test hypothesis (Levine, 1996). SAS Enterprise Guide 5.1 was used to analyze the data collected from the survey. Later on, the output generated from SAS will be translated into statistical tables and visuals such as chart and diagrams, allowing us to have better understanding on the information. Data evaluation will be conducted using logical reasoning methods – descriptive analysis, multiple regression analysis, and inferential analysis.

3.7.1 Descriptive Analysis

Descriptive statistics refers to the process of summarizing raw data into interpretable descriptive information and value which researchers able to comprehend (Zikmund, 2003). This analysis also provides simple graphics analysis and basic virtual quantitative analysis of the data (Trochim, 2006). In this research, frequency distribution and percentage distribution will be conducted and the information gained will be shown in the table form.

3.7.1.1 Frequency Distribution

Frequency distribution acts as a tabular representative of the research data and basically used to summarize and organize the data. Frequency distribution also used to interpret the data and detect outliers in the data (Lavrakas, 2008). It classifies data into group and show the number of observation obtained for each groups. For instance, frequency distribution for age presented number of respondents that belong to certain group age in table form.

3.7.2 Scale Measurement

3.7.2.1 Reliability Test

Reliability test refer to the degree to which result are accurate and consistent for the constructs being measured (Malhotra & Peterson, 2006). By using SAS software, correlation of each variable can be determined. Cronbach's alpha was used to test homogeneity that explains how good independent variables are related to dependent variables (Joppe, 2000). For interpretation purposes, George and Mallery (2003) stated the following rules of thumb:

Table 3.2 Cronbach Alpha Coefficient Range

Cronbach's Alpha	Internal Consistency
> 0.9	Excellent
> 0.8	Good
> 0.7	Acceptable
> 0.6	Questionable
> 0.5	Poor
< 0.5	Unacceptable

Cronbach's alpha coefficient usually ranges between 0 and 1. The nearer the value to 1.0, the better it is.

3.7.3 Inferential Analysis

3.7.3.1 Validity test

Based on Zikmund (2003), Pearson correlation analysis is deemed as a statistical measure of co-variation and the strength of association between independent variables and dependent variable. Pearson correlation usually ranges from -1 to +1, in which the sign (+ or -) indicates the direction of the relationship and the coefficient value indicates the strength of relationship (Coakes & Steed, 2007). If the result of the test is -1, then it result in perfect negative relationship and if the result shows 1 its means it result in perfect positive relationship. Lastly, if the result is 0, it means there is no relationship exists (Winter, 2000). Hair, Bush and Ortinau (2003) introduced the following guidelines to interpret the strength of correlations:

Table 3.3 Correlation Coefficient Range

Correlation Coefficient	Strength of Correlation
±0.81 - ±1.00	Very strong
±0.61 - ±0.80	Strong
±0.41 - ±0.60	Moderate
±0.21 - ±0.40	Weak
±0.00 - ±0.20	None

In our study, the determinants that influence users' behavioral intention towards mobile tourism adoption are classified as independent variable (IV), while intention to use mobile tourism is dependent variable (DV). Pearson correlation will be used to analyze the validity and significant relationship between IV and DV.

3.7.3.2 Multiple Regressions

According to Zikmund (2003), multiple linear regressions allow simultaneous investigation of the effect of two or more IV on a single DV. The basic formula used is stated as below:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + \ldots + b_kX_k$$

In our study, our equation will be as followed:

$$BI = a + b_1(PE) + b_2(EE) + b_3(SI) + b_4(FC) + b_5(WT) + b_6(PR)$$

whereby,

BI = Behavioral Intention
a = constant
PE = Performance Expectancy
EE = Effort Expectancy

FC = Facilitating Condition

SI = Social Influence

WT = Wireless Trust

PR = Perceived Risk

This equation enables researchers to identify the independent variables that have the most influential impact on dependent variable.

3.8 Conclusion

This chapter discuss on the research methodology on how the process of creating questionnaire, method of gaining data, processing the data, analyze the data and so on. The information that provided in this chapter will become guidance in Chapter 4 on data analysis.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

In this chapter, data collected from the questionnaire were analyzed and the result of findings was obtained. SAS software is used to conduct the analysis process. The analyses include descriptive analysis, scale measurement analysis and inferential analysis.

4.1 Descriptive Analysis

4.1.1 Respondent's Demographic Profile

4.1.1.1 Gender

Table 4.1 Gender of Respondents

Gender				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Female	250	55.56	250	55.56
Male	200	44.44	450	100.00
Total	450	100.00		

Source: Developed for the research

From Table 4.1, the statistics has showed that the majority of the respondents for our research are female in a total of 250 respondents that has a percentage of 55.56% whereas male respondents comprises of 200 respondents that results in 44.44%. Based on this table, it has shown that the questionnaires are distributed evenly among male and female.

4.1.1.2 Age

Table 4.2 Age Group of Respondents

Age				
	Frequency	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Below 20 years old	164	36.44	164	36.44
21-25 years old	286	63.56	450	100.00
26-30 years old	0	0	450	100.00
31-35 years old	0	0	450	100.00
Above 40 years old	0	0	450	100.00
Total	450	100.00		

Source: Developed for the research

Based on Table 4.2, it has shown that the highest number of respondents falls at the age of 21 to 25 which resulted in 286 respondents with 63.56%. Followed by the next age group are respondents below 20 years old that has a total of 164 respondents and shows a percentage of 36.44%. The rest of the age groups have not participated in the questionnaire distributed.

4.1.1.3 Marital Status

Table 4.3 Marital Status of Respondents

Marital Status				
	Frequency	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Single	442	98.22	442	98.22
Married	8	1.78	450	100.00
Total	450	100.00		

Source: Developed for the research

As shown in Table 4.3, there are a large number of respondents that are single resulted in a total of 442 respondents and a large portion of percentage, 98.22%. Only 8 respondents who are married that had done this questionnaire which brings 1.78%.

4.1.1.4 Academic Qualification

Table 4.4 Academic Qualification of Respondents

Academic Qualification				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No college degree	82	18.22	82	18.22
Diploma/advanced diploma	24	5.33	106	23.56
Bachelor degree/professional qualification	336	74.67	442	98.22
Postgraduates	8	1.78	450	100.00
Total	450	100.00		

Source: Developed for the research

Table 4.4 displays the academic qualification of the respondent of the research. Respondents that had a bachelor degree or professional qualification are the majority respondent of our study that leads to a total of 336 respondents holding 74.67%. Followed by a total of 82 respondents that has no college degree and resulting to 18.22%. The next respondent group has a diploma or advance diploma qualification with 24 respondents, 5.33%. Lastly, with a total of 8 respondents from postgraduates that have 1.78%.

4.1.1.5 Respondent's Industry

Table 4.5 Industry of Respondents

Respondent Industry				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Banking	27	6.00	27	6.00
Financial Institution	35	7.78	62	13.78
IT related	0	0	62	13.78
Tourism	0	0	62	13.78
Manufacturing	92	20.44	154	34.22
Retail	71	15.78	225	50.00
Telecommunication	8	1.78	233	51.78
Other	209	46.44	442	98.22
Education	8	1.78	450	100.00
Total	450	100.00		

Source: Developed for the research

As shown in Table 4.5, most of the respondents work in other field which is not stated in the questionnaire which consists of 209 respondents, 46.44 %. The next highest industry respondents works' in is manufacturing with a total of 92 respondents that holds 20.44 percent. Followed by respondents that works' in retail industry comprises of 71 respondents that have 15.78 percent. Moving on is the financial institution that comprises of 35 respondents with 7.78%. Banking industry is the following industry that has a total of 27 respondents holding 6%. . Lastly, the least number of respondents works in telecommunication and education industry that has 8 respondents and 1.78 percent respectively.

4.1.1.6 Internet Accessibility

Table 4.6 Respondents that have internet accessibility in their mobile phones

Internet Availability				
	Frequency	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Yes	426	94.67	426	94.67
No	24	5.33	450	100.00
Total	450	100.00		

Source: Developed for the research

Table 4.6 displays whether respondents are using their mobile phones to access to the internet and it has been shown that there are a large number of respondents that has internet accessibility on their mobile phones comprising of 426 respondents with a majority of 94.67% whereas there are only 24 respondents (5.33%) does not use mobile phones to access the internet.

4.1.1.7 Credit or Debit Card

Table 4.7 Respondents that owns credit or debit card

Credit/Debit Card				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	414	92.00	414	92.00
No	36	8.00	450	100.00
Total	450	100.00		

Source: Developed for the research

Based on Table 4.7, its shows the number of respondents that owns a credit or debit card. From this table, there is a majority of respondents who owns credit or debit card with a total of 414 respondents (92%) and 36 respondents (8%) that has no credit or debit card.

4.1.1.8 Shop using Mobile Devices

Table 4.8 Respondents using mobile devices to shop

Shopping Frequency				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	230	51.11	230	51.11
1-10	174	38.67	404	89.78
11-20	30	6.67	434	96.44
21-30	8	1.78	442	98.22
Above 30	8	1.78	450	100.00
Total	450	100.00		

Source: Developed for the research

Based on Table 4.8, it shows how frequent a respondent uses mobile phones to shop. Most of the respondents shop 1 to 10 times using their mobile phones with a total of 174 respondents taking up 38.67%, followed by respondents using mobile phone to shop with the frequency of 11 to 20

times totaled to 30 respondents, 6.67%. Meanwhile, there are only 8 respondents, 1.78% fall at the frequency of 21 to 30 and above respectively. There are 230 respondents that do not shop at all using mobile phone with the highest percentage of 51.11%.

4.1.1.9 Mobile Devices

Table 4.9 Types of Mobile Devices

Types of Mobile Devices				
	Frequency	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Mobile Phone	127	28.22	127	28.22
Personal Digital Assistant (PDA)	0	0	127	28.22
Smart Phone	323	71.78	450	100.00
Total	450	100.00		

Source: Developed for the research

Table 4.9 shows the types of mobile devices that are owned by our respondents. The number of respondents that owned a smart phone is the highest which leads to a total of 323 respondents taking up 71.78%. Moreover, the number of respondents using mobile phone comprises of 127 respondents which lead to a percentage of 28.22% and there are no respondents that use Personal Digital Assistant (PDA).

4.1.1.10 Monthly Income

Table 4.10 Monthly Income Level of Respondents

Monthly Income				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Less than RM1000	423	94.00	423	94.00
RM1001-RM2000	27	6.00	450	100.00
RM2001-RM3000	0	0	450	100.00
RM3001-RM4000	0	0	450	100.00
RM4001-RM5000	0	0	450	100.00
Above RM5000	0	0	450	100.00
Total	450	100.00		

Source: Developed for the research

As shown in Table 4.10, there are a majority of 423 respondents that has an income less than RM1000 which comprises of 94%. Followed by, 27 respondents that falls into the income group of RM1001 to RM2000 with only 6%. The rest of the income groups are not available among our respondents.

4.1.1.11 Shopping Location

Table 4.11 The Location of Respondent when using Mobile Devices

Shopping Location				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
At Home	232	51.56	232	51.56
At Work	35	7.78	267	59.33
At School	44	9.78	311	69.11
In a Bank	0	0	311	69.11
In a Library	35	7.78	346	76.89
In a Friend's Place	72	16.00	418	92.89
In Another Place	0	0	418	92.89
Others	32	7.11	450	100.00
Total	450	100.00		

Source: Developed for the research

Table 4.11 shows the location of respondents they are at when they are using their mobile phones. Based on Table 4.11, the highest number of respondents using their mobile phones recorded was at home with a total of 232 respondents that has a majority of 51.56%. The next common place respondents using their mobile phones are at a friend's place with a total of 72 respondents holding 16% followed by, at school with 44 respondents (9.78%). Nonetheless, in two locations which are at work and in a library with an amount of 35 respondents and 7.78% respectively. The least place that respondents used mobile phones is at others with 32 respondents (7.11%).

4.2 Scale Measurement

4.2.1 Internal Reliability Analysis

Table 4.12 Internal Reliability Test

Construct	Cronbach's Alpha	Number of Items
Performance Expectancy (PE)	0.7342	3
Effort Expectancy (EE)	0.7287	4
Facilitating Condition (FC)	0.7265	4
Social Influence (SI)	0.7396	4
Wireless Trust (WT)	0.7404	3
Perceived Risk (PR)	0.9441	3
Behavioural Intention (BI)	0.7301	4

Source: Developed for the research

Based on Table 4.12, all the independent variables for reliability has been proven to be consistent and reliable due to all alpha coefficient value are above 0.7. The Cronbach's Alpha value from the table has showed 0.7342 for 3 items of performance expectancy (PE), 0.7287 for 4 items of effort expectancy (EE), 0.7265 for 4 items of facilitating condition (FC), 0.7396

for 4 items of social influence (SI), 0.7404 for 3 items of wireless trust (WT), and 0.9441 for 3 items of perceived risk (PR). In addition to that, the Cronbach's Alpha value for behavioural intention (dependent variable) is 0.7301 for 4 items which has also proven to be reliable and consistent.

4.3 Inferential Analysis

4.3.1 Pearson Correlation Analysis

Table 4.13 Pearson Correlation Coefficient

	mean_IV1	mean_IV2	mean_IV3	mean_IV4	mean_IV5	mean_IV6	mean_DV
mean_IV1 Performance Expectancy	1.00000	0.76507 <.0001	0.75834 <.0001	0.65515 <.0001	0.72612 <.0001	-0.52434 <.0001	0.76144 <.0001
mean_IV2 Effort Expectancy	0.76507 <.0001	1.00000	0.87653 <.0001	0.70420 <.0001	0.66663 <.0001	-0.57165 <.0001	0.79071 <.0001
mean_IV3 Facilitating Condition	0.75834 <.0001	0.87653 <.0001	1.00000	0.76709 <.0001	0.67314 <.0001	-0.61283 <.0001	0.80552 <.0001
mean_IV4 Social Influence	0.65515 <.0001	0.70420 <.0001	0.76709 <.0001	1.00000	0.65059 <.0001	-0.46616 <.0001	0.73992 <.0001
mean_IV5 Wireless Trust	0.72612 <.0001	0.66663 <.0001	0.67314 <.0001	0.65059 <.0001	1.00000	-0.40711 <.0001	0.72830 <.0001
mean_IV6 Perceived Risk	-0.52434 <.0001	-0.57165 <.0001	-0.61283 <.0001	-0.46616 <.0001	-0.40711 <.0001	1.00000	-0.61638 <.0001
mean_DV Behavioral Intention	0.76144 <.0001	0.79071 <.0001	0.80552 <.0001	0.73992 <.0001	0.72830 <.0001	-0.61638 <.0001	1.00000

Source: Developed for the research

4.3.1.1 Test of Significant

H1: Performance Expectancy (PE)

According to Table 4.13, the correlation between performance expectancy (PE) and behavioral intention (BI) towards the adoption of mobile tourism is at 0.7614 ($p<0.01$). This result showed that performance expectancy (PE) has significant association towards Gen Y's behavioral intention to adopt mobile tourism. Therefore, PE is supported. According to Hair, Bush and Ortinau (2003), PE of 0.7614 falls under strong coefficient range.

H2: Effort Expectancy (EE)

Based on Table 4.13, the correlation of effort expectancy (EE) with Gen Y's behavioral intention (BI) of consumers towards mobile tourism adoption is at 0.7907 ($p<0.01$). Hence, there is significant association between effort expectancy and behavioral intention to adopt mobile tourism. Therefore, EE is supported. EE of 0.7907 falls under strong coefficient range (Hair, Bush, & Ortinau, 2003).

H3: Facilitating Condition (FC)

Table 4.13 presents the correlation of facilitating condition (FC) with Gen Y's behavioral intention (BI) towards mobile tourism adoption is 0.8055 ($p<0.01$). Thus, the value indicates that facilitating condition (FC) has significant impact on behavioral intention towards adopting mobile tourism. Therefore, FC is supported. According to the rules of coefficient size (Hair, Bush, & Ortinau, 2003), FC of 0.8055 is categorized as very strong coefficient range.

H4: Social Influence (SI)

Table 4.13 depicts the correlation of 0.7399 ($p<0.01$) between social influence (SI) and Gen Y's behavioral intention (BI) towards mobile tourism adoption. This proved that social influence (SI) has significant influence on behavioral intention towards adopting mobile tourism. Therefore, social influence (SI) is supported. The coefficient value of 0.7399 is classified as strong coefficient range based on Hair, Bush, and Ortinau (2003).

H5: Wireless Trust (WT)

Based on Table 4.21, the correlation is 0.7283 ($p<0.01$) between wireless trust (WT) and Gen Y's behavioral intention (BI) towards adopting mobile tourism. This signifies that wireless trust (WT) has significant association with behavioral intention to adopt mobile tourism. Therefore, WT is supported. Wireless trust with coefficient value of 0.7283 falls into strong coefficient range.

H6: Perceived Risk (PR)

Table 4.13 shows the correlation of perceived risk (PR) with Gen Y's behavioral intention (BI) towards the adoption of mobile tourism is -0.6164 ($p<0.01$). This has proven that perceived risk (PR) has significant negative association with behavioral intention to adopt mobile tourism. Therefore, PR is supported. Based on the rules for correlation size (Hair, Bush, and Ortinau, 2003), PR falls into the category of very strong coefficient range.

4.3.2 Multiple Regression Analysis

4.3.1.1 Strength of Relationship

Table 4.14 Model Summary

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	0.8777	0.7703	0.7672	0.7059

a. Predictors: (Constant), PE, EE, FC, SI, WT, PR

b. Dependent Variable: BI

N=450

Source: Developed for the research

Based on Table 4.14, it has showed that the figure for R Square (R^2) is 0.7703, which shows that 77.03% of the outcome is significant accounted for the examined regression line. In another words, there are 77.03% of behavioral intention to adopt mobile tourism are significantly explained by our six independent constructs (performance expectancy, effort expectancy, facilitating condition, social influence, wireless trust, and perceived risk).

Table 4.15 ANOVA

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	6	740.3175	123.3862	247.61	<.0001
Error	443	220.7520	0.4983		
Corrected Total	449	961.0694			

a. Predictors: (Constant), PE, EE, FC, SI, WT, PR

b. Dependent Variable: BI

Source: Developed for the research

Based on Table 4.23, we are able to identify that the F value is 247.61 with the significance level (Pr>F) of <0.0001. Therefore, the six variables (performance expectancy, effort expectancy, facilitating condition, social influence, wireless trust, and perceived risk) in the overall regression model were able to work well in

the explanation of the variation in Gen Y's behavioral intention towards the adoption of mobile tourism.

4.4 Conclusion

In this research, SAS statistical analysis technique was used to analyze the data obtained from our respondents. Based on the statistical results in chapter 4, we are able to interpret the relationship of performance expectancy, effort expectancy, social influence, facilitating conditions, wireless trust, perceived risk, and behavior intention. In the next chapter, an in-depth discussion will be done to the major findings, implications of the study, limitations and direction proposed for future study.

CHAPTER 5: DISCUSSION, CONCLUSION, AND IMPLICATIONS

5.0 Introduction

Chapter five provide an overall conclusion for the entire research. It discusses the summary of the entire descriptive and inferential analyses presented in previous chapter, proceed with the discussion on the major findings so as to validate our research objectives and hypotheses. Towards the end, implication and limitations of the study is discussed, followed by directions for future research.

5.1 Summary of Statistical Analysis

5.1.1 Descriptive Analysis

5.1.1.1 Respondent's Demographic Profile

Based on the analysis of respondent demographic summary in Chapter Four, female respondents claim to have the highest response with a percentage of 55.56% and male respondents with the remaining of 44.44%. Most of the respondents fall into the age group ranging from 21 to 25 years old with the percentage of 63.56%. Most of the respondents are single with a high percentage of 98.22%. Most respondents have bachelor degree/ professional qualification as their highest academic qualification levels with percentage of 74.67%. For the industry section, retail industry comprises of 46.44% which is the highest number among other industries. The number of respondent with smart phone showed a

positively high percentage of 71.78. Additionally, the number of respondents with Internet accessibility is relatively high with a percentage of 94.67%. Despite the high Internet accessibility percentage, the number of online shopping with '0' frequency is still holding the highest number with a percentage 51.11%. Most of the mobile transaction takes place at their home with a high percentage of 51.56%. Additionally, the number of respondents carrying a credit/debit card is also high consisting 92%. There is an 87.78% of respondents claim that theirs income are below RM 1000.

5.1.2 Scale Measurement

5.1.2.1 Reliability Test

According to internal reliability analysis, both independent variables and dependent variable are reliable. Cronbach Coefficient Alpha was used to observe of 25 items which are made up to evaluate the six independent variables (PE, EE, FC, SI, WT, PR) and dependent variable (BI). From the six independent constructs, PR had gained the highest Cronbach's Alpha with a value of 0.9441, followed by WT (0.7404), SI (0.7396), PE (0.7342), EE (0.7287) and FC (0.7265) respectively. As for dependent variable, behavioral intention scored 0.7301 for its reliability test.

5.1.3 Inferential Analysis

5.1.3.1 Pearson Correlation Coefficient

Pearson Correlation was used to analyze the strength of relationship and association among the seven constructs (PE, EE, SI, FC, WT, PR and BI). Based on the results of correlation test, all independent variables showed significant positive correlation with the dependent variable, and PR negatively correlated with the dependent variable. FC has the strongest positive relationship with BI (0.8055), whereas the WT (0.7283) has the weakest positive correlation with BI. On top of that, p-value of all independent variables are < 0.0001. Hence, all constructs have significant association with BI.

5.1.3.2 Multiple Regression Analysis

According to multiple linear regression table, the F-value is 247.61 with a significant level <.0001. Based on the multiple linear regression output, all six constructs – PE, EE, SI, FC, WT and PR are significant. Meanwhile, WT was found to have highest impact towards towards BI with parameter estimate of 0.2309. As a result, $H1_1$, $H2_1$, $H3_1$, $H4_1$, $H5_1$, and $H6_1$ are supported. The following multiple regression equation is established:

Behavioral Intention = 0.9814 + 0.1631(PE) + 0.1972(EE) + 0.1572(FC) + 0.2013(SI) + 0.2309(WT) – 0.207(PR)

Based on the table of model summary, adjusted R^2 of 0.7672 implies that 76.72% of the variation in Gen Y's behavioral intention towards adopting mobile tourism in Malaysia has been

significantly explained by PE, EE, SI, FC, WT and PR. The extended UTAUT model shows a higher variance in adjusted R^2 as compared to the original UTAUT model with variance of 70%.

5.2 Discussion of Major Findings

Table 5.1 Summary of the Result of Hypotheses Testing

Hypotheses	**Results**	**Supported/ Not Supported**
$H1_0$: Performance expectancy has significant positive relationship on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.	p-value = 0.0003 parameter estimate = 0.1631	p-value < 0.05, thus $H1_0$ is supported.
$H2_0$: Effort expectancy has significant positive relationship on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.	p-value = 0.0004 parameter estimate = 0.1972	p-value < 0.05, thus $H2_0$ is supported.
$H3_0$: Facilitating condition has significant positive relationship on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.	p-value = 0.0111 parameter estimate = 0.1572	p-value < 0.05, thus $H3_0$ is supported.
$H4_0$: Social influence has significant positive relationship on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.	p-value = <.0001 parameter estimate = 0.2013	p-value < 0.05, thus $H4_0$ is supported.
$H5_0$: Wireless trust has significant positive relationship on Gen Y's behavioral	p-value = <.0001 parameter estimate = 0.2309	p-value < 0.05, thus $H5_0$ is supported.

intention towards mobile tourism adoption in Malaysia.		
$H6_0$: Perceived risk has significant negative relationship on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.	p-value = <.0001 parameter estimate = -0.2070	p-value < 0.05, thus $H6_0$ is supported.

Source: Developed for the research

$H1_1$: Performance expectancy has significant positive relationship on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.

According to recent past studies, Yu (2012) found PE to have significant positive relationship with behavioral intention towards adoption of any particular IT system as users believe there is an existence of extra benefit by exploiting it. Basically, it shows how people link the mobile system and performance together in accomplishing their mission. Hence, to make the mobile tourism adoption in Malaysia a success, PE is proven to increase the behavioral intention.

$H2_1$: Effort expectancy has significant positive relationship on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.

Venkatesh et al. (2012) stated that EE would bring a positive effect towards behavioral intention on using a new system or technology. This is further supported by recent past study by Chang (2013) which found that EE to have a significant positive relationship with behavioral intention towards mobile applications.

$H3_1$: Facilitating condition has significant positive relationship on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.

The result is consistent with Chong's (2013) research stating that, FC have positive relationship with behavioral intention towards m-commerce adoption as he argued that FC reflect the need of support on using the system or technology. FC reflects it is necessary to have knowledge on the system or technology before people start using it.

$H4_1$: Social influence has significant positive relationship on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.

This findings is in parallel with Singh, Srivastava, & Srivastava (2010) stating that social influence to have positive significant relationship with behavioral intention in mobile banking adoption. The study mentioned that important of others such as friends and family are believe to influence he or she to adopt on a new technology or system. Based on Venkatesh, Speier, and Morris (2002), SI refers as an individual perceived through someone important that influence the adoption of technology.

$H5_1$: Wireless trust has significant positive relationship on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.

Study conducted by Toh, Marthandan, Chong, Ooi and Arumugam (2009) in m-commerce adoption in Malaysia, their findings showed that wireless trust has strong positive relationship towards technology adoption. Our findings is also consistent with most of the past studies such as Toh et al., (2009), Luarn & Lin (2005), Cho, Kwon & Lee (2007) and Lin & Wang (2005), stating that wireless trust was one of the key predictors to justify the adoption of mobile tourism through many other existing technology adoption.

$H6_1$: Perceived risk has significant negative relationship on Gen Y's behavioral intention towards mobile tourism adoption in Malaysia.

Based on past study, Kazi and Mannan (2013) found that PR is proven to have negative relationship towards technology adoption such as mobile banking. In line with many past studies stated that consumers that perceived a higher risks and

uncertainty of the system that may ultimately lead to loss of data or misuse of information would expose them into a risk that discouraging them from adopting a new technology (Kazi & Mannan, 2013; Al-Jabri & Sohail, 2012; Luo, Li, Zhang, & Shim, 2010; Gu, Lee & Suh, 2009; Tan & Teo, 2000).

5.3 Implication of the Study

5.3.1 Managerial Implication

Since tourism sector is one of the main contributors to the Malaysia GDP, hence it is important to understand the determinants that influence Gen Y's intention to adopt mobile tourism. The review of all findings delivered important information to all the tour agencies, merchants, practitioners, software developers, and governments to build a better platform to increase the rate of mobile tourism adoption.

As PE and EE have found to have positive effect towards mobile tourism adoption if Gen Y found that the application or user-interface is handy and user-friendly. Service provider or software developer for mobile tourism should focuses on convenient information acquisition mechanism by restricting the unstable items that does not come along with mobile. The performance of the mobile tourism will be faster as non-core contents are simplified or cut-off. As most of Gen Y mobile users, the screens are usually small, thus, information are more likely to be short but precise in order to reduce the effort of understanding.

Meanwhile, FC showed that the need of support is relevant towards achieving a positive effect towards mobile tourism adoption. Thus, support system is suggested such as tutorial, call center and toll-free hotline to guide users and to ensure users have full knowledge on the interface before using it. As for SI, relationship among Gen Y is concern to show positive

result towards mobile tourism adoption. For instance, service provider should focuses on social network, as it is the key to encourage more Gen Y to adopt mobile tourism instead of the traditional ways (e.g. televisions, radios and newspaper). The reason behind this is social network (e.g. Facebook, Twitter, Blog, and LinkedIn) has the function of sharing that link the friends and family together as friends and family play the key role to encourage the adoption of mobile tourism.

Besides, WT and PR identify that Gen Y will adopt the mobile tourism if they found that system is stable. Hence, network facilitators are named to provide a more stable network, meanwhile, a bigger server to prevent any system breakdown or failure. Additionally, a more stable payment system is suggested to prevent any transaction failure. In that case, the risk perceived by Gen Y's traveler will be lowered down while promoting more trust to Gen Y's traveler to adopt mobile tourism in the future.

5.3.2 Theoretical Implications

From the theoretical viewpoint, UTAUT model has successfully extended by including the two extra variables of Wireless Trust and Perceived Risk. The extended model is believed to contribute to the knowledge bank as it was tested and verified through Statistical Analysis System (SAS). As the result of findings, enable the knowledge gap to be narrow down concerning the determinants of mobile tourism adoption while providing more facts to support the basis of UTAUT.

5.4 Limitation of Study and Directions for Future Study

We diagnose that our study consists of two main limitations. First of all, we found that the result may not be generalized throughout the Malaysia as limitation on the samples collected are from few state in Malaysia with a higher mobile penetration

rate such as Kuala Lumpur, Perak, Penang, and Johor. Hence, in the near future, we recommend that the future researchers to use the same model to study on the other state of Malaysia. Besides, it would be appealing to found out vary in research findings in other state with a lower mobile penetration rate to improve the validity of the model.

Next, we also found that there is a limitation of variables includes into our model and other variables may also appear to be possibilities on explaining the adoption of mobile tourism, as Malaysia is a multi-ethnic country. Thus, we recommend the future researchers to look upon the extension of the model by including the variables related to culture and sub-culture as it may bring additional value on how it influence behavioral intention that trigger the adoption of mobile tourism in Malaysia.

Lastly, we also recommend the future researchers to use the same model on other potential mobile field such as mobile commerce, mobile advertising, M-coupons; and etc. as the model consist of variables that enable them to justify the behavioral intention in adopting the respective mobile field.

5.5 Conclusion

In a conclusion, the purpose of this research is to study on the constructs that affects the behavioral intention to adopt mobile tourism. Performance expectancy, effort expectancy, facilitating condition, social influence, wireless trust, and perceived risk has significantly influence behavioral intention. This study is beneficial for future researches, tour agencies, software developers, and government to formulate their business strategies more accurately in developing mobile tourism platform.

REFERENCES

Agarwal, R., & Karahanna, E. (2000). Time flies when you're having fun: cognitive absorption and beliefs about information technology usage 1. *MIS Quarterly*, *24*(4), 665-694.

Ainin, S., Lim, C.H., & Wee, A. (2005). Prospects and challenges of E-banking in Malaysia. *The Electronic Journal of Information Systems in Developing Countries*.

Ajzen, I. (2010). *Attitudes, personality, and behavior* (2nd ed.). New Delhi, India: Tata McGraw- Hill.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes,* 5*0***,** 179-211.

Al-Jabri, I. M., & Sohail, M. S. (2012). Mobile banking adoption: Application of Diffusion of Innovation Theory. *Journal of Electronic Commerce Research, 13*(4), 379-391.

Amin, H. (2007). An analysis of mobile credit card usage intentions. *Information Management & Computer Security, 15*(4), 260-269.

Armida, E. E. (2008). Adoption Process for VOIP: The Influence of Trust in the UTAUT Model. *ProQuest, 18*.

Armstrong, G., & Kotler, P. (2006). *Marketing: An Introduction* (8th ed.). Prentice Hall.

Ba, S. & Pavlou, P. A. (2002). Evidence of the Effect of Trust Building Technology in Electronic Markets: Price Premiums and Buyer Behavior. *MIS Quarterly*, *26*(3), 243-268

Babbie, E. R. (2010). *The Practice of Social Research* (12th ed.). Belmont, CA: Wadsworth.

Bernard, E. K., & Makienko, I. (2012). Teaching applied value of marketing research: A questionnaire design project. *The International Journal of Management Education, 10*(2), 139-145.

Buckley, D. J. (1997). *Data Organization and Storage.* Retrieved Febuary 27, 2014, from http://bgis.sanbi.org/gis-primer/page_27.htm

Burgess, T. F. (2001). *General Introduction to the design of questionnaires for survey research*. Leeds, University of Leeds.

Burns, A. C., & Bush, R. F. (2010). *Marketing Research* (6th ed.). Pearson/Prentice Hall.

Chan, S., & Fang, X. (2001). *User Interface for Mobile Commerce*. Unpublished manuscript.

Chang, C. C. (2013). Library Mobile Applications in University Libraries. *Library Hi Tech, 31*(3), 478-492.

Chang, M. K. (1998). Predicting unethical behaviour: A comparison of the theory of reasoned action and the theory of planned behaviour. *Journal of Business Ethics, 17*(16), 1825–1834.

Chang, P.C., (2010). Drivers and moderators of consumer behaviour in the multiple use of mobile phones. *International Journal Mobile Communications, 8*(1), 88-105.

Cho, D. Y., Kwon, H. J. & Lee, H. Y. (2007). Analysis of trust in internet and mobile commerce adoption. *Proceedings of the 40th Hawaii International Conference on System Science*.

Chong, A. Y. L. (2013). Predicting m-commerce adoption determinants: A neural network approach. *Expect Systems with Application, 40*(2), 523-530.

Coakes, S. J., & Steed, L. (2007). *SPSS Version 14.0 for windows: Analysis without anguish*. Milton, Australia: John Wiley & Sons.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information System. *MIS Quarterly, 13*(3), 319-340.

Doney, P. M., & Cannon, J. P. (1997). An Examination of the Nature of Trust in Buyer-Seller Relationship. *Journal of Marketing, 61*(2), 35-51.

Eckhardt, A., Laumer, S., & Weitzel, T. (2009). Who influences whom? Analyzing workplace referents' social influence on its adoption and non-adoption. *Journal of Information Technology 24(1),* 11-24.

Emad, A., Pearson, J. M., & Setterstrom, A. J. (2010). Internet Banking and Customers' Acceptance in Jordan: The Unified Model's Perspective. *Communications of the Association for Information Systems , 26*(23), 493-524.

Eriksson, O. (2002). Location Based Destination Information for the Mobile Tourist. *Information and Communication Technologies in Tourism*, 255-264.

Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behaviour: An Introduction to Theory and Research.* Reading, MA: Addison-Wesley.

Floh, A., & Treiblmaier, H. (2006). What Keeps the e-banking Customer Loyal? A Multigroup Analysis of the Moderating Role of Consumer Characteristics on E-loyalty in the Financial Service Industry. *Journal of Electronic Commerce Research, 7*(2), 97-109.

Fort, S. (2013). *Advantages & disadvantages of mobile commerce.* Retrieved January 14, 2014, from http://www.slideshare.net/SteveFort/advantages-disadvantages-of-mobile-commerce

Forsythe, S., Liu, C., Shannon, D., & Gardner, L. C. (2006). Development of a Scale to Measure the Perceived Benefits and Risks of Online Shopping. *Journal Of Interactive Marketing*, *20*(2), 55-75.

Gavalas, D., & Kenteris, M. (2011). A web-based pervasive recommendation system for mobile tourist guides. *Personal and Ubiquitous Computing, 15*(7), 759-770.

Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in Online Shopping: An Integrated Model. *MIS Quarterly , 27*(1), 51-90.

George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference. 11.0 update* (4th ed.). Boston: Allyn & Bacon.

Ghosh, A. K., & Swaminatha, T. M. (2001). Software Security and Privacy Risks in Mobile e-commerce. *Communications of the ACM, 44*(2), 51-57.

Given, L. M. (2008). *The SAGE Encyclopedia of Qualitative Research Methods*. SAGE Publications.

Goh, D. H., Ang, R. P., Lee, C. S., & Lee, C. K. (2010). Determining services for the mobile tourist. *Journal of Computer Information Systems, 51*(1), 31.

Gu, J. C., Lee, S. C., & Suh, Y. H. (2009). Determinants of Behavioral Intention to Mobile Banking. *Expert Systems with Applications, 36*, 11605-11616.

Hair, J. F., Bush, R. P., & Ortinau, D. J. (2003). *Marketing Research: Within a Changing Information Environment* (2nd ed.). London: McGraw-Hill.

Hagger, M. S., Chatzisarantis, N. L. D., & Biddle, S. J. H. (2002). A meta-analytic review of the theories of reasoned action and Planned Behavior in physical activity: An examination of predictive validity and the contribution of additional variables. *Journal of Sport and Exercise Psychology, 24*(1), 3–32.

Hansen, T., Jensen, J. M., & Solgaard, H. S. (2004). Predicting online grocery buying intention: A comparison of the theory of reasoned action and the theory of planned behaviour. *International Journal of Information Management, 24*(6), 539-550.

Haque, A. (2004). Mobile Commerce: Customer Perception and It's Prospect on Business Operation in Malaysia. *The Journal of American Academy of Business*, 259.

Hu, J., & Liu, X. (2013). An influence study on adopting will of tourism mobile E-commerce by the perceived risk and trust. *I - Business, 5*(1), 39-42.

Huei, P. V. (2004). *The study on the acceptance of wireless computing devices among consumers in Penang.* Unpublished MBA thesis, Nottingham Trent University.

Im, H., & Ha, Y. (2012). Who are the users of mobile coupons? A profile of US consumers. *Journal of Research in Interactive Marketing, 6*(3), 215 – 232.

Im, I., Kim, Y. B., & Han, H. J. (2008). The effects of perceived risk and technology type on users' acceptance of technologies. *Information & Management , 45*(1), 1-9.

Jarvenppa, S. L., & Tractinsky, N. (1999). Consumer Trust in an Internet Store: A Cross-Cultural Validation. *Journal of Computer Mediated Communication, 5*(2).

Joppe, M. (2000). *The Research Process*. Retrieved February 27, 2014, from http://www.ryerson.ca/~mjoppe/rp.htm

Kannan, P., Chang, A., & Whinston, A. (2001). Wireless Commerce: Marketing Issues and Possibilities. *Proceedings of the 34th Hawaii International Conference on System Sciences.*

Kazi, A. K., & Mannan, M. A. (2013). Factors affecting adoption of mobile banking in Pakistan: Empirical Evidence. *International Journal of Research in Business and Social Science, 2*(3), 54-61.

Kenteris, M., Gavalas, D., & Economou, D. (2009). An innovative mobile electronic tourist guide application. *Personal and Ubiquitous Computing, 13*(2), 103-118.

Khalifa, M., & Cheng, S. (2002). Adoption of mobile commerce: role of exposure. *Proceedings of the 35th Annual Hawaii International Conference on System Sciences, IEEE Computer Society Press*, New York, NY.

Khalifa, M., & Shen K. N. (2008). Drivers for transactional B2C M-commerce Adoption: Extended theory of Planned Behavior. *Journal of Computer Information Systems, 48*(3), 111.

Kim, D. Y., Park, J., & Morrison, A. M. (2008). A Model of Traveller Acceptance of Mobile Technology. *International Journal of Tourism Research , 10*(5), 393-407.

Lavrakas, P. J. (2008). *Encyclopedia of Survey Research Methods*. SAGE Pulications.

Lee, E. J., Lee, J., & Eastwood, D. (2003). A two-step estimation of consumer adoption of technology-based service innovations. *The Journal of Consumer Affairs, 37*(2), 256-282.

Lee, J. K., & Mills, J. E. (2010). Exploring Tourist Satisfaction with Mobile Experience Technology. *International Management Review, 6*(1), 91-93.

Lee, J. H., Kim, S. W., & Song, C. H. . (2010). The Effects of Trust and Perceived Risk on Users' Acceptance of ICT Services. *KAIST Business School Working Paper Series No. 2010-007*.

Lee, T. M. (2005). The impact of perceptions of interactivity on customer trust and transaction intention in mobile commerce. *Journal of Electronic Commerce , 6*(3), 165-180.

Leong, L. Y., Hew, T. S., Tan, G. W. H., & Ooi, K. B. (2013). Predicting the determinants of NFC-enabled mobile credit card acceptance: A neural networks approach. *Expert Systems with Applications , 40*(14), 5604-5620.

Levine, J. H., & Roos, T. B. (1996). *Introduction to Data Analysis: The Rules of Evidence*. Retrieved March 16, 2014, from http://www.dartmouth.edu/~mss/docs/Volumes_1-2.pdf

Likert, R. (1932). A Technique for the Measurement of Attitudes. *Archives of Psychology, 140*, 1-55.

Lin, H. H. & Wang, Y. S. (2005). Predicting consumer intention to use mobile commerce in Taiwan. *Proceedings of the International Conferences on Mobile Business (ICMB'05)*, 406-412.

Liu, C., & Arnet, K. P. (2002). Raising a Red Flag on Global WWW Privacy Policies. *Journal of Computer Information Systems , 43*(1), 117-127.

Lu, H. P., & Su, P. Y. J. (2009). Factors affecting purchase intention on mobile shopping web sites. *Internet Research, 19*(4), 442-458.

Lu, J., Yu, C. S., & Yao, J. (2003). Technology Acceptance Model for Wireless Internet. *Journal of Internet Research , 13*(2), 206-222.

Lu, J., Yu, C. S., & Liu, C. (2005). Facilitating Conditions, Wireless Trust and Adoption Intention. *Journal of Computer Information Systems , 46*(1), 17-24.

Lu, J., Liu, C., Yu, C. S., & Ku, C. Y. (2004). Wireless Trust: Conceptual and Operational Definition. *International Journal of Mobile Communications , 2*(1), 38-50.

Luarn, P. & Lin, H. H. (2005). Toward an understanding of the behavioral intention to use mobile banking. *Computer in Human Behaviour, 21*(6), 873-891.

Luo, X., Li, H., Zhang, J., & Shim, J. P. (2010). Examining multi-dimensional trust and multi-faceted risk in initial acceptance of emerging technologies: An empirical study of mobile banking services. *Decision Support Systems, 49*(2), 222-234.

Malaysian Communications and Multimedia Commission. (2010). *C&M Selected Facts and Figures, Q4 2010.* Cyberjaya: MCMC.

Malaysian Communications and Multimedia Commission. (2010). *Hand Phone Users Survey 2010.* Cyberjaya: MCMC.

Malaysia Communications and Multimedia Commission. (2013). *Communications and Multimedia: Pocket Book of Statistics, Q4 2013.* Cyberjaya: MCMC.

Malaysia is 10th most visited country. (2013, August 6). *The Star Online*. Retrieved January 14, 2014, http://www.thestar.com.my/News/Nation/2013/08/06/Malaysia-is-10th-most-visited-country.aspx/

Malhotra, N. K. (2004). *Marketing research: An applied orientation* (4th ed.). Prentice Hall.

Malhotra, N. K. & Peterson, M. (2006). B*asic Marketing Research: A Decision Making Approach*. Pearson/Prentice Hall.

Malhotra, N., & Birks, D. (2007). *Marketing Research: An Applied Approach* (3rd ed.). Pearson.

Malhotra, N. K. (2010). *Marketing Research: An applied orientation* (6th ed.). New Jersey: Pearson.

Malik, A., Kumra, R., & Srivastava, V. (2013). Determinants of consumer acceptance of M-commerce. *South Asian Journal of Management, 20*(2), 102-126.

Martin, H. S., & Herrero, A. (2012). Influence of the User's Psychological Factors on the Online Purchase Intention in Rural Tourism: Integrating Innovativeness to the UTAUT Framework. *Tourism Management , 33*(2), 341-350.

McCrindle, M. (2006). New Generations at work: Attracting, Recruiting, Retaining and Training. *McCrindle research*. Retrieved March 18, 2014, from http://books.google.com.my/books?id=ONdoBshH8IMC&lpg=PA4&ots=UcF9s-0clA&lr&pg=PA4#v=onepage&q&f=false

Mobile Commerce Research - Part 01 What Are Malaysians Buying? (2012, August 14). *Mobile88.com.* Retrieved March 19, 2014, from http://www.mobile88.com/news/read.asp?file=/2012/8/14/20120814115200

Mobile Marketing Association. (2013). Retrieved March 19, 2014, from http://www.slideshare.net/vservmobi/mobile-internetconsumermalaysia-28400200

Min, Q., Ji, S., & Qu, G. (2008). Mobile Commerce User Acceptance Study in China: A Revised UTAUT Model. *Tsinghua Science & Technology , 13*(3), 257-264.

Min, Q., Ji, S., & Qu, G. (2008). Mobile Commerce User Acceptance Study in China: A Revised UTAUT Model. *Tsinghua Science & Technology , 13*(3), 257-264.

Ndubisi, N. O., & Jantan, M. (2003). Evaluating IS usage in Malaysian small and medium-sized firms using the technology acceptance model. *Logistics Information Management, 16*(6), 440-450.

Nikhil. (2009). *Processing of data--editing, coding, classification and tabulation.* Retrieved Febuary 27, 2014, from http://mass-communication tutorials.blogspot.com/2009/11/processing-of-data-editing-coding.html

Oppenheim, A. N. (1992). *Questionnaire design, interviewing and attitude measurement*. London: St Martins Press.

Park, J. K., Yang, S. J., & Lehto, X. (2007). Adoption of Mobile Technologies For Chinese Consumers. *Journal of Electronic Commerce Research , 8*(3), 197-206.

Pavlou, P. A. (2003). Consumer Acceptance of Electronic Commerce: Integrating Trust and Risk with the Technology Acceptance Model. *International Journal of Electronic Commerce , 7*(3), 101-134.

Rahm, E., & Hong, H. D. (2000). Data Cleaning: Problems and Current Approaches. *IEEE Data Eng. Bull., 23*(4), 3-11.

Ramayah, T., & Suki, N. M. (2006). Intention to use mobile PC among MBA

students: implications for technology integration in the learning curriculum. *UNITAR e- Journal, 1*(2), 1-10.

Rasinger, J., Fuchs, M., & Hopken, W. (2007). Information Search with Mobile Tourist Guides: A Survey of Usage Intention. *Journal of Information Technology & Tourism , 9*(3), 177-194.

Ratnasingam, P. G. (2005). The Role of facilitating conditions and institutional trust in electronic marketplaces. *Journal of Electronics Commerce in Organizations, 3(3)*, 1-14.

Riebeck, M., Stark, A., Modsching, M., & Kawalek, J. (2008). Studying the User Acceptance of a Mobile Information System for Tourists in the Field. *Journal of Information Technology & Tourism , 10*(3), 189-199.

Rogers, E. M. (1995). Lessons for guidelines from the diffusion of innovations. *The Joint Commission journal on quality improvement, 21*(7), 324.

Rogers, E. M. (2003). Diffusion of preventive innovations. *Addictive behaviors, 27*(6), 989-993.

Rogers, E. M., & Singhal, A. (1996). An Integrated Approach to Communication. *Diffusion of Innovations*.

Sauro, J. (2010). *Should You Use 5 Or 7 Point Scales?*. Retrieved Febuary 25, 2014, from https://www.measuringusability.com/blog/scale-points.php

Shapiro, G. (2008). Sample design. In P. Lavrakas (Ed.), *Encyclopedia of survey research methods.* (pp. 777-778). Thousand Oaks, CA: SAGE Publications, Inc.doi http://dx.doi.org.ezp01.library.qut.edu.au/10.4135/9781412963947.n503

Shin, D. H. (2009). Towards an Understanding of the Consumer Acceptance of Mobile Wallet. *Computers in Human Behavior , 25*(6), 1343-1354.

Siau, K., & Shen, Z. (2003). Building customer trust in mobile commerce. *Communications of the ACM , 46*(4), 91-94.

Singh, S., Srivastava, V., &Srivastava, R. K., (2010).Customer acceptance of mobile banking: A conceptual framework. *SIES Journal of Management, 7*(1), 55-64.

Stevens, S. (2012). *Types of Data & Measurement Scales: Nominal, Ordinal, Interval and Ratio*. Retrieved March 16, 2014, from http://www.mymarketresearchmethods.com/types-of-data-nominal-ordinal-interval-ratio/

Sutanonpaiboon, J., & Pearson, A. M. (2006). E-commerce Adoption: Perceptions of Managers/Owners of Small and Medium-Sized Enterprises (SMEs) in Thailand. *Journal of Internet Commerce , 5*(3), 53-82.

Szajna, B. (1996). Empirical Evaluation of the Revised Technology Acceptance Model. *Management Science, 42*(1), 85-92.

Tai, Y. C. K. (2013). Will Stock Investors Use Mobile Stock Trading? A Benefit-Risk Assessment Based on a Modified UTAUT Model. *Journal of Electronic Commerce Research, 14*(1), 67-84.

Tan, G., & Ooi, K. (2013). Mobile Tourism The Hidden Jewel of the Tourism Industry? *Technology Innovation and Industrial Management*.

Tan, G., Ooi, K., Chong, S., Hew, T. (2013). NFC mobile credit card: The next frontier of mobile payment? *Telematics and Informatics, 31*(2), 292-307.

Tan, M., & Teo, T. S. H. (2000). Factors influencing the adoption of Internet banking. *Journal of the Association for Information Systems, 1*(5), 1-44.

Taylor, S., & Todd, P. A. (1995). Understanding Information Technology Usage: A test of competing Models. *Information Systems Research , 6*(2), 144-176.

Teo, T. S. H., & Pok, S. H. (2003). Adoption of WAP-Enabled Mobile Phones Among Internet Users. *Omega, 31*(6), 483 - 498.

Thompson, K. E., Haziris, N., & Alekos, P. J. (1994). Attitudes and food choice behaviour. *British Food Journal, 96*(11), 9–13.

Toh, T. W., Marthandan, G., Chong, A. Y. L., Ooi, K. B., & Arumugam, S. (2009). What Drives Malaysian M-commerce Adoption? An Empirical Analysis. *Industrial Management & Data Systems, 109*(3), 370-388.

Tourism sector set to become major contributor. (2012, November 20). *New Straits Times*. Retrieved September 28, 2013, from http://www.nst.com.my/latest/tourism-sector-set-to-become-major-contributor-1.173991

Tourist Arrivals & Receipts to Malaysia. (2013). *Tourism Malaysia*. Retrieved January 14, 2014, from http://corporate.tourism.gov.my/research.asp?page=facts_figures

Trochim, W. M. (2006). *Research Methods Knowledge Base*. Retrieved February 27, 2014, from http://csi.ufs.ac.za/resres/files/Trochim.pdf

Varshney, U. (2003). Issues, requirements and support for location-intensive mobile commerce applications. *International Journal of Mobile Communications, 1*(3), 247-263.

Varshney, U., & Vetter, R. (2001). A Framework for the Emerging Mobile Commerce Application. *Proceedings of the 34th Hawaii International Conference on System Sciences, Los Alamitos, CA: IEEE Comp Society Press.*

Venkatesh, V., & Morris M. G. (2000). Why Don't Men Ever Stop to Ask for Directions? Gender, Social Influence, and Their Role in Technology Acceptance and Usage Behavior. *MIS Quarterly, 24*(1), 115-139.

Venkatesh, V., Speier, C., & Morris, M. G. (2002). User acceptance enablers in individual decision making about technology: Toward an integrated model. *Decision Sciences, 33*(2), 297-316

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly , 27*(3), 425-478.

Venkatesh, V., & Zhang, X. (2010). Unified Theory of Acceptance and Use of Technology: U.S. Vs. China. *Journal of Global Information Technology Management , 13*(1), 5-27.

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly, 36*(1), 157-178.

Wallace, L. G., & Sheetz, S. D. (2014). The Adoption of Software Measures: A Technology Acceptance Model (TAM) Perspective. *Information & Management, (51)*2, *249-2*59.

Wang, H., Liao, C., & Yang, L. (2013). What affects mobile application use? The roles of consumption values. *International Journal of Marketing Studies, 5*(2), 11-22.

Wang, H. Y., & Wang, S. H. (2010). User Acceptance of Mobile Internet Based on the Unified Theory of Acceptance and Use of Technology: Investigating the Determinants and Gender Differences. *Social Behavior and Personality , 38*(3), 415-426.

Wang, Y. S., Wu, M. C., & Wang, H. Y. (2009). Investigating the Determinants and Age and Gender Differences in the Acceptance of Mobile Learning. *British Journal of Educational Technology , 40*(1), 92-118.

Warkentin, M., Gefen, D., Pavlou, P. A., & Rose, G. M. (2002). Encouraging Citizen Adoption of e-Government by Building Trust. *Electronic Markets , 12*(3).

What is the purpose of questionnaires? (2013). Retrieved February 25, 2014, from http://www.economicsnetwork.ac.uk/handbook/questionnaires/13

Winter, G. (2000). A Comparative Discussion of the Notion of 'Validity' in Qualitative and Quantitative Research. The *Qualitative Report, 4*(3&4).

Wong, C. C., & Hiew, P. L. (2005). Factors Influencing the Adoption of Mobile Entertainment: Empirical evidence from a Malaysian Survey. *IEEE Computer Society*, 682-685.

Wong, C.H., Lee, H.S., Lim, Y.H., Chua, B.H., Tan, G.W.H., (2012). Predicting the consumers' intention to adopt mobile-shopping: an emerging market perspective. *International Journal of Network and Mobile Technologies, 3*(3), 24–39.

Wu, I. L. (2003). Understanding senior management's behavior in promoting the strategic role of IT in process reengineering: use of the theory of reasoned action. *Information & Management, 41*(1), 1-11.

Yang, K. (2010). Determinants of US Consumer Mobile Shopping Services Adoption: Implications for Designing Mobile Shopping Services. *Journal of Consumer Marketing, 27*(3), 262-270.

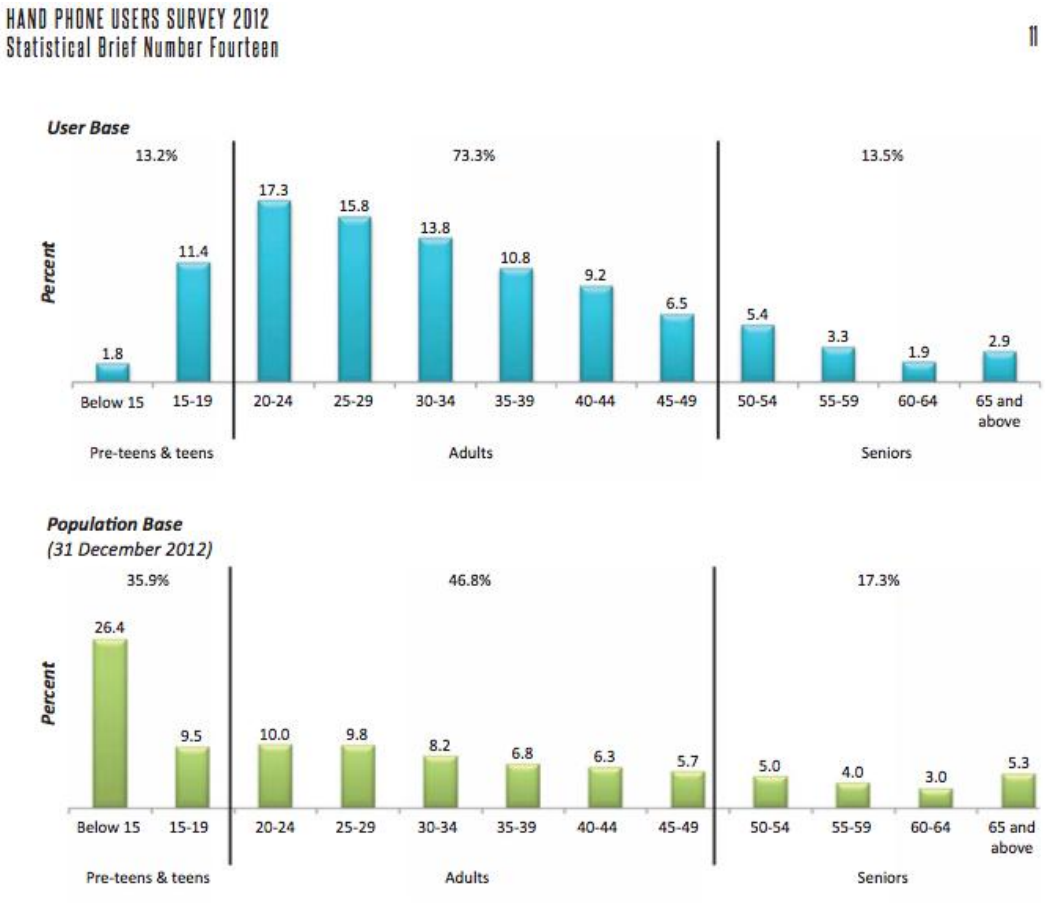
Yu, C. S. (2012). Factors Affecting Individuals to Adopt Mobile Banking: Empirical Evidence From The UTAUT Model. *Journal of Electronic Commerce Research, 13*(2), 104-121.

Zhou, T. (2011). Examining the critical success factors of mobile website adoption. *Online Information Review, 35*(4), 636–652.

Zikmund, W. (2003). *Essentials of Marketing Research*. USA: Thompson South-Western.

APPENDICES

Appendix 1.1: MCMC's Handphone Users Survey 2012



Appendix 1.2: MCMC Report on Mobile Penetration Rate in each State

Based on these two proportions, state penetration rates can be calculated. The state penetration rates from 2008 to 2012 are shown below:

	Penetration rate per 100 inhabitants				
	2008	2009	2010	2011	2012
Johor	101.3	105.9	112.8	126.5	128.7
Kedah	88.1	92.1	117.2	116.4	118.8
Kelantan	70.6	88.1	83.3	103.3	107.8
Melaka	102.7	120.4	128.9	182.3	143.6
Negeri Sembilan	92.4	115.7	148.8	158.4	144.7
Pahang	86.4	90.2	101.7	91.7	134.8
Perak	85.9	105.5	107.7	119.7	114.6
Perlis	94.8	112.3	92.0	124.5	139.6
Pulau Pinang	101.4	110.5	125.5	123.9	142.3
Selangor	96.4	104.3	138.5	145.4	154.4
Terengganu	62.6	84.2	107.8	125.3	132.6
Sabah	58.5	77.8	92.6	88.8	87.6
Sarawak	65.7	73.3	74.3	94.8	105.7
W.P. Kuala Lumpur	151.8	163.8	208.6	229.0	203.5
W.P Putrajaya					120.6
W.P. Labuan					87.0

2008 until 2011 Sabah includes W.P. Labuan, Selangor includes W.P. Putrajaya

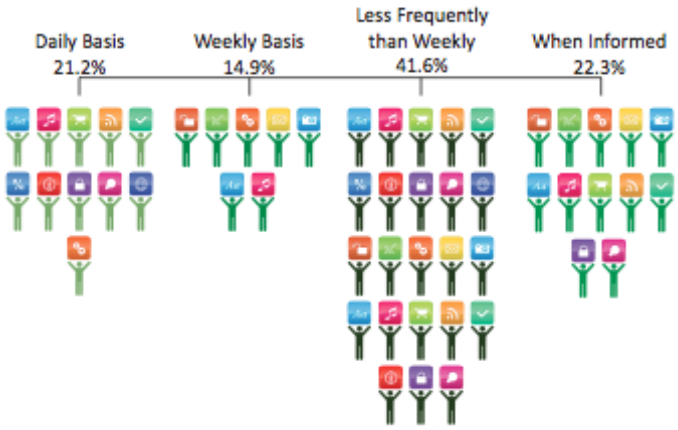
Appendix 1.3: MCMC Report on Mobile Apps Downloaded

MOBILE APPS

The numbers are in. Apple reported that iPhone and iPad users downloaded almost 20 billion apps in 2012 and that number refers to unique users and unique downloads. It does not count updates and re-downloads.[11]

Undoubtedly, mobile apps make the smartphone more than just a phone and Malaysian smartphone users have a good appetite for mobile apps. 34.6% reported having downloaded 10-20 mobile apps, while 16.3% have downloaded 20-30 of them. 7.4% have 30-40; 4.2% 40-50; and 1.5% 50-60. There are even those who have more than 100 mobile apps and they account for 1.4% of smartphone users.

When asked how frequently they checked out mobile apps, 21.2% reported that they do on a daily basis, 14.9% on weekly basis while 41.6% less frequently than that. 22.3% will do so only when informed or prompted.



Appendix 3.1: Questionnaire

Determinants of Mobile Tourism: An Emerging Market Perspective

Survey Questionnaire

The purpose of this survey is pertaining to factors that influence the adoption of mobile tourism in Malaysia. Please answer all the questions to the best of your knowledge. There are no wrong responses to any of these statements. All responses are completely confidential.
Thank you for your participation.

Instructions:

1. There are **two (2)** sections in this questionnaire. Please answer **ALL** questions in **ALL** sections.
2. The contents of the questionnaire will be kept strictly confidential.
3. Completion of this form will take you approximately 10 to 15 minutes.

Section A: Demographic Profile

In this section, we are interested in your background in brief. Please tick your answer and your answer will be kept strictly confidential.

QA1: Gender: ❑Female ❑Male

QA2: Age: ❑Below 20 Years Old ❑21-25 Years Old ❑26-30 Years Old ❑ 31-35 Years Old ❑ 36-40 Years Old ❑Above 40 Years Old

QA3: Marital status: ❑ Single ❑ Married

QA4: Highest Level of academic qualification: ❑ No College Degree ❑ Diploma/Advanced Diploma ❑Bachelor Degree/ Professional Qualification ❑ Postgraduates

QA5: Respondent Industry: ❑ Banking ❑ Financial Institution ❑IT Related ❑Tourism ❑Manufacturing ❑Retail ❑Telecommunications ❑Other ❑ Education

QA6: Do you have Internet (3G, 4G, and Wifi) access on your mobile device? (Mobile phone, PDA, smart phone or a combination device)

❑ Yes ❑ No

QA7: Do you have a credit card/debit card?

❑ Yes ❑ No

QA8: In the past one year, how many times did you shop using your mobile device?

❑ 0 ❑ 1 – 10 ❑ 11 – 20
❑ 21 –30 ❑ Above 30

QA9: Do you own the following products:

- ❑ Mobile phone
- ❑ Personal digital assistant (PDA)
- ❑ Smart Phone

QA10: Monthly income:

- ❑ Less than RM1000
- ❑ RM1001 – RM2000
- ❑ RM2001 – RM3000
- ❑ RM3001 – RM4000
- ❑ RM4001 – RM5000
- ❑ Above RM5001

QA11: I shop using mobile devices mainly:

- ❑ At home
- ❑ At work
- ❑ At school
- ❑ In a bank
- ❑ In a library
- ❑ In a friend's place
- ❑ In another place
- ❑ Other

Section B: Determinants of Mobile Tourism: An Emerging Market Perspective

This section is seeking your opinion regarding the factors that influence your intention to adopt mobile tourism. Respondents are asked to indicate the extent to which they agreed or disagreed with each statement using 7 Likert scale [(1) = strongly disagree; (2) = disagree; (3) = slightly disagree; (4) = neutral; (5) = slightly agree; (6) = agree; (7) = strongly agree] response framework.

*Please **circle one number per line** to indicate the extent to which you agree or disagree with the following statements and **tick** the related answer for Question 3.*

No	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
B1	**Performance Expectancy (PE)**							
PE1	I find mobile tourism useful in my daily life.	1	2	3	4	5	6	7
PE2	Using mobile tourism helps me accomplish tasks more quickly.	1	2	3	4	5	6	7
PE3	Using mobile tourism increases my productivity.	1	2	3	4	5	6	7

No	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
B2	**Effort Expectancy (EE)**							
EE1	Learning how to use mobile tourism does not require a lot of my mental effort.	1	2	3	4	5	6	7
EE2	I find mobile tourism easy to use.	1	2	3	4	5	6	7
EE3	Learning to use mobile tourism features is easy for me.	1	2	3	4	5	6	7

EE4	My interaction with mobile tourism is clear and understandable.	1	2	3	4	5	6	7

No	Questions	Strongly disagree	Disagree	Slightly disagree	Neutral	Slightly agree	Agree	Strongly agree
B3	**Facilitating Conditions (FC)**							
FC1	I have the resources necessary to use mobile tourism.	1	2	3	4	5	6	7
FC2	I have the knowledge necessary to use mobile tourism.	1	2	3	4	5	6	7
FC3	Mobile tourism is compatible with other technologies I use.	1	2	3	4	5	6	7
FC4	I can get help from others when I face difficulties using mobile tourism.	1	2	3	4	5	6	7

No	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
B4	**Social Influence (SI)**							
SI1	People who are important to me think that I should use mobile tourism.	1	2	3	4	5	6	7
SI2	People who influence my behaviour think that I should use mobile tourism.	1	2	3	4	5	6	7
SI3	People whose opinions that I value prefer that I use mobile tourism.	1	2	3	4	5	6	7
SI4	Mass media (e.g TV, newspaper, radio) will influence me to use mobile tourism.	1	2	3	4	5	6	7

No	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
B5	**Wireless Trust (WT)**							
WT1	I will adopt mobile tourism if it is from trusted service providers.	1	2	3	4	5	6	7
WT2	I believed that my personal information will be kept confidential while using mobile tourism.	1	2	3	4	5	6	7
WT3	I believed that mobile tourism able to provide reliable services.	1	2	3	4	5	6	7

No	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
B6	**Perceived Risk (PR)**							
PR1	I would feel secure providing sensitive information while using mobile tourism.	1	2	3	4	5	6	7
PR2	I would worry the information that I provided will be	1	2	3	4	5	6	7

	accessed by unauthorized parties like hackers.							
PR4	Mobile tourism able to provide accurate, relevant and up-to-date information.	1	2	3	4	5	6	7

No	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
B7	**Behavioural Intention (BI)**							
BI1	I intend to continue using mobile tourism in the future.	1	2	3	4	5	6	7
BI2	I will always try to use mobile tourism in my daily life.	1	2	3	4	5	6	7
BI3	I plan to continue to use mobile tourism frequently.	1	2	3	4	5	6	7
BI4	I aim to use mobile tourism instead of traditional ones.	1	2	3	4	5	6	7

Thank you for your time and cooperation.
-The End-

Appendix 4.1 Demographic Analysis

Table 4.1 Gender of Respondents

Gender				
	Frequency	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Female	250	55.56	250	55.56
Male	200	44.44	450	100.00
Total	450	100.00		

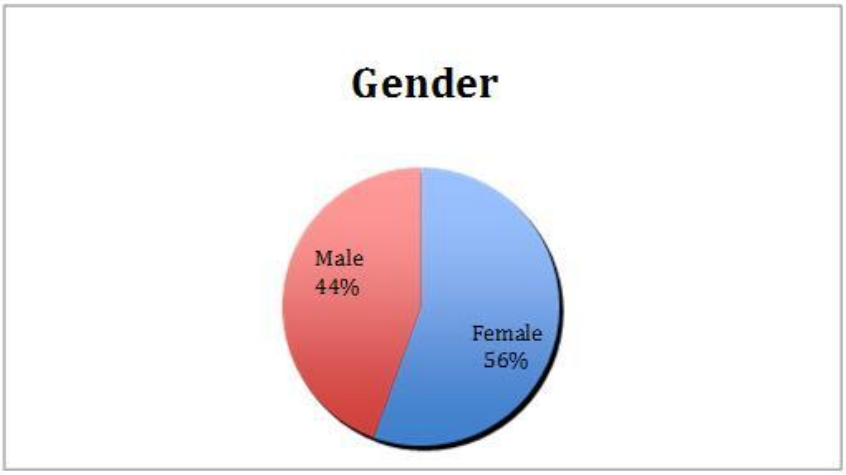


Table 4.2 Age Group of Respondents

Age				
	Frequency	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Below 20 years old	164	36.44	164	36.44
21-25 years old	286	63.56	450	100.00
26-30 years old	0	0	450	100.00
31-35 years old	0	0	450	100.00
Above 40 years old	0	0	450	100.00
Total	450	100.00		

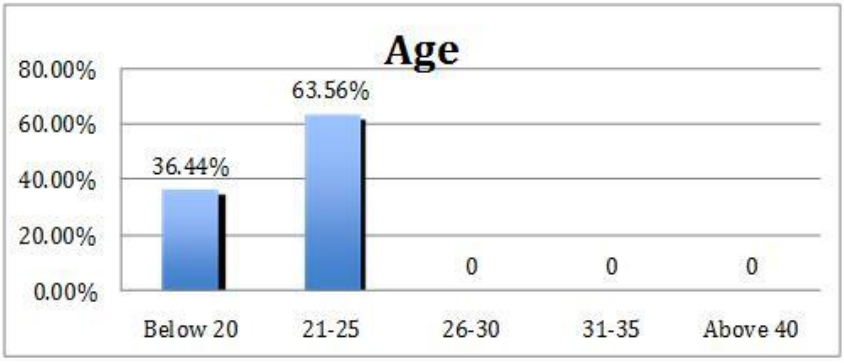


Table 4.3 Marital Status of Respondents

Marital Status				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Single	442	98.22	442	98.22
Married	8	1.78	450	100.00
Total	450	100.00		

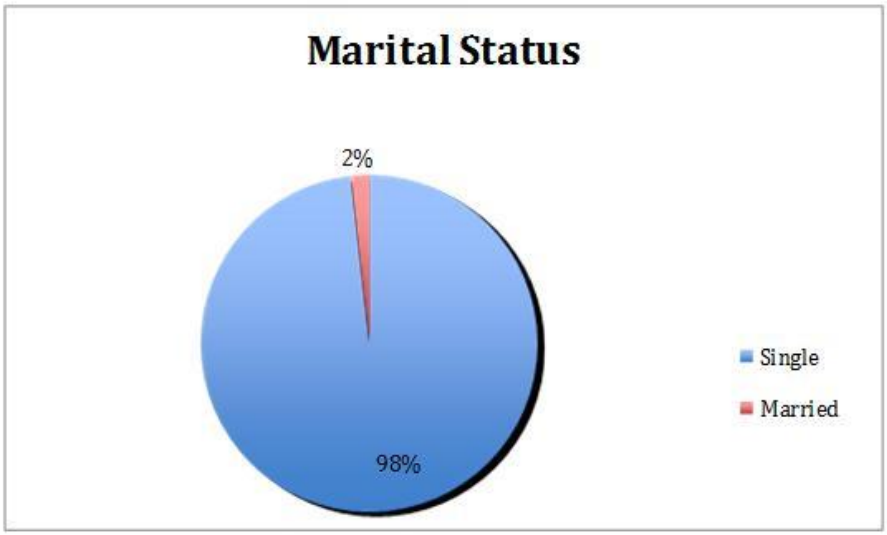


Table 4.4 Academic Qualification of Respondents

Academic Qualification				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No college degree	82	18.22	82	18.22
Diploma/advanced diploma	24	5.33	106	23.56
Bachelor degree/professional qualification	336	74.67	442	98.22
Postgraduates	8	1.78	450	100.00
Total	450	100.00		

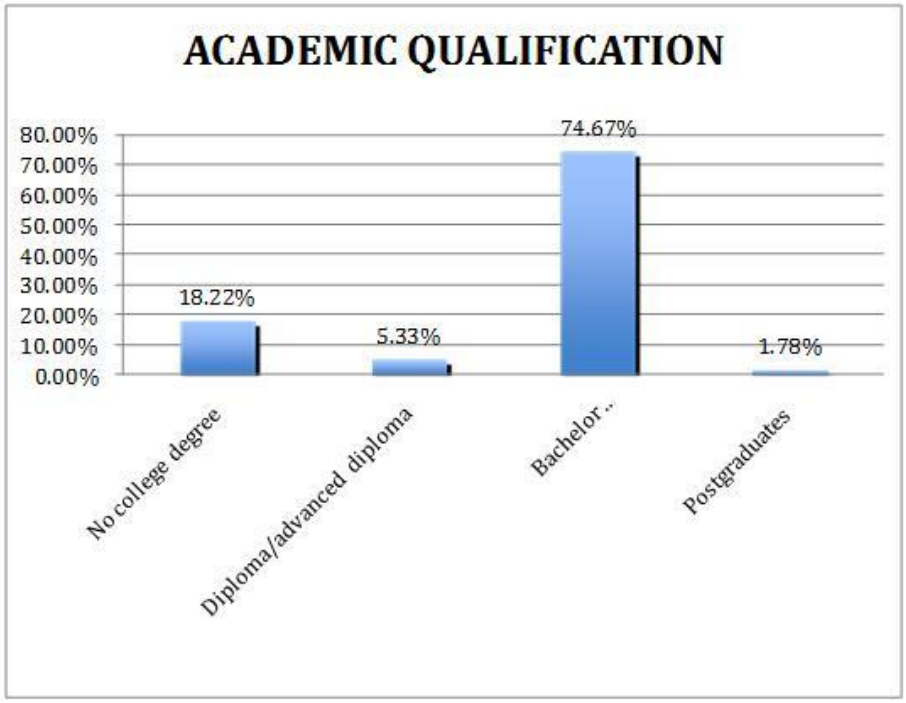


Table 4.5 Industry of Respondents

Respondent Industry				
	Frequency	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Banking	27	6.00	27	6.00
Financial Institution	35	7.78	62	13.78
IT related	0	0	62	13.78
Tourism	0	0	62	13.78
Manufacturing	92	20.44	154	34.22
Retail	71	15.78	225	50.00
Telecommunication	8	1.78	233	51.78
Other	209	46.44	442	98.22
Education	8	1.78	450	100.00
Total	450	100.00		

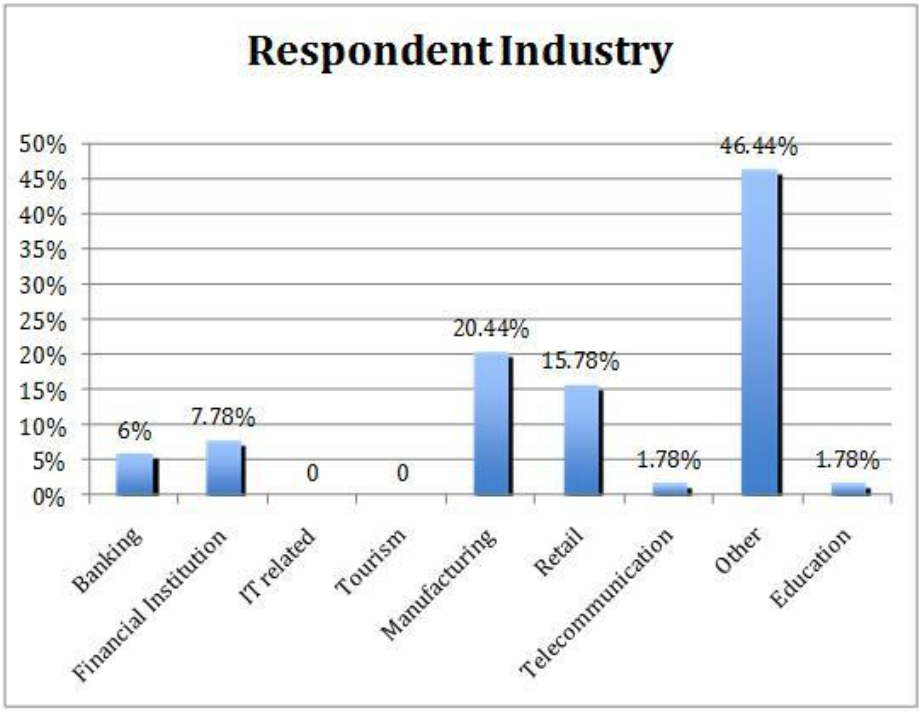


Table 4.6 Respondents that have internet accessibility in their mobile phones

Internet Availability				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	426	94.67	426	94.67
No	24	5.33	450	100.00
Total	450	100.00		

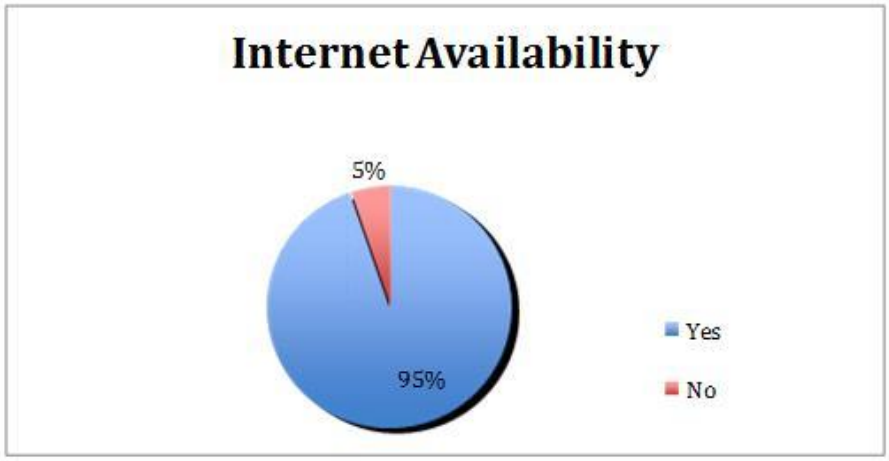


Table 4.7 Respondents that owns credit or debit card

Credit/Debit Card				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	414	92.00	414	92.00
No	36	8.00	450	100.00
Total	450	100.00		

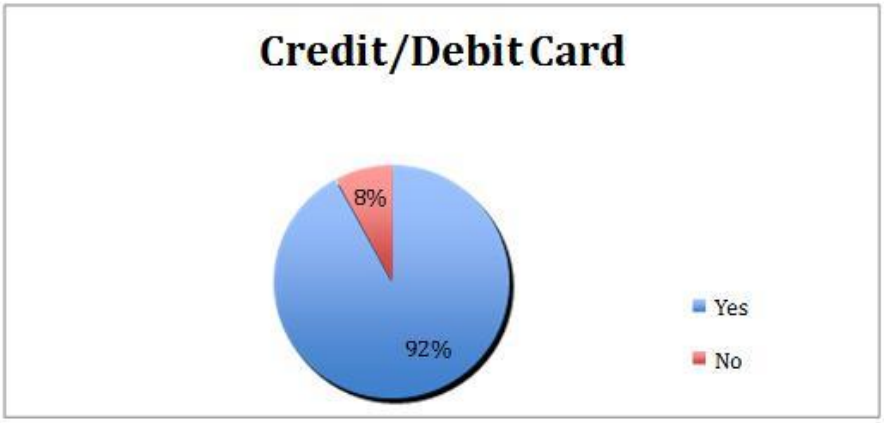


Table 4.8 Respondents using mobile devices to shop

Shopping Frequency				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	230	51.11	230	51.11
1-10	174	38.67	404	89.78
11-20	30	6.67	434	96.44
21-30	8	1.78	442	98.22
Above 30	8	1.78	450	100.00
Total	450	100.00		

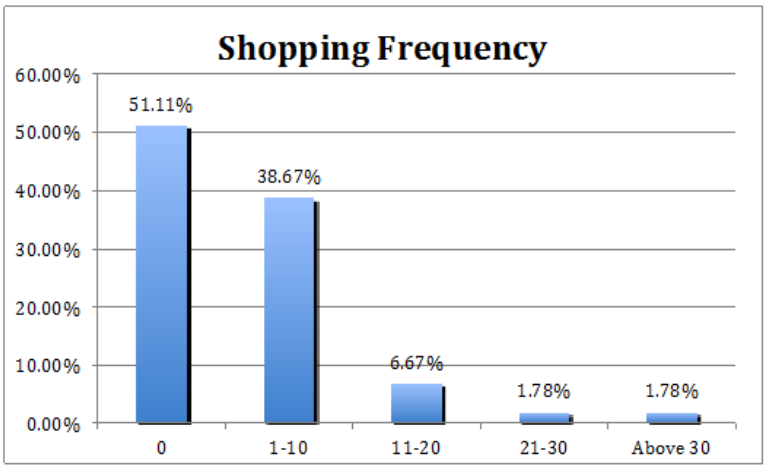


Table 4.9 Types of Mobile Devices

Types of Mobile Devices				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Mobile Phone	127	28.22	127	28.22
Personal Digital Assistant (PDA)	0	0	127	28.22
Smart Phone	323	71.78	450	100.00
Total	450	100.00		

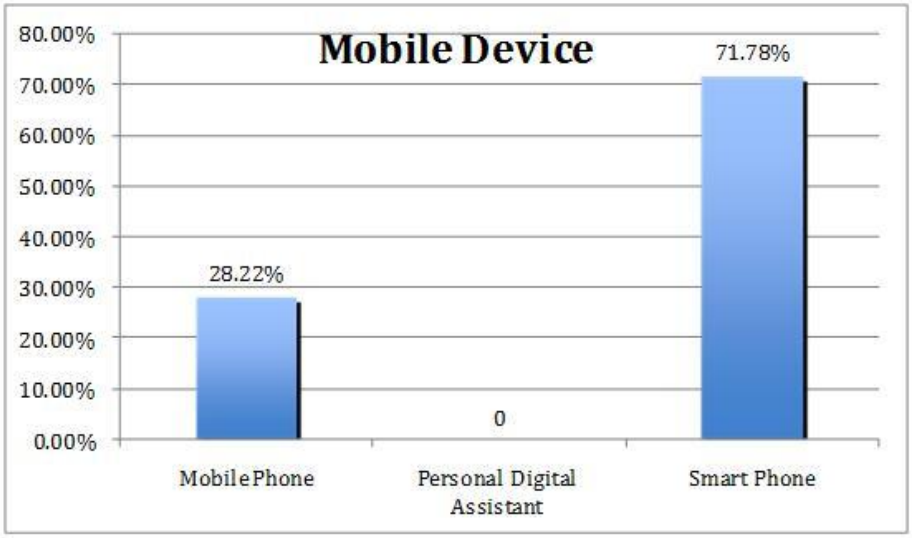


Table 4.10 Monthly Income Level of Respondents

Monthly Income				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Less than RM1000	423	94.00	423	94.00
RM1001-RM2000	27	6.00	450	100.00
RM2001-RM3000	0	0	450	100.00
RM3001-RM4000	0	0	450	100.00
RM4001-RM5000	0	0	450	100.00
Above RM5000	0	0	450	100.00
Total	450	100.00		

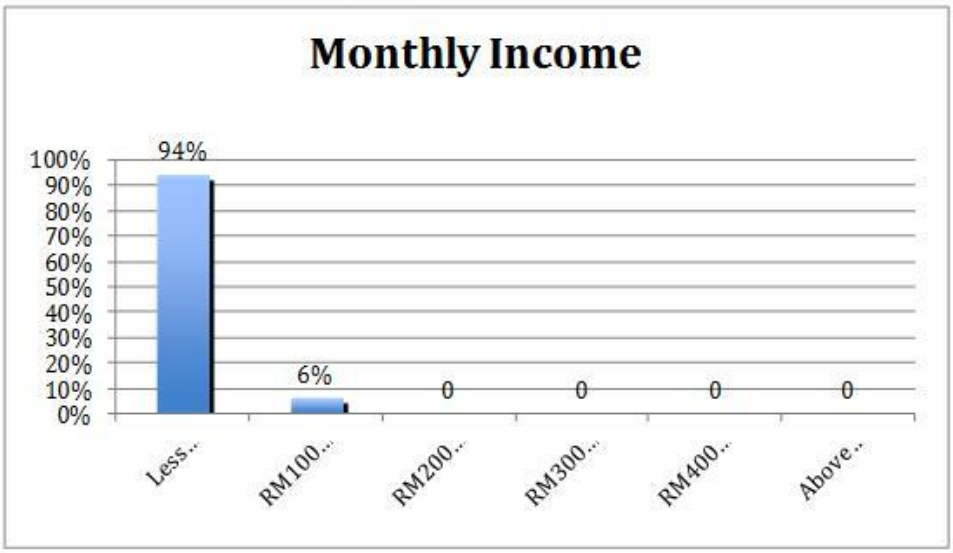
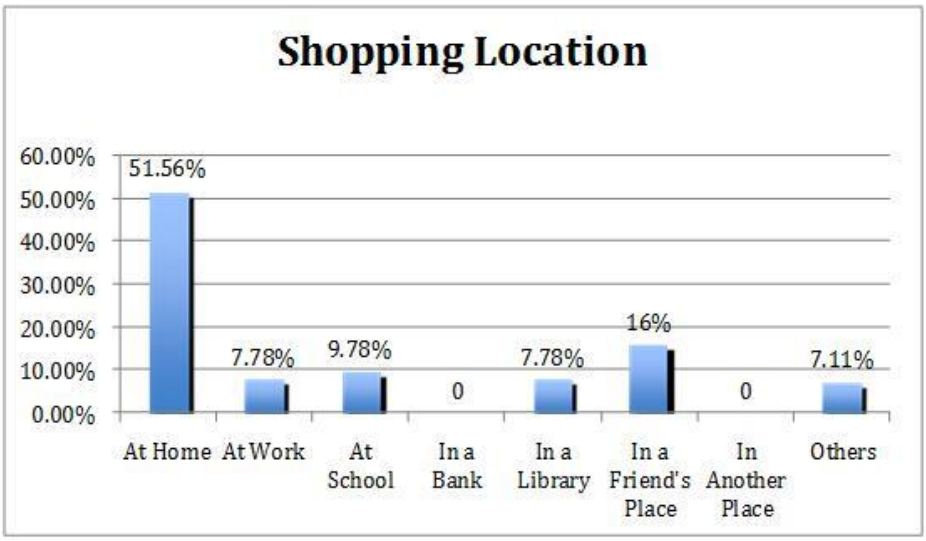


Table 4.11 The Location of Respondent when using Mobile Devices

Shopping Location				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
At Home	232	51.56	232	51.56
At Work	35	7.78	267	59.33
At School	44	9.78	311	69.11
In a Bank	0	0	311	69.11
In a Library	35	7.78	346	76.89
In a Friend's Place	72	16.00	418	92.89
In Another Place	0	0	418	92.89
Others	32	7.11	450	100.00
Total	450	100.00		



Appendix 4.2: Internal Reliability Test

Internal Consistency Reliability

The CORR Procedure

7 Variables: mean_IV1 mean_IV2 mean_IV3 mean_IV4 mean_IV5 mean_IV6 mean_DV

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
mean_IV1	450	4.85259	1.31756218	2184	1.66667	7.00000	Performance Expectancy
mean_IV2	450	5.09278	1.33080229	2292	1.00000	7.00000	Effort Expectancy
mean_IV3	450	4.94278	1.31578222	2224	1.00000	7.00000	Facilitating Condition
mean_IV4	450	4.68333	1.37134210	2108	1.00000	7.00000	Social Influence
mean_IV5	450	4.84370	1.34755218	2180	1.33333	6.66667	Wireless Trust
mean_IV6	450	3.26667	1.24145147	1470	1.00000	7.00000	Perceived Risk
mean_DV	450	4.93889	1.46303222	2223	1.00000	7.00000	Behavioral Intention

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.821368
Standardized	0.807543

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
mean_IV1	0.803180	0.756095	0.799121	0.734191	Performance Expectancy
mean_IV2	0.831213	0.750484	0.826755	0.728720	Effort Expectancy
mean_IV3	0.844337	0.748685	0.838034	0.726470	Facilitating Condition
mean_IV4	0.774706	0.759621	0.771449	0.739611	Social Influence
mean_IV5	0.769409	0.761264	0.767488	0.740383	Wireless Trust
mean_IV6	-.603597	0.943831	-.602976	0.944114	Perceived Risk
mean_DV	0.824777	0.747300	0.819948	0.730073	Behavioral Intention

Pearson Correlation Coefficients, N = 450
Prob > |r| under H0: Rho=0

	mean_IV1	mean_IV2	mean_IV3	mean_IV4	mean_IV5	mean_IV6	mean_DV
mean_IV1	1.00000	0.76507	0.75834	0.65515	0.72612	-0.52434	0.76144
Performance Expectancy		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
mean_IV2	0.76507	1.00000	0.87653	0.70420	0.66663	-0.57165	0.79071
Effort Expectancy	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
mean_IV3	0.75834	0.87653	1.00000	0.76709	0.67314	-0.61283	0.80552
Facilitating Condition	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
mean_IV4	0.65515	0.70420	0.76709	1.00000	0.65059	-0.46616	0.73992
Social Influence	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
mean_IV5	0.72612	0.66663	0.67314	0.65059	1.00000	-0.40711	0.72830
Wireless	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001

Trust							
mean_IV6	-0.52434	-0.57165	-0.61283	-0.46616	-0.40711	1.00000	-0.61638
Perceived Risk	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
mean_DV	0.76144	0.79071	0.80552	0.73992	0.72830	-0.61638	1.00000
Behavioral Intention	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	

Table 4.12 Internal Reliability Test

Construct	**Cronbach's Alpha**	**Number of Items**
Performance Expectancy (PE)	0.7342	3
Effort Expectancy (EE)	0.7287	4
Facilitating Condition (FC)	0.7265	4
Social Influence (SI)	0.7396	4
Wireless Trust (WT)	0.7404	3
Perceived Risk (PR)	0.9441	3
Behavioural Intention (BI)	0.7301	4

Appendix 4.3: Pearson's Correlation Test and Multiple Regression Test

The REG Procedure

Model: Linear_Regression_Model

Dependent Variable: mean_DV Behavioral Intention

Number of Observations Read	832
Number of Observations Used	450
Number of Observations with Missing Values	382

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	6	740.31746	123.38624	247.61	<.0001
Error	443	220.75198	0.49831		
Corrected Total	449	961.06944			

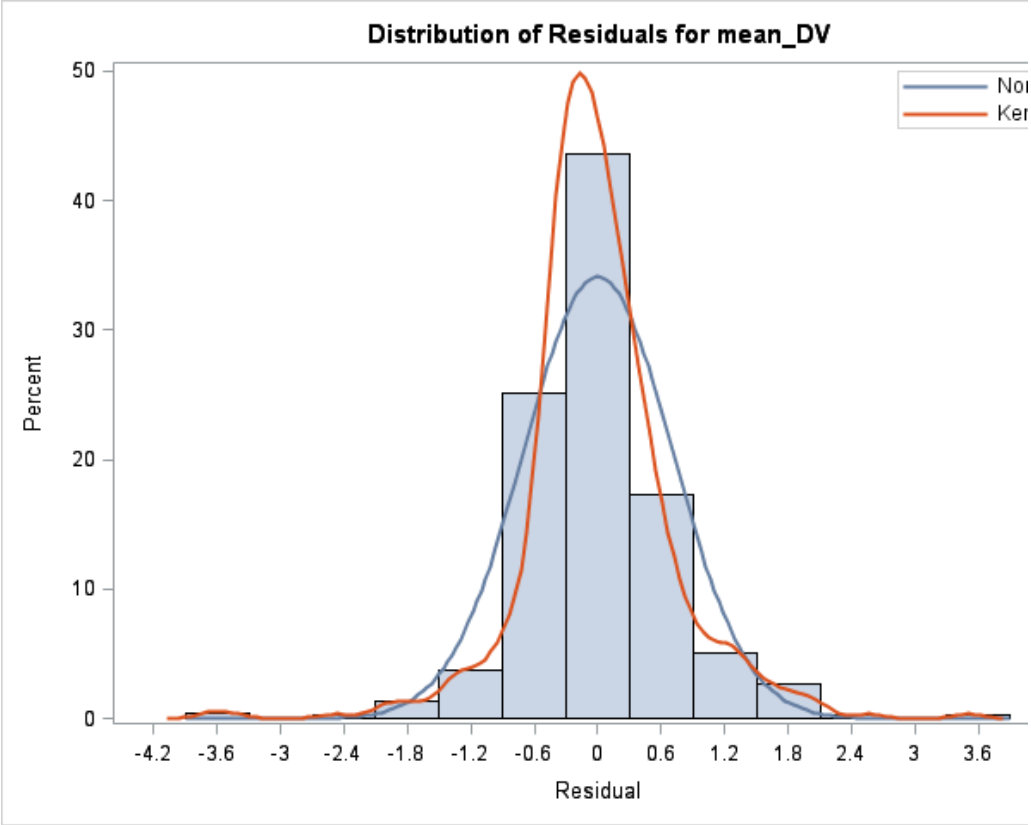
Root MSE	0.70591	R-Square	0.7703
Dependent Mean	4.93889	Adj R-Sq	0.7672
CoeffVar	14.29293		

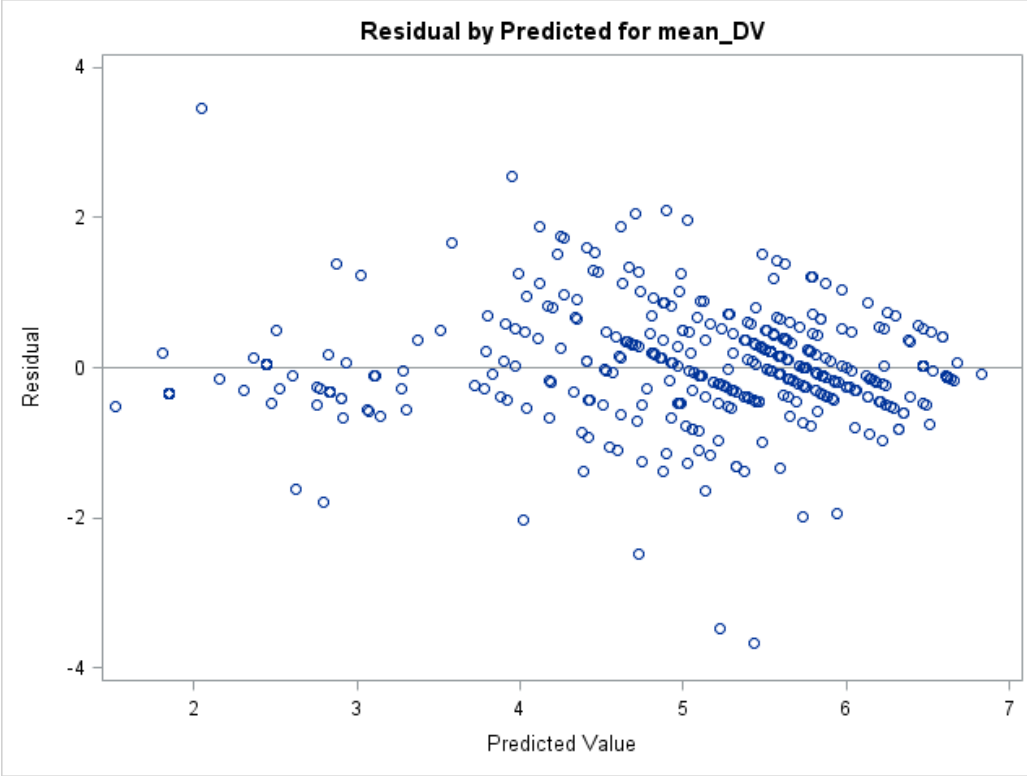
Parameter Estimates

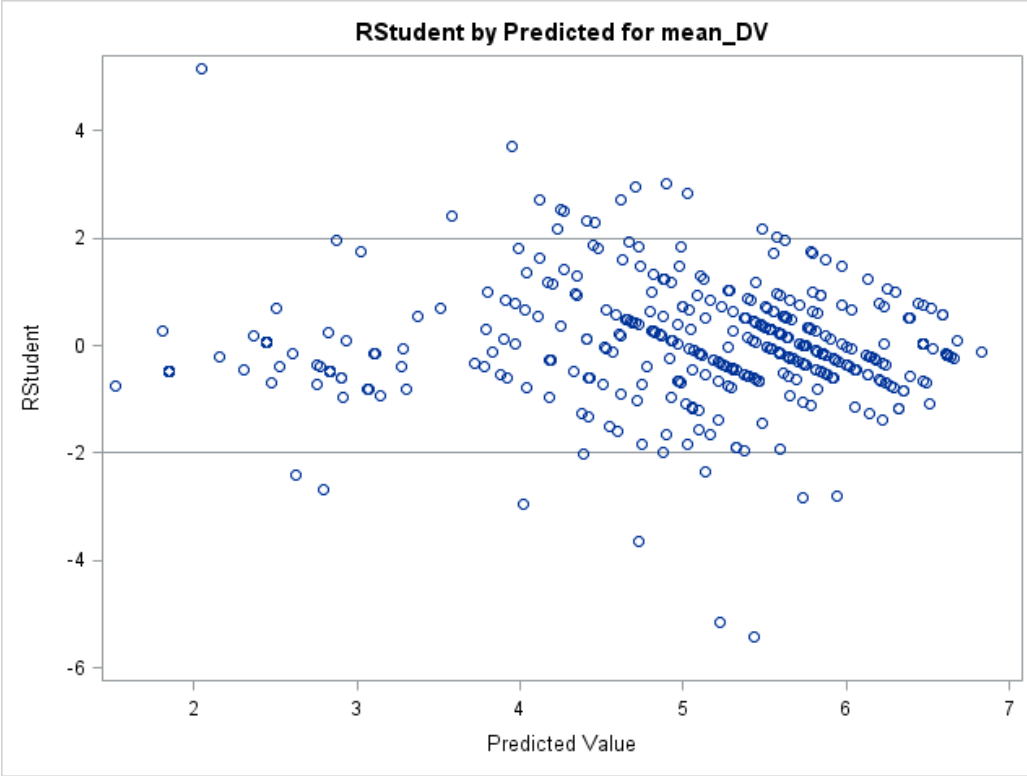
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	Standardized Estimate
Intercept	Intercept	1	0.98143	0.25729	3.81	0.0002	0
mean_IV1	Performance Expectancy	1	0.16306	0.04521	3.61	0.0003	0.14684
mean_IV2	Effort Expectancy	1	0.19717	0.05523	3.57	0.0004	0.17935
mean_IV3	Facilitating Condition	1	0.15724	0.06163	2.55	0.0111	0.14141
mean_IV4	Social Influence	1	0.20133	0.03957	5.09	<.0001	0.18871
mean_IV5	Wireless Trust	1	0.23086	0.03863	5.98	<.0001	0.21264
mean_IV6	Perceived Risk	1	-0.20701	0.03434	-6.03	<.0001	-0.17566

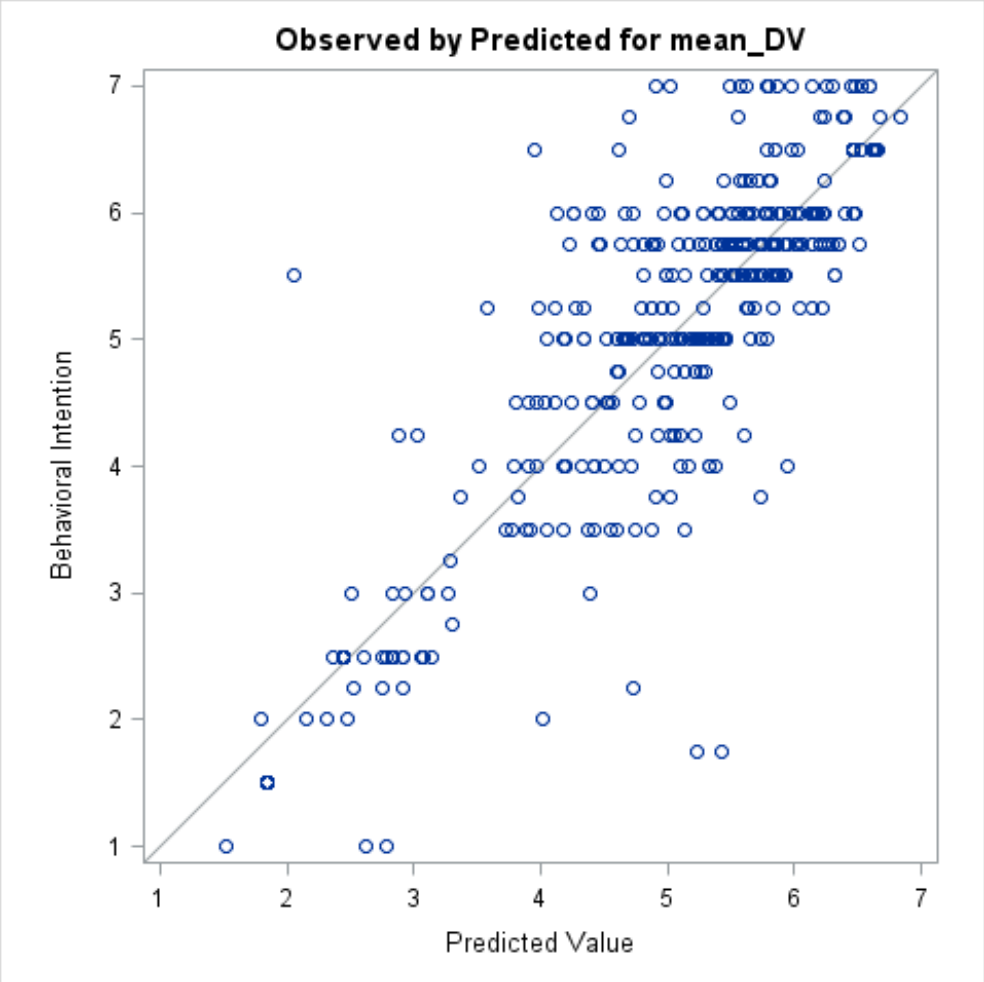
The REG Procedure

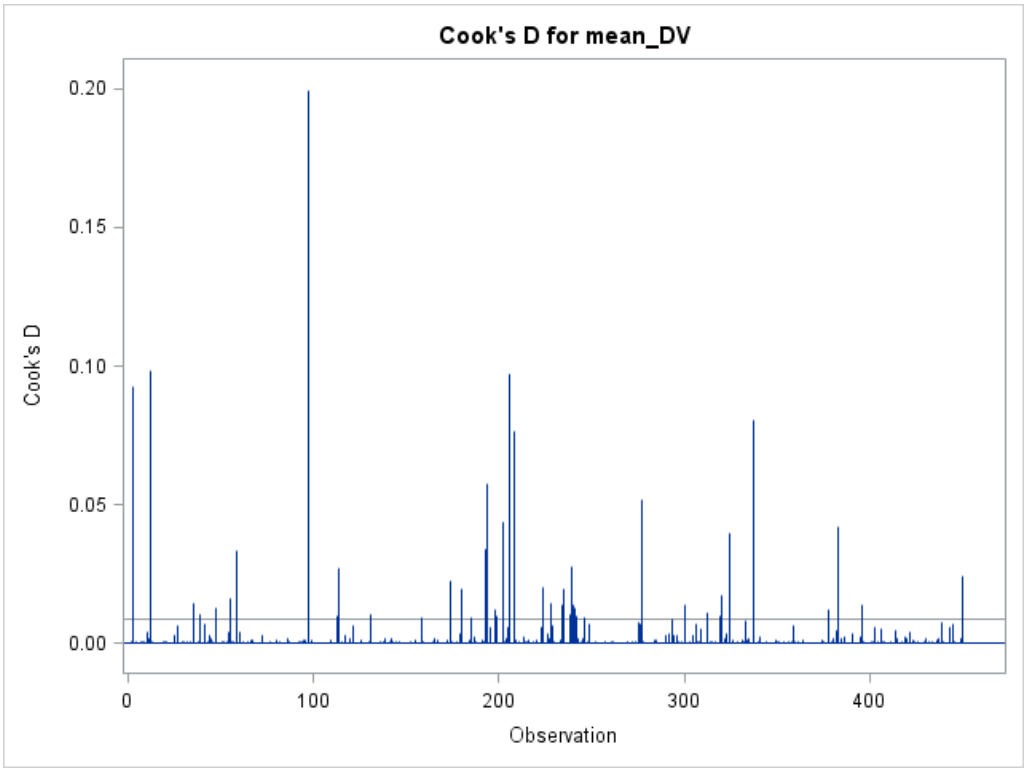
Dependent Variable: mean_DV Behavioral Intention

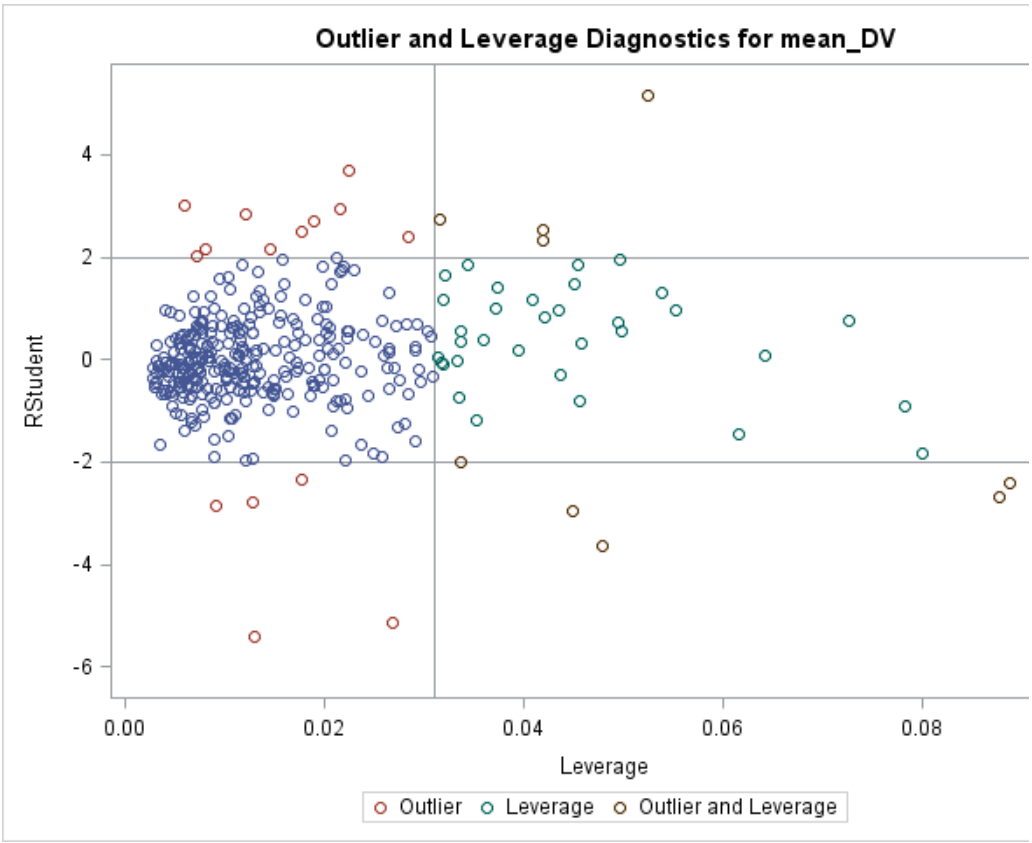


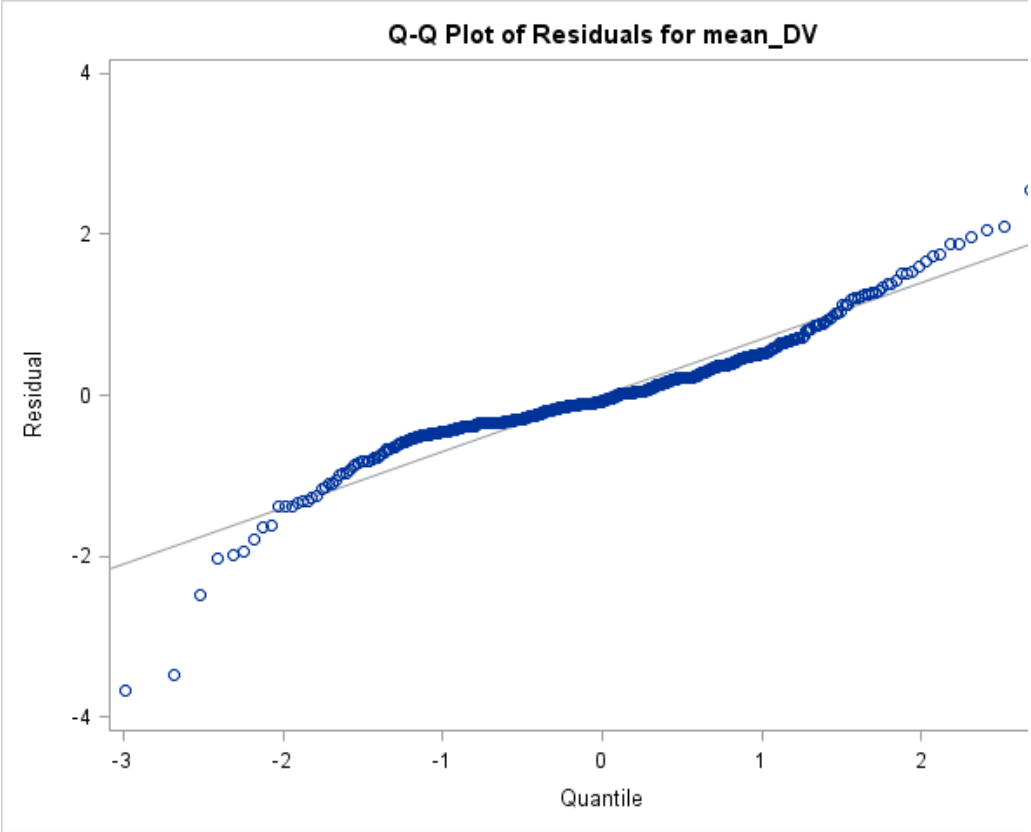


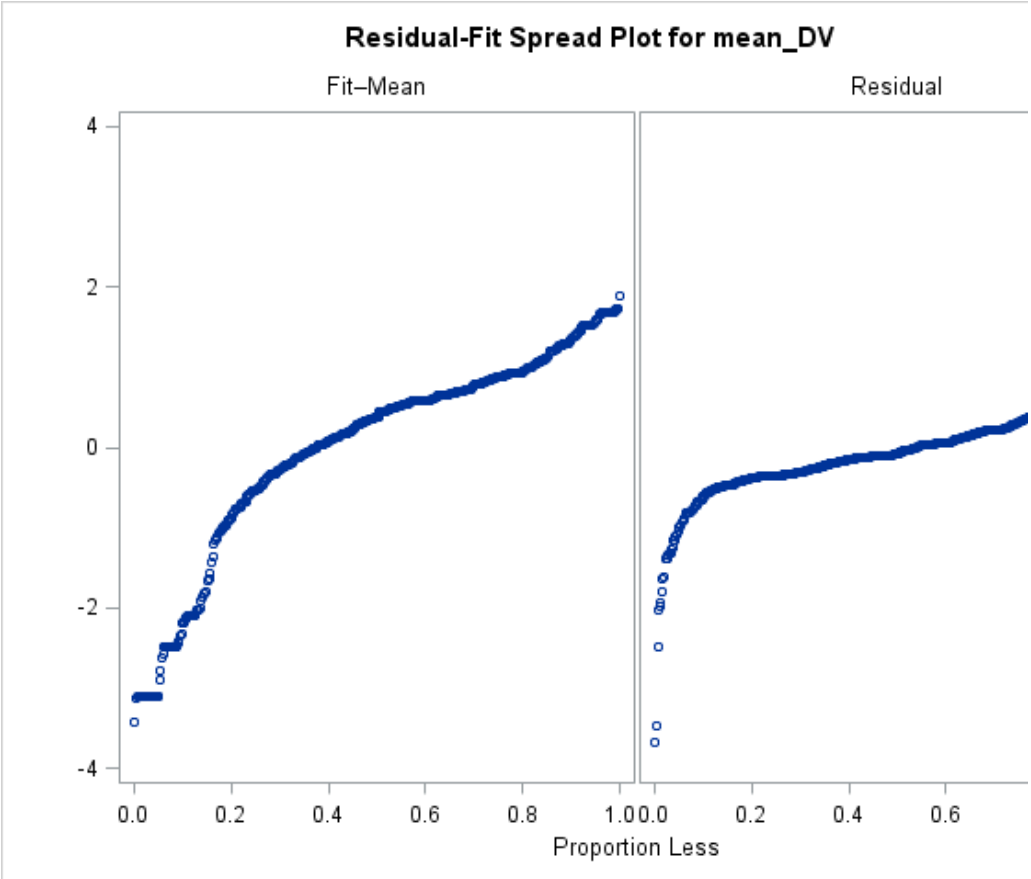

RStudent by Predicted for mean_DV
RStudent
4
2
0
-2
-4
-6
2
3
4
5
6
7
Predicted Value

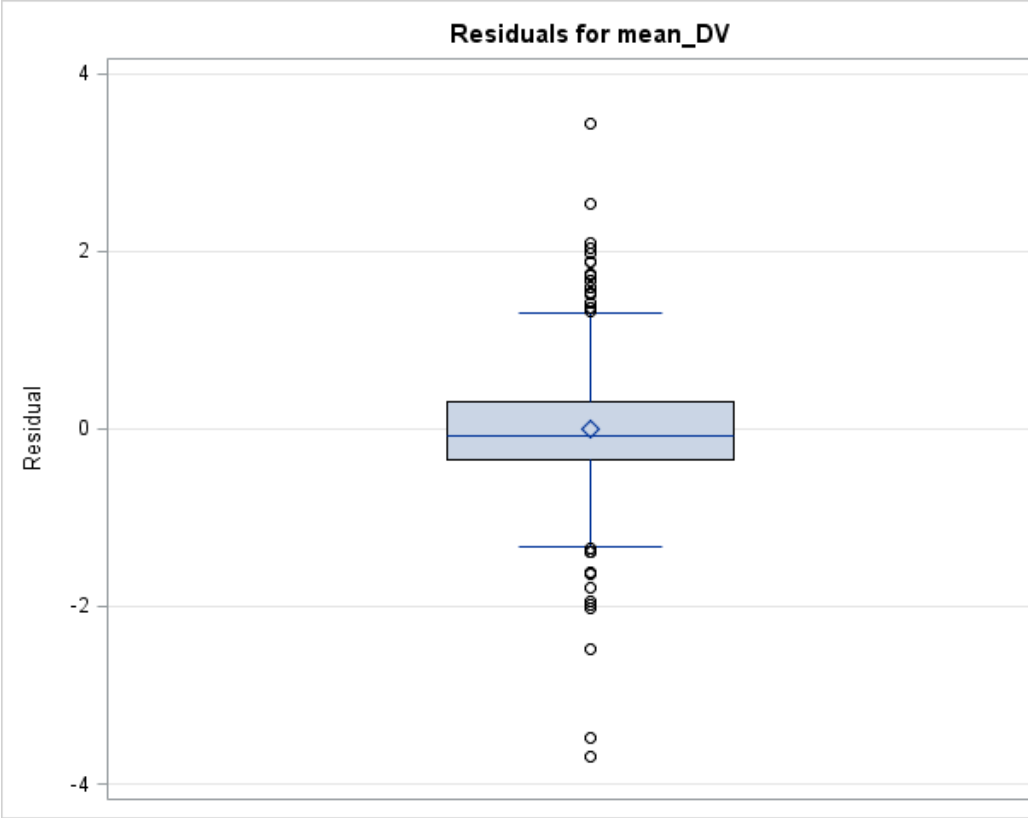

Observed by Predicted for mean_DV
Behavioral Intention
7
6
5
4
3
2
1
1
2
3
4
5
6
7
Predicted Value

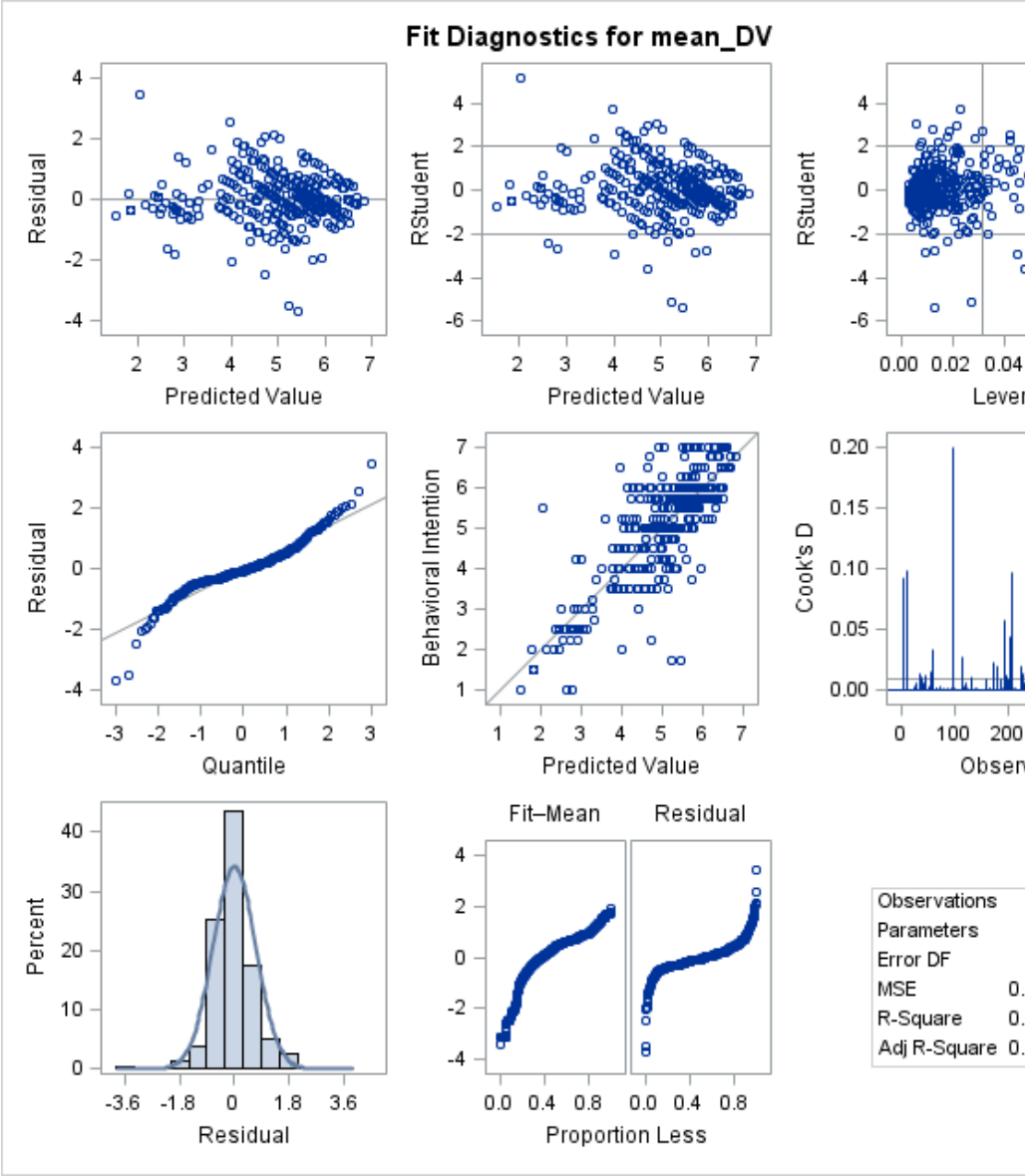

Cook's D for mean_DV
Cook's D
0.20
0.15
0.10
0.05
0.00
0
100
200
300
400
Observation

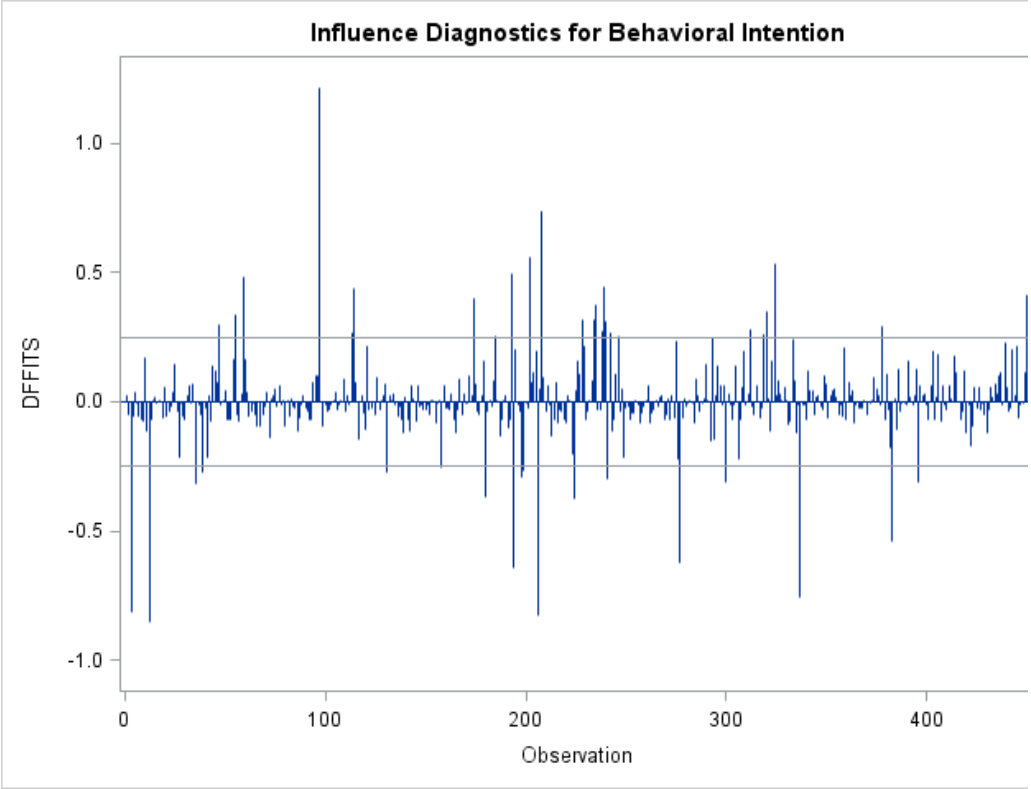

Outlier and Leverage Diagnostics for mean_DV
RStudent
4
2
0
-2
-4
-6
0.00
0.02
0.04
0.06
0.08
Leverage
Outlier
Leverage
Outlier and Leverage

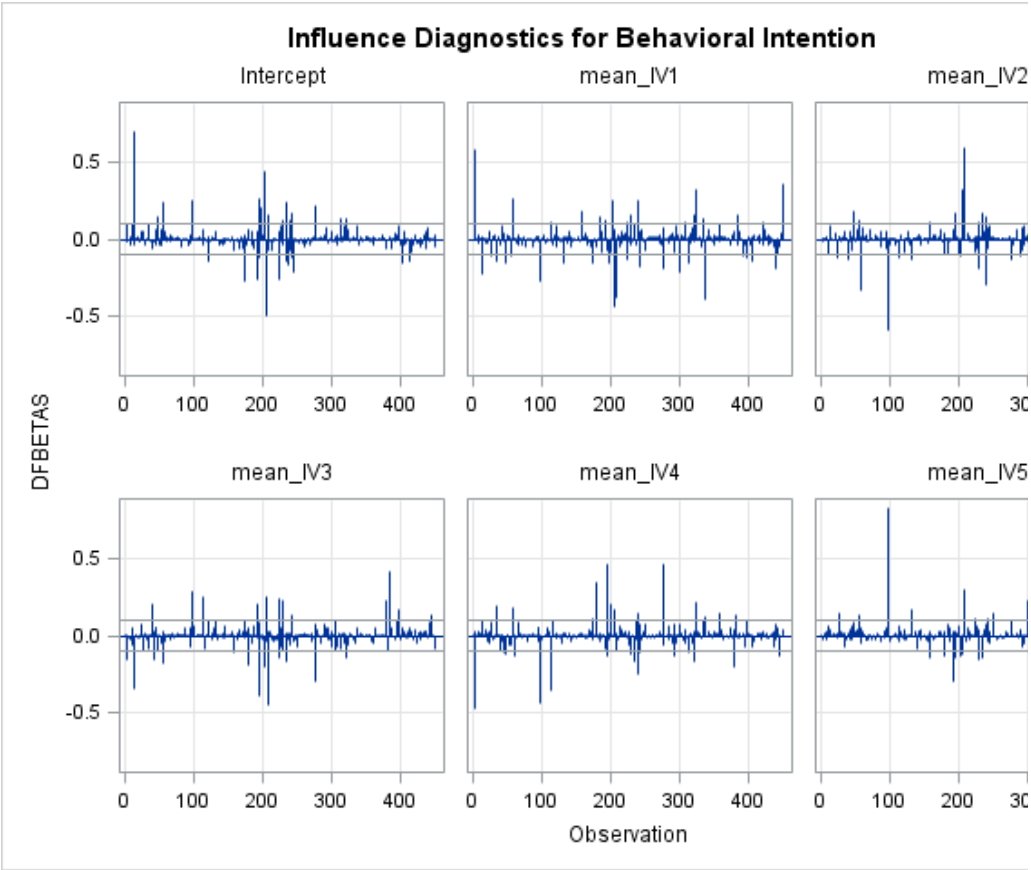

Q-Q Plot of Residuals for mean_DV
Residual
Quantile
4
2
0
-2
-4
-3
-2
-1
0
1
2

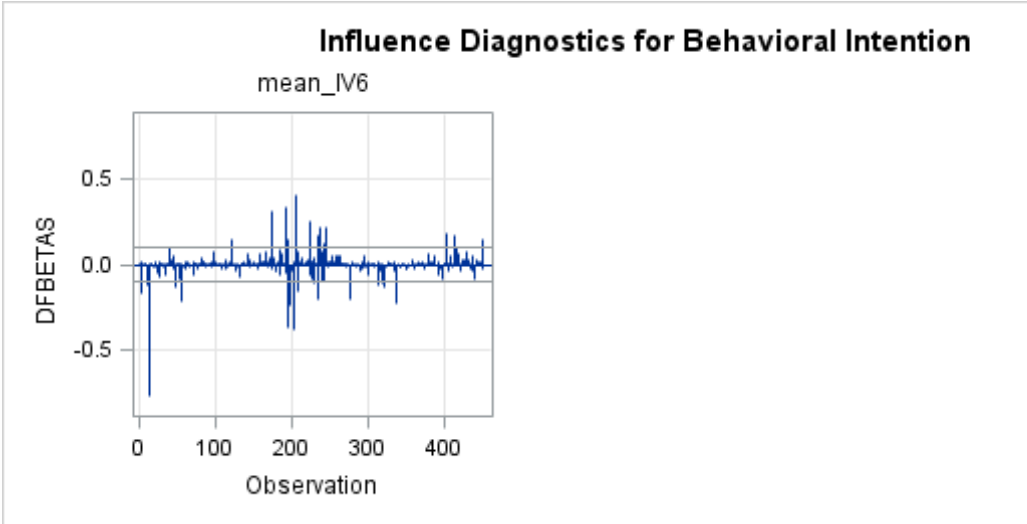

Residual-Fit Spread Plot for mean_DV
Fit–Mean
Residual
Proportion Less
4
2
0
-2
-4
0.0
0.2
0.4
0.6
0.8
1.0
0.0
0.2
0.4
0.6

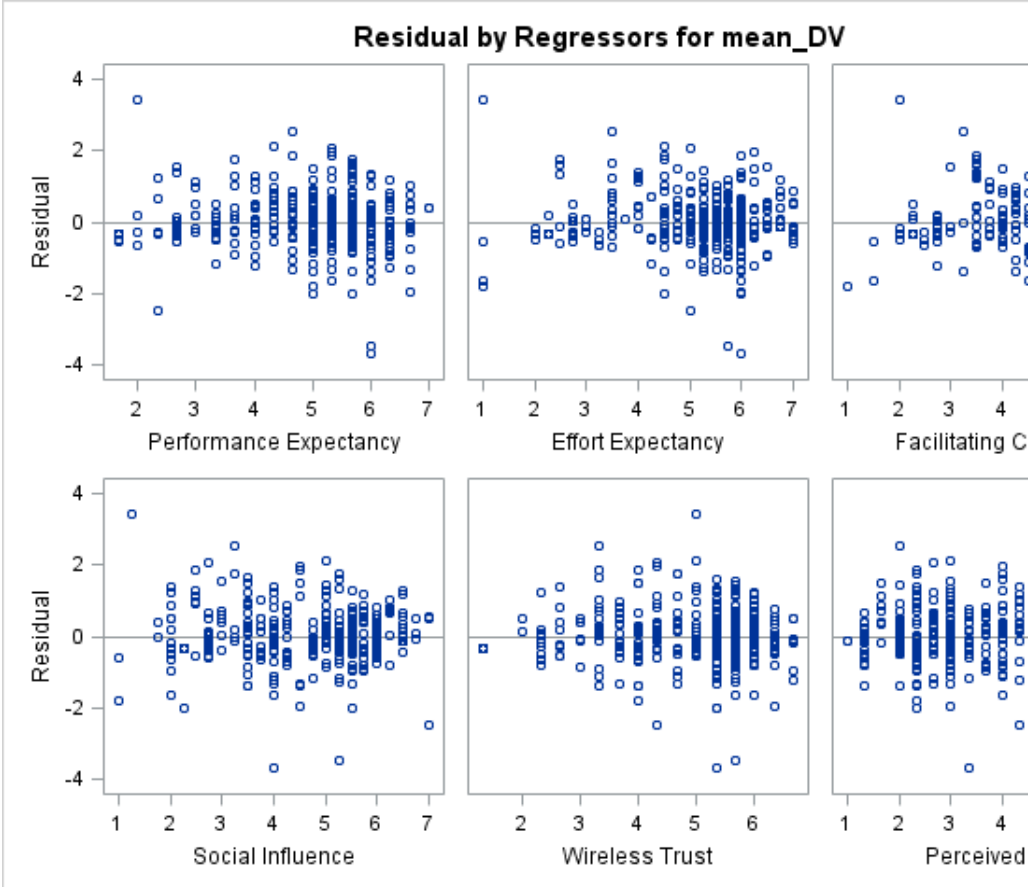

Residuals for mean_DV
Residual
4
2
0
-2
-4


Fit Diagnostics for mean_DV
Residual
Predicted Value
RStudent
Predicted Value
RStudent
Lever
Residual
Quantile
Behavioral Intention
Predicted Value
Cook's D
Obsen
Percent
Residual
Fit–Mean
Residual
Proportion Less
Observations
Parameters
Error DF
MSE
R-Square
Adj R-Square


Influence Diagnostics for Behavioral Intention
DFFITS
1.0
0.5
0.0
-0.5
-1.0
0
100
200
300
400
Observation


Influence Diagnostics for Behavioral Intention
Intercept
mean_IV1
mean_IV2
mean_IV3
mean_IV4
mean_IV5
DFBETAS
0.5
0.0
-0.5
0
100
200
300
400
Observation


Influence Diagnostics for Behavioral Intention
mean_IV6
DFBETAS
0.5
0.0
-0.5
0
100
200
300
400
Observation


Residual by Regressors for mean_DV
Residual
4
2
0
-2
-4
Performance Expectancy
Effort Expectancy
Facilitating C
Social Influence
Wireless Trust
Perceived