INTENTION TO USE MOBILE COUPON AMONG MILLENNIALS CONSUMER IN UUM

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ABSTRACT

Mobile marketing platform (such as mobile purchase and mobile coupon) relatively new in Malaysia, as compared to other Southeast Asia countries. Hence, little is known on how millennials perceived and behave towards mobile coupon. Guided with UTAUT model, the purpose of this research is to examine the relationship between performance expectancy, effort expectancy, social influence, facilitating conditions and intention to use mobile coupon among millennials consumer in UUM. Product awareness is introduced as a mediator variable in the UTAUT model. The survey of 314 millennials analyzed by using SmartPLS indicated that the model is well accepted with reliable and valid instruments. The findings showed that performance expectancy, effort expectancy, social influence and facilitating conditions have significant relationship with intention to use. However, social influence was found to has a negative relationship towards intention to use. Besides, effort expectancy, social influence and facilitating conditions have significant relationship towards product awareness. Using sample of the study, product awareness mediates the relationship between performance expectancy and effort expectancy. Both theoretical and practical contributions of the study also discussed at the end of the thesis.

Keywords: UTAUT, intention to use mobile coupon, millennials consumer, product awareness

ABSTRAK

Platform pemasaran mudah alih (seperti pembelian mudah alih dan kupon mudah alih) agak baru di Malaysia, berbanding dengan negara Asia Tenggara lain. Oleh itu, sedikit diketahui mengenai bagaimana milenium menganggap dan berkelakuan ke arah kupon mudah alih. Dipandu dengan model UTAUT, tujuan penyelidikan ini adalah untuk mengkaji hubungan antara jangkaan prestasi, jangkaan usaha, pengaruh sosial, keadaan kemudahan dan niat untuk menggunakan kupon mudah alih dalam kalangan pengguna milenium di UUM. Kesedaran produk diperkenalkan sebagai pemboleh ubah mediator dalam model UTAUT. Kajian terhadap 314 pengguna milenium yang dianalisis dengan menggunakan SmartPLS menunjukkan bahawa model tersebut diterima dengan baik dengan instrumen yang boleh dipercayai dan sah. Penemuan menunjukkan bahawa jangkaan prestasi, jangkaan usaha, pengaruh sosial dan keadaan kemudahan mempunyai hubungan yang signifikan dengan niat untuk menggunakan kupon mudah alih. Walau bagaimanapun, pengaruh sosial didapati mempunyai hubungan negatif terhadap niat untuk menggunakan kupon mudah alih. Selain itu, jangkaan usaha, pengaruh sosial dan keadaan kemudahan mempunyai hubungan yang signifikan terhadap kesedaran produk. Menggunakan sampel kajian, kesedaran produk mengantara hubungan antara jangkaan prestasi dan jangkaan usaha. Kedua-dua sumbangan teoretikal dan praktikal kajian ini juga dibincangkan pada akhir tesis.

Kata kunci: UTAUT, niat untuk menggunakan kupon mudah alih, pengguna milenium, kesedaran produk

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LIST OF ABBREVIATIONS

Abbreviation	Description
AVE	Average Variance Extracted
CAGR	Compound Annual Growth Rate
CFA	Confirmatory Factor Analysis
C-TAM & TPB	Combined TAM and TPB
DTPB	Decomposed Theory of Planned Behavior
DV	Dependent Variable
EE	Effort Expectancy
F^2	Effect Size
FC	Facilitating Conditions
HEA	Consumer Affairs Department
HTMT	Heterotrait-Monotrait Ratio
IDT	Innovation Diffusion Theory
IU	Intention to Use
IV	Independent Variable
MCMC	Malaysia Communications and Multimedia Commission
N	Not Significant
PA	Product Awareness
PE	Performance Expectancy
PLS	Partial Least Squares
PLS-SEM	Partial Least Squares- Structural Equation Modeling
PSB	Perpustakaan Sultanah Bahiyah
Q^2	Predictive Relevance
R^2	R Squared, Coefficients of Determination
RM	Ringgit Malaysia
S	Significant
SEA	Southeast Asia
SEM	Structural Equation Modeling
SI	Social Influence
SPSS	Statistical Package for Social Sciences
SPSS	Statistical Package for the Social Sciences

TAM	Theory Acceptance Model
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
U.S.	United States
UTAUT	Unified Theory of Acceptance and Use of Technology
UUM	Universiti Utara Malaysia
VIF	Variance Inflation Factors

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter consists of many elements such as the background elaborated from a general view to a specific context, problem statement, research question, research objectives, scope of the research, the significance of the research, definition of key terms and organization of the research.

1.1 Background of the Research

Coupon was introduced as a marketing tool in 1886 by Asa Candler, the founder of Coca-Cola Company. He was said to have distributed handwritten paper coupon for a free glass of Coca-Cola to customers and sales representatives. The practice of disseminating coupon proved to be a very successful tool to attract customers during Asa Candler's time (Oliver & Shor, 2003). According to Mudd (2016), the coupon has evolved in accordance with the development of technology, beginning with hand written coupon to machine paper coupon and now, digital coupon. In recent years, numerous companies have introduced a new form of coupon – mobile coupon. The redemption of mobile coupon is done through a smartphone application. This form of coupon is situated under the coupon umbrella, whereby a coupon is a ticket issued by companies for customers to use and redeem certain rewards. Such rewards include price reductions, discounts, free giveaways and cashbacks. Mobile coupon follows the same concept of a paper coupon but the redemptions and transactions are done digitally through the use of a smartphone application. According to Bacile and Goldsmith

(2011), mobile coupon can be defined as a digital ticket sent to customers' smartphone for financial discounts.

Nowadays, many companies have devised a loyalty program by using mobile marketing. It includes several approaches that can be considered by companies and mobile coupon is one of them. With that, the implementation of mobile marketing can give several benefits to companies which subscribe to this mode of practice. According to Miller (2016), based on a statistical report of customer loyalty done by a business consulting company Annex Cloud, it shows that mobile coupon plays a major role in increasing sales, customer retention, as well as profits. In addition to that, Henderson, Beck, and Palmatier (2011), pointed out that coupon which includes reward cards, gifts, dedicated service support and other methods highly contribute to customer retention. These researchers agreed that mobile coupon can in fact attract new customers and retain existing customers.

Scharl, Dickinger and Murphy (2005), emphasize that mobile marketing facilitates companies to directly communicate with customers regardless of time and location. Through mobile marketing, targeted customers can be drawn from a mass population. Hence, effective and efficient implementation of mobile marketing can give numerous benefits to a company. On top of that, advancement in technology has greatly contributed to the transformation of mobile coupon from Short Message Service (SMS) to push notification on mobile applications.

According to Berman (2016), in line with Furinto, Pawitra and Balqiah (2009), mobile coupon is recognized as a popular marketing strategy by numerous companies in various industries. Additionally, a survey conducted by RetailMeNot (2016), shows that mobile coupon has also dispersed into the retailing industry, gaming industry, and financial services industry. Today, mobile coupon has penetrated many other industries such as the food and beverage industry, department stores industry, transportation industry and smartphone application industry.

Scoping down to the national level, it has been found that there are a limited number of companies in Malaysia which provides the latest statistics on the mobile coupon industry locally. Based on an article by Wong (2014), Groupon reached around RM11 million sales in revenue by distribution of digital coupon in January 2014 compared to Mydeal and LivingSocial which only reached nearly RM2 million sales accordingly (as shown in Figure 1.0).

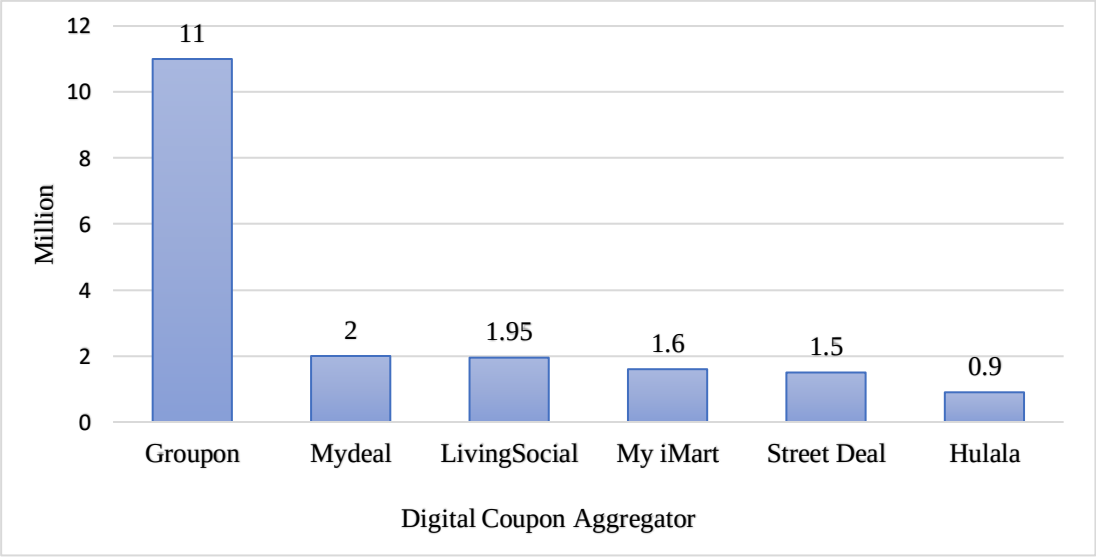

Figure 1.0
Digital Coupon, Revenue from Deals in Malaysia (January, 2014)

Moreover, in February 2014 there were 303,230 coupons sold at a value of RM14,387,333.70. The sold coupon consists of entertainment and recreation (10,957, RM305,473.80), food and drinks (143,804, RM3,809,664.00), health and beauty (28,735, RM1,243,040.60), learning and workshop (2530, RM177,219.60), products (94,485, RM6,425,921.00), service (10,302, RM539,819.20), and lastly, travel and vacations (12,417, RM1,886,195.50). Although the exact valuation of the mobile coupon industry in Malaysia is ambiguous, according to "A Snapshot of The Asian Couponing Market" (2015), there were more than one million visits a month on their website with thousands of digital coupons redeemed every day, and there were 80,000 searches made on top 100 brands from stores in Malaysia. Moreover, the company that published the article, iPrice agreed that the mobile coupon market in Malaysia is growing exponentially. Data suggests that the ASEAN 2015 e-commerce market has a valuation of US$7 billion. This local phenomenon supported by Inmar (2014), the mobile coupon redemption in the United States (U.S.) has gradually increased every year.

Furthermore, following the opinion of eMarketer (2014), the growth of mobile coupon redemption increases every year due to the advancement of telecommunication technology and because many companies are currently implementing mobile marketing into business strategy. In addition to that, the U.S. adult mobile coupon users and penetrations also show steady increase on a yearly basis. According to Technavio (2016), based on Global Mobile Coupon Market 2016-2020, the global mobile coupon market in 2015 has a value of US$45.7 billion and is estimated to reach US$711.2 billion in 2020.

Attracted by the massive valuation of mobile coupon industry, quite a number of new start-up companies emerged to grab the market share in Malaysia such as Fave (formerly known as Groupon), Mydeal, LivingSocial, My iMart, Street Deal, Hulala, B Infinite, Shopback, MilkADeal and AirAsia Big Loyalty. Not only that, mobile applications have enabled companies to embed customer loyalty programs, namely, mobile coupon into the mobile applications. An example of this can be seen through the practice of a conglomerate coffeehouse company, Starbucks Corporation, which distributes mobile coupon through its business partner as shown in Figure 1.1.

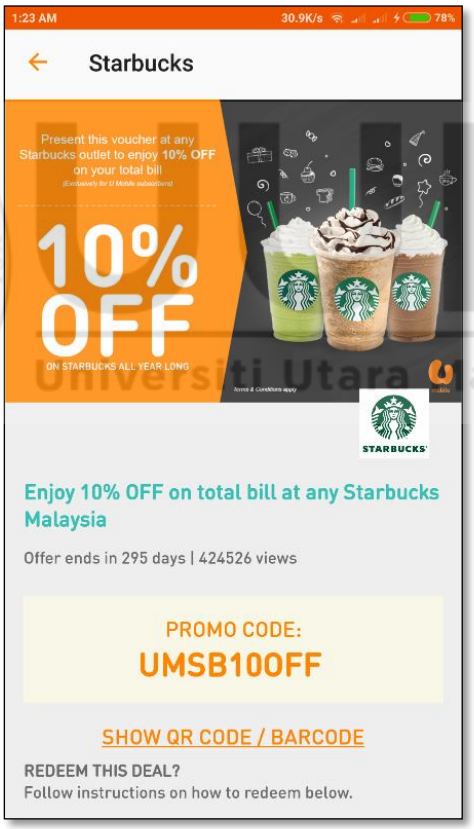

Figure 1.1:

Screenshot of Starbucks' Mobile Coupon in My U Mobile App Android Application v2.0.4.7.

Source: U Mobile Sdn. Bhd. (2018)

Lewis (2004), pointed out that mobile coupon grants an important element in customer relationship management. Companies can now utilize and shape standard mobile coupon into mobile marketing or brand loyalty instruments (Noordhoff, Pauwels & Odekerken-Schröder, 2004). According to eMarketer (2014) it can be understood that approximately 59.3 million American smartphone users aged 18 and above are more likely to redeem mobile coupon in 2013. Every year, the redemption of mobile coupon increases and by 2016 the redemption rate is expected to increase by 104.1 million. The increment in the mobile coupon redemption rate, as mentioned briefly, is due to the advancement of mobile applications and the number of companies which has started to pursue customer loyalty through mobile coupon. In addition to that, a report from Juniper Research (2014), suggests that mobile coupon users will drastically increase from 560 million users in 2014 to 1.05 billion users in 2019.

Meanwhile, in Malaysia, the mobile coupon industry in Malaysia still in infancy stage. As specified by Steyn, Pitt, Strasheim, Boshoff and Abratt (2010), most Asian Pacific countries including Malaysia in 2010 has started to experience mobile coupon trends compared to the United States (U.S.) and European nations which has indicated a sign of maturity in the mobile coupon industry. Thus, the exact amount of digital coupon redeemed in Malaysia cannot be acquired due to the lack of statistical surveys and marketers are not open to disclose such figures. However, based on the growth of the mobile coupon industry particularly in the U.S., the assumption that Malaysia's mobile coupon redemption rates are still in low frequencies can be made.

The redemption of mobile coupon is made via an application on smartphone. Hence, it is of utmost importance to gain insight regarding the smartphone industry in Malaysia. According to Malaysian Communications and Multimedia Commission (MCMC) (2015), based on Hand Phone Users Survey in 2014, smartphone usage of Malaysians has increased by 53.4% in 2017 compared to only 14.0% smartphone usage in 2010. A report by Ericsson (2016), has also shown that Malaysia's smartphone penetration is expected to be over 100% in 2018. The penetration growth is supported by the actions of the government and the private sectors which will gradually develop telecommunications infrastructure in Malaysia. Moreover, the Malaysia Connected Consumer Study in 2014, a research sponsored by Google Incorporated and a marketing company named Kantar TNS, found that one in two Malaysians have a smartphone and internet connection (Malaysian Communications and Multimedia Commission (MCMC), 2015).

In 2016, there were 43.9 million mobile cellular subscriptions in Malaysia. Overall, the penetration rate of mobile broadband and ownerships of smartphones in Malaysia increases every year. Smartphones in general have become an integral item for an average Malaysian as agreed by 51.5% of 2401 respondents in the survey completed by MCMC. The mobility and features of smartphones have become a necessity for every Malaysian to perform their daily activities. This phenomenon provides an opportunity for marketers to introduce new mobile marketing strategies. Mobile applications provide a new platform for mobile marketing revolution. They too can act as a bridge to relay the value between companies and customers. The growth of the mobile applications industry enables better digital interaction between companies and

customers. Not only that, it also contributes in the evolution of traditional coupon to mobile coupon.

Into the bargain, the mobile coupon industry in Malaysia is in its infancy and is a new one seedling in the industry. Customers, especially millennials' intention to use mobile coupon is still in an unknown state and needs to be examined through thoroughly. In the mobile coupon literature domain, there are limited studies that have been done, especially using the Unified Theory of Acceptance and Use of Technology (UTAUT). Therefore, this research intends to clarify this matter by providing analysis of behavioural intention to use mobile coupon among millennial customers in UUM. To achieve the objective of this research, new issues are extracted from previous research and there is some amount of related academic research on digital coupon and mobile coupon can be used to support the findings of this research.

1.2 Problem Statement

The evolution of paper coupon to mobile coupon has caused the implementation of mobile coupon to experience some inevitable issues. As emphasized in the background of this research, the mobile coupon industry in a developing country such as Malaysia is still in its early stages (Steyn, Pitt, Strasheim, Boshoff & Abratt (2010). A technological barrier in developing countries is one of the driving forces which constraints mobile coupon acceptance. According to Jayasingh and Eze (2010), in the early stage of the mobile coupon industry, there were technological barriers such as the telecommunication infrastructure which curbs the growth of said industry; after the technological barrier was solved, customer adoption to the new system became a major

challenge. Moreover, according to a media and marketing services company, Valassis Communications Incorporated (2018) based on the 2K17 Coupon Intelligence Report in 2017, although the usage of digital coupon has significantly increased, there are still many millennials who use paper coupon obtained from various traditional sources such as newspapers, magazines and mail; it is estimated that there is a 34% increase of millennials using paper coupon as compared to generation X and baby boomers. While the usage of mobile coupon provides great advantages to the marketers, it is deemed ambiguous whether the marketers or businesses will be able to secure high levels of customer acceptance. This phenomenon sparks a new question, especially for companies that has deployed mobile coupon and it must be investigated for further clarification.

Furthermore, the advancement of the mobile applications industry has contributed in transforming paper coupon to digital coupon and now, mobile coupon. According to Boon-itt (2015), technology is the key driver for companies to offer desirable products and deliver quality service to the customers. Hence, many companies deploy technological aspects into marketing. However, companies need to understand their targeted customers' behaviour in order to initiate mobile coupon as a successful mobile marketing tool. In Malaysia, out of the 30.72 million population there are as many as 21.7 million smartphone users (Malaysian Communications and Multimedia Commission (MCMC), 2017). Although there are 21.7 million smartphone users, the customers' intention to use mobile coupon lacks by a big margin as compared to the U.S. market.

Several studies by Spralls, Divine, and Garver (2016); Rosenbloom (2009) have shown that customers react negatively to mobile coupon due to the privacy concerns that hinder them from using the coupon (Hyunjoo & Young, 2015; Muk, 2012). To precisely estimate customers' behaviour, especially on the use of mobile coupon, it is needful to ascertain the acceptance and intention to use new technology (Lin & Hsieh 2006). However, based on the literature study, intention to use mobile coupon is rather limited especially in Malaysia context.

The findings of the studies by Kim and Rha (2018) on mobile learning; Qin, Kim, and Tan (2018) on mobile social networking; Natarajan, Balasubramanian and Kasilingam (2017) on mobile shopping; (Lai, 2017) on mobile electronic medical records; Hu and Zhang (2016) mobile book-reading apps found that users perceived the technology system hard to use and lacked performance. Therefore, guided by the UTAUT theory, this research investigates the relationship between performance expectancy, effort expectancy social influence and facilitating conditions on intention to use mobile coupon.

In Etinger and Orehovacki (2018), it was found out that performance expectancy significantly influenced artists in Croatia to adopt digital audio workstations. Similarly, a study on consumers' intention to use mHealth in Bangladesh by Hoque and Sorwar (2017), indicated that performance expectancy significantly influenced the behavioural intention. Meanwhile, a study in Ghana by Attuquayefio and Addo (2014), contradicts with the former as performance expectancy is insignificant towards intention to adopt ICT. Moreover, in Cheng, Yu, Huang, Yu, & Yu (2011), the findings of the study

showed that performance expectancy is insignificant towards the behavioural intention to adopt Information Technology in Taiwan. These inconsistent findings of performance expectancy towards behavioural intention supports this research to examine the relationship between performance expectancy with intention to use mobile coupon.

Additionally, in Etinger and Orehovacki (2018) and Hoque and Sorwar (2017), showed that effort expectancy significantly influenced the behavioural intention of the studies respectively. However, a study done by Wrycza, Marcinkowski and Gaida (2017) on acceptance of software engineering tools in Poland showed that effort expectancy is insignificant towards the behavioural intention to accept. In line with a study on mobile banking in Taiwan by Yu (2012), suggested that effort expectancy is insignificant towards the intention to adopt mobile banking. Therefore, due to the inconsistent findings of the technological related previous studies, this research examines the relationship between effort expectancy and intention to use mobile coupon among millennial consumers in UUM.

For social influence constructs, previous studies showed inconsistent findings such as in Etinger and Orehovacki (2018), Hoque and Sorwar (2017), and Bhatiasevi (2016) showed that social influence is significant towards behavioural intention. However, contradictory findings in a study by Wrycza, Marcinkowski and Gaida (2017), states that social influence has an insignificant relationship with behavioural intention. Similar to Attuquayefio and Addo (2014), it was found that social influence is insignificant towards consumers' acceptance of ICT.

Besides, the construct of facilitating conditions on previous studies also showed inconsistent findings, whereas in a study by Etinger and Orehovacki (2018), suggested that facilitating conditions have a significant relationship with behavioural intention to adopt digital audio workstations; however, was denied in a study by Hoque and Sorwar (2017), where it was found that facilitating conditions is insignificant towards the behavioural intention to adopt mHealth. Moreover, Bhatiasevi (2016), proved that facilitating conditions have an insignificant relationship towards intention to adopt mobile banking in Thailand. Hence, these previous studies showed inconsistent findings in different context and samples. Therefore, there is a need of urgency to examine performance expectancy, effort expectancy, social influence and facilitating conditions with the intention to use mobile coupon.

According to Abubakar and Ahmad (2013), awareness can be included as a mediation variable to measure the relationship in UTAUT constructs. Users are uncertain about the product awareness and can influence their intention to use mobile coupon. This research will investigate awareness as a mediation between the independent variable and the dependent variable. These previous studies also show that there is limited knowledge on mobile coupon literature. It is deemed to extend the mobile literature to the mobile coupon domain.

There are several studies on mobile coupon from previous researchers. However, there is still much more to contribute to the domain mobile marketing literature (Ferreira & Coelho, 2015; Kuikka & Laukkanen, 2012; Sharp & Sharp, 1997). Previous studies done by the researchers were diversified beyond research settings, variables, samples

and contexts as well as such studies generally personalizing the antecedents or predictors to investigate the outcomes (Kim & Rha, 2018; Maity & Gupta, 2016; Barutçu, 2007).

In addition, the context of previous studies predominantly focused on paper coupon which were distributed through newspapers, magazines, brochures and any paper mediums (Wierich & Zielke, 2014; Demoulin & Zidda, 2009; Swaminathan & Bawa, 2005). However, previous researchers extended the studies into digital coupon. Digital coupon is generally an electronic coupon (e-coupon) which are investigated with different research settings (Liu, Mu, Yang & Yu, 2017; Chang & Sun, 2014). There are numerous previous researchers who extended the coupon literature into a mobile marketing environment which are mobile coupon and digital coupon (Achadinha, Jama, & Nel, 2014; Amin, 2007). However, there is still much more to explore in the domain of mobile coupon.

Besides, there is limited knowledge on intention to use mobile coupon using the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh, Morris, Davis, & Davis, 2003). As such, previous studies conducted by researchers preferred to use the Theory of Planned Behaviour (TPB) (Ajzen, 1991), Technology Acceptance Model (TAM) (Davis, 1985), TAM2 (Venkatesh & Davis, 2000) and Innovation Diffusion Theory (IDT) (Rogers, 1962). These models focused typically on studies of electronic coupon. It is widely used to conduct academic studies related to technology acceptance. This research will extend the usage of the UTAUT model on mobile coupon literature.

Therefore, there is urgency to analyse the intention to use mobile coupon using the UTAUT model.

At present, to the best of the author's knowledge, there is limited correlational study of intention to use mobile coupon among millennials has been conducted in Malaysia. Therefore, this research seeks to investigate the relationship between performance expectancy, effort expectancy, social influence and facilitating with intention to use mobile coupon; and the mediating effects of product awareness on relationships among the constructs.

1.3 Research Questions

Contingent on the background of research and problem statement, the researcher strives to answer the following research questions:

i. Does performance expectancy have a significant relationship with the intention to use mobile coupon?
ii. Does effort expectancy have a significant relationship with the intention to use mobile coupon?
iii. Does social influence have a significant relationship with the intention to use mobile coupon?
iv. Does facilitating conditions have a significant relationship with the intention to use mobile coupon?
v. Does performance expectancy have a significant relationship with the product awareness?

vi. Does effort expectancy have a significant relationship with the product awareness?

vii. Does social influence have a significant relationship with the product awareness?

viii. Does facilitating conditions have a significant relationship with the product awareness?

ix. Does product awareness mediate the relationship between performance expectancy and intention to use mobile coupon?

x. Does product awareness mediate the relationship between effort expectancy and intention to use mobile coupon?

xi. Does product awareness mediate the relationship between social influence and intention to use mobile coupon?

xii. Does product awareness mediate the relationship between facilitating conditions and intention to use mobile coupon?

1.4 Research Objectives

The specified objectives of this research are as follows:

i. To determine the relationship between performance expectancy and intention to use mobile coupon.

ii. To determine the relationship between effort expectancy and intention to use mobile coupon.

iii. To determine the relationship between social influence and intention to use mobile coupon.

iv. To determine the relationship between facilitating conditions and intention to use mobile coupon.

v. To determine the relationship between performance expectancy and product awareness.

vi. To determine the relationship between effort expectancy and product awareness.

vii. To determine the relationship between social influence and product awareness.

viii. To determine the relationship between facilitating conditions and product awareness.

ix. To determine the mediating effect of product awareness on the relationship between performance expectancy and intention to use mobile coupon.

x. To determine the mediating effect of product awareness on the relationship between effort expectancy and intention to use mobile coupon.

xi. To determine the mediating effect of product awareness on the relationship between social influence and intention to use mobile coupon.

xii. To determine the mediating effect of product awareness on the relationship between facilitating conditions and intention to use mobile coupon.

1.5 Scope of the Research

This research focuses on the intention to use mobile coupon among millennials consumer in Universiti Utara Malaysia (UUM). The mobile coupon industry in developing countries, such as Malaysia still in the initial stage (Steyn, Pitt, Strasheim, Boshoff & Abratt, 2010). The advancement of the telecommunications industry and mobile broadband subscriptions contribute to the journey of customer loyalty program in developing countries. According to Smith (2012), the tech-savvy generation, millennials are the heavy users of digital technology compared to other generations. Moreover, Smith found out that millennials preferred to receive digital coupon as a loyalty program compares to other types of loyalty programs. In addition, Patel (2011) highlighted that the millennials are less concerned or willing to relax regarding privacy to exchange with rewards. Local business, particularly entertainments and restaurants acknowledge the millennials as the most important customer groups to care for (Pitta, 2011). Moreover, according to Kuykendall (2016), the millennials can be considered as the cost-conscious consumers mostly over recession year. Therefore, the population of the respondents of this research is among millennials consumers which age from 22 years old to 37 years old. UUM consumers are likely to fall into such age categories. Therefore, the respondents are selected from undergraduate consumers and postgraduate consumers. This research is restricted in the domain of one university in Malaysia which is Universiti Utara Malaysia located at Sintok, Kedah.

1.6 Significance of the Research

1.6.1 Theoretical Contribution

This research provides a better theoretical comprehension in integrating mobile coupon in business. The result of this research will contribute to marketing literature that is

focused on determinants of intention to use mobile coupon. As mentioned in the background of the research and problem statement, there is still little knowledge on investigating intention to use mobile coupon. The Unified Theory of Acceptance and Use of Technology (UTAUT) is the underpinning theory of this research to investigate the variables. The application of the UTAUT model was limited within the mobile coupon literature. The studies explore, investigates and reviews the findings of the usage of UTAUT model. Previous studies on the comparison of technology acceptance theories and models by Samaradiwakara and Chandra (2014) shows that UTAUT managed to score the highest points in the comparison which translate that UTAUT is the most popular and suitable model and theory to explain the behavioural intention in a technology environment.

Moreover, the researcher will extend the usage of the UTAUT model along with the mediator variable which is product awareness. Product awareness in this research represents the mobile coupon. In Servaes and Tamayo (2013), the awareness becomes crucial (significant) element in determining the consumers' decision in participating in Corporate Social Responsibility (CSR) program. According to Huang and Sarigöllü (2012), brand awareness significantly affects customers decision making and awareness is used as a decision heuristic. Therefore, this research will introduce product awareness as a mediator in the UTAUT model. Additionally, to examine the effect of product awareness on the relationship between independent variable and dependent variable. Therefore, this research seeks to understand the millennial customers, namely UUM consumers' intention to use mobile coupon.

1.6.2 Practical Contribution

The outcome of this research will provide a new assessment to companies for integrating mobile coupon into business strategy. The findings will provide evidence to be considered for them. Moreover, the result of this research is useful for industry practitioners to develop mobile coupon strategy. The mobile coupon seems to be given full attention from IT and marketing industry player which have started to develop and implement mobile marketing strategy (Adobe Systems Incorporated, 2017). Companies seem to be more aware and initiate several types of mobile coupon especially in Malaysia city hotel industry (Lee, Capella, Taylor, Luo & Gabler, 2014). According to Hsu, Wang, and Wen (2006) the mobile coupon mostly used to increase sales. Therefore, the results of this research will give an insight into industry player regarding mobile coupon.

From the findings of this research, service providers, companies and marketers will acquire insight on how to increase subscriptions of mobile coupon. The examined factors can be evaluated by them in constructing business and marketing strategy. The factors that impact the millennial customers' intention to use mobile coupon can be used to support a policymakers' decision on developing new guidelines or new programs.

1.7 Operational Definitions

The following academic terms will be employed for the purpose of conducting this research. It is must to understand the terms from academic perspectives for better comprehension.

Intention to use mobile coupon: Individual's extrinsic and intrinsic conduct that directly steers into an action following predetermined intent (Du, Zhu, Zhao, & Lv, 2012).

Performance Expectancy: Level of perceived on using technology will contribute productivity, efficiency, and performance (Abubakar & Ahmad, 2013).

Effort Expectancy: User or consumer predicts the level of ease of technology usage (Oye, Iahad & Rahim, 2012).

Social Influence: Individual environment affects the predetermined decision made by the consumer as well as the perception of other people thinking on the individual that use the technology (Oye, Iahad & Rahim (2012).

Facilitating Conditions: The level of consumer perception of the ease of using mobile coupon through telecommunications infrastructures, mobile features and support from the service provider (Oye, Iahad & Rahim, 2012).

Awareness: According to Abubakar and Ahmad (2013), awareness can be defined as the degree to which an individual perceives the existence, features, benefits, and information.

Mobile coupon: According to Bacile and Goldsmith (2011), a mobile coupon can be defined as a digital ticket distribute to customers' smartphone for a financial discount.

Millennials Consumer: According to Howe (2014), the millennials consumer was born between 1982 and 2000, in 2018, their ages between 18 and 36 years old.

1.8 Organization of the Research

This research consists of five chapters. Each of the chapters is briefly described as follows:

Chapter one delivers the background of the research, problem statement, research questions, research objectives, the scope of the research, the significance of the research, definitions of key terms and finally organizations of the research. Finally, chapter summary at the end of chapter one.

Chapter two describes the related literature review and previous research. Brightly discuss the intention to use mobile coupon as the dependent variable of this research. Then, discussion of designated independent variables, research framework and hypotheses are presented in the chapter. Chapter summary is present at the end of chapter two.

Chapter three explained the chosen methodology of the research and presents the research design; sampling frame; development of instruments and measurement scales;

and data collection techniques. Finally, the explanation of data analysis technique and summary of chapter three.

Chapter four focused on data analysis extracted from questionnaires. The demography of respondents will be presented. The research variables will be analysed and presented from the perspectives of descriptive analysis, validity and reliability analysis and research hypotheses. The result of the research will be presented at the end of the arrangement as well as the summary of chapter four.

Chapter five presents the thorough discussion of the research includes the results of the research, research limitations, future research suggestion and research conclusion.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter mainly focuses on the literature of intention to use mobile coupon. There are two parts of this chapter, which are theoretical and empirical. The first part consists of an overview of the mobile coupon industry and a discussion on selected theories. The discussion includes the UTAUT theory and a mediator variable which is a product awareness of the constructs in the UTAUT model. The second part revolves around the discussion of previous studies related to the issues addressed in this research. The discussion of gaps from the previous studies which could be employed and associated with the potential solution for this research is also included.

2.1 Mobile Marketing

Scharl, Dickinger, and Murphy (2005) defined mobile marketing as interactive media that promote goods and services through mobile phones. Haghirian and Inoue (2007) endorse mobile marketing as a media advertising that transmits personalised information to customers' mobile phone to promote goods and services. Kaplan (2012) additionally pointed out that mobile marketing is any marketing activity conducted on a telecommunication network by which customers are connected via mobile devices. In general, the mobile marketing can be defined as the use of telecommunication technology in distributing interactive marketing elements, such as graphics and audio to targeted customers with the aim of customer loyalty.

In recent years, the mobile marketing has become an important tool to deploy modern marketing strategies. Several types of mobile marketing include mobile coupon which have been adopted by companies to attract and to retain the customers' loyalty. Many companies in the retail industry have implemented mobile coupon as an important mobile marketing tool (Shankar, 2016). In this research, mobile application is a medium for mobile marketing which is mobile coupon. Therefore, mobile coupon can be considered as a medium for companies to virtually communicate with their customers. Figure 2.0 shows the mobile marketing is the umbrella of mobile coupon.

Figure 2.0
The Umbrella of Mobile Coupon

2.2 Overview of Mobile Coupon

According to Technavio (2016), based on the Global Mobile Coupon Market 2016-2020, the global mobile coupon industry forecasted to grow at a CAGR of 73.14% during the period of 2016 to 2020. A study by Juniper Research (2014) indicated that the users of mobile coupon will exceed the one billion marks by 2019. The growth of mobile coupon industry is generally assisted by several aspects, such as the development of smartphone technology, a less favourable economic situation which

leads to cost-conscious customers, and the transition of marketing strategy to the mobile marketing. The growth of technology in the telecommunication industry is highly contributes to the creation and implementation of the mobile coupon. Many companies start to implement mobile coupon to attract more customers and they are used as a promotion and sales tool. According to Bauer, Reichardt, Barnes, and Neumann (2005), there are five core characteristics of implementing mobile coupon; the characteristics are ubiquitous, interactivity, localisation, personalisation, and time-specify. Companies can capitalise on these characteristics to pursue a successful mobile coupon strategy. People will maintain the phone on standby for at least 14 hours for one day (Bauer et al., 2005). From the companies' point of view, this behaviour can be useful for them to reach their customers anytime and anywhere with the personalised mobile coupon. Companies can promote mobile coupon through the application in the smartphones.

Meanwhile, smartphone users can search, receive, and use mobile coupon anytime and anywhere. Today's smartphones are more technologically advanced than older phones. The advanced technology such as high-speed internet connection (broadband internet & Wi-Fi), Near Field Communication (NFC), high-speed processor, and large storage makes smartphones become an important interactive medium to send and receive messages. Companies can distribute mobile coupon directly to the potential customers. Back in the early days of mobile coupon industry, companies distribute mobile coupon using SMS and MMS. Now, companies prefer to send mobile coupon through smartphone applications because they are more cost-effective and contain interactive media.

Moreover, smartphones with Global Positioning System (GPS) enable companies to detect smartphone users' location, thus enable distribution of location-based content. Potential customers can be informed about new mobile coupon which can trigger them to make product purchases (Bauer et al., 2005). As stated by Bauer et al. (2005), smartphones can be considered as personal belongings and are rarely shared with other people. Smartphone technology embedded with user history tracking feature enables companies to capitalise by creating personalised offers. As highlighted by Banerjee and Yancey (2010), sales promotion can be personalised because any user activity, such as transactions and interests can be stored and analysed. Such analysis can help to tailor the companies' products or services offered. For example, a smartphone user who watches a YouTube video about coffee arts can receive a discount price mobile coupon for coffee purchases at a nearby store.

In Malaysia, the accurate statistics of the mobile coupon market is limited or non-existence compared to the mobile coupon market in the United States. As a result, many research and survey done by numerous marketing and research companies are based in the U.S. despite that the current state of the mobile coupon market in Malaysia is still new and lacks literature review in the domain of mobile coupon. According to Yakasai and Jusoh (2015), in parallel with Jayasingh and Eze (2010), digital coupon, in the form of mobile coupon, are still not well-adopted by Malaysians. Although there are several Malaysian-based marketer companies (e.g., Cuponation, iPrice, and Shopback) that offer digital coupon services, the redemption rate is still low. According to Yakasai and Jusoh (2015), the lack of mobile coupon redemption rates is due to the inadequate potential customers' knowledge about the mobile coupon as well as many companies still prefer to use paper-based coupon and loyalty cards. This phenomenon supports the

necessity of undertaking this research to understand and identify the factors that affect mobile coupon usage.

There are also lack of data findings on digital coupon usage in Malaysia (Yakasai & Jusoh, 2015) in comparison to other developed and advanced mobile coupon markets such as in the U.S. with 52% of its millennials redeemed digital coupon in 2015 (Valasis, 2017) and 48% companies implemented mobile coupon as a marketing strategy. Even though there is a lack of research and data findings of mobile coupon usage in Malaysia, mobile coupon is getting more attention from Malaysians, especially the millennials. Mobile coupon become a necessity to consumers in making online purchases. Moreover, findings from a survey conducted by CouponBelanja, based on "Lazada Is the Favourite Online Store Among Malaysian Shoppers" (2015), showed that 96% respondents strongly agreed that mobile coupon are necessary for online shopping while only 4% respondents did not agree with the claim.

Several researchers have conducted studies on mobile coupon. The findings of the studies were inconsistent. Spralls, Divine, and Garver (2016) used TRA to study mobile coupon in the U.S. The findings indicated that the level of discount did not affect customers' intention to redeem mobile coupon. Another study by Yakasai and Jusoh (2015) on digital coupon redemption by a university in Malaysia showed that all constructs were significant in the TPB model. However, the sample of the studies and the perspective of the intention were the limitations. Based on previous literature work, there is a lot more unexplored literature in the mobile coupon. The summary of the studies on mobile coupon is shown in Table 2.0.

Table 2.0

Summary of Mobile Coupon Studies

No.	Authors (Year)	Context (sample, location)	Model Used	Construct	Limitations/ Recommendations
1	Spralls, Divine, and Garver, (2016).	Mobile Coupon (coupon, US)	TRA	(N) (IV) Level of Discount (S) (IV) Delivery Method (S) (IV) Coupon Category (S) (DV) Redemption	1. sample, snowball sampling 2. single item used to measure demographic
2	Yakasai and Jusoh (2015)	Digital Coupon (University consumers, Malaysia)	TPB	(S) (IV) Attitude toward (S) (IV) Subjective Norm (S) (DV) Behavioural Control	1. Sample 2. Intention perspective
3	Danaher, Smith, Ranasinghe and Danaher (previously Dagger) (2015)	Mobile Coupon (coupon, Australia)	multivariate binomial probit model	(S) (IV) Redemption times (S) (IV) Face Value (S) (IV) Product type (S) (DV) m-coupon effectiveness	1. Sample
4	Achadinha, Jama and Petrus Nel (2015)	Push mobile coupon (consumers, South Africa)	Extended TAM	(S) (IV) Economic benefit (S) (IV) Convenience (S) (IV) Attitude (S) (IV) Perceived control (N) (IV) Social Influence (S) (DV) Intention	1. Larger sample size for generalization 2. Use of convenience sampling 3. Add more constructs
5	Im and Ha (2014)	Mobile coupon service (Adult consumer, US)	TAM	(S) (IV) Compatibility (S) (IV) Enjoyment (S) (IV) Perceived ease of use (S) (IV) Perceived usefulness (S) (DV) Behavioural intention	1. extend the constructs 2. sample size

Table 2.0 (Continued)

6	Khajehzadeh, Oppewal and Tojib (2014)	Mobile Coupon (members of an online panel, USA)	Quasi Experiment	(S) (IV) Product Type (S) (IV) Shopping Motivation (S) (IV) Access Convenience (S) (Me) Regulatory Fit (S) (DV) intention to redeem	1. Quasi experimental research is used.
7	Bacile and Goldsmith (2011)	Text message mobile coupon (undergraduate consumers, U.S.)	TAM	(S) (IV) Attitude (S) (DV) Intention	1. Focus only one mobile coupon campaign to. 2. Limited sample
8	Nikander (2011)	Mobile coupon (Facebook users, Greece)	Extended TAM	(S) (IV) Perceived usefulness (S) (IV) Perceived ease of use (S) (IV) Attitude (S) (IV) Perceived control (S) (IV) Subjective norm (S) (DV) Behavioural control	1. Sample 2. Focus on intent
9	Banerjee and Yancey (2010)	Fast food mobile coupon (mobile promotion campaign, Midwest USA)	Using analysis of variance and mean comparisons.	(S) (IV) Discount size or offer value (N) (IV) Discount format or offer framing (N) (IV) message timing (N) (IV) product category type (S) (DV) redemption or response rate	1. Secondary data analysis
10	Jayasingh and Eze (2010)	Mobile Coupon (consumers, Malaysia)	TAM	(S) (IV) perceived usefulness (S) (IV) perceived ease of use (S) (IV) coupon proneness (S) (IV) Perceived credibility (S) (MO) value consciousness (S) (MO) price consciousness (S) (DV) Intention	1. Need to use different variables 2. sample limitation 3. follow-up on actual behaviour

Note. (S): Significant
(N): Not Significant

2.3 Types of Coupon

A company can choose different types of mobile coupon to be presented to the potential customers. According to Yakasai and Jusoh (2015), mobile coupon can be categorised into price discounts, free shipping, buy-one-get-one, free giveaways, first time customer coupon, festival offers, launch offers, free trial offers, and cash-back. Among these types of mobile coupon, a survey done by HelloWorld (2017) suggested that price discounts are the most preferred type of mobile coupon with 82% out of over 600 survey participants. This type of mobile coupon can be delivered to customers via two methods, which are traditional coupon and digital coupon. Usually, the traditional coupon, which are paper-based, are distributed through printed media such as newspapers, magazines, and coupon booklets. Meanwhile, digital coupon is distributed through digital media, such as websites, e-mails, and smartphone applications.

2.4 Mobile Coupon Redemption Methods

Generally, there are three methods on how to redeem the mobile coupon which are digital code redemption, barcode redemption, and Quick Response (QR) code. In online sales, many companies prefer to offer digital code to the customers for financial benefits. Such financial benefits are price reduction, free shipping, and cash-back. They will distribute the digital coupon which are presented as a unique code. Usually, the digital coupon is generated by the combination of unique numbers and letters. The redemption can be completed via the mobile shopping applications. The second method of redemption is by using barcode which companies use printed or digital barcode that enables customers to scan it with a smartphone for validation. The third method is the QR code, in which the validation of digital code is similar to the barcode method. Customers need to scan the QR code which is typically printed on paper.

2.5 Advantages of Mobile Coupon

In marketers or companies' point of view, mobile coupon offers several advantages compared with traditional paper coupon. According to Macri (2018), mobile coupon can increase the amount of customers' traffic to visit stores, deepen the brand loyalty, and encourage return visits. Mobile coupon work as a new tool in the acquisition and retention of customers as well as gain a database of consumers' behaviour through big data mining. In addition, Banerjee and Yancey (2010) highlighted that mobile coupon can be sent instantly compared to paper coupon due to the advantages of the digital form compared to paper-based coupon.

2.6 Technology Adoption Models

Throughout the past years, understanding the behaviour of consumers in adopting new technology had received much attention from researchers. Many new theories and models were developed based on several well-established ones. Theories that are related to technology include Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980), Technology Acceptance Model (TAM) (Davis, 1989), Theory of Planned Behaviour (TPB) (Ajzen, 1991), Innovation Diffusion Theory (IDT) (Rogers, 2003), and Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh, Morris, Gordon, & Davis, 2003).

The model of TAM which was introduced by Davis (1989) is considered as an extensively used model to investigate the consumers' behaviour on technology acceptance. However, TAM model was developed only with an emphasis on the adoption of technology in the workplace meant to focus on productivity. The extended model of TAM known as TAM 2 integrated two constructs (subjective norm and

attitude) of TPB model. However, the UTAUT model becomes more widely used due to the limitations of TAM (Venkatesh et al., 2003). According to Venkatesh et al. (2003), the UTAUT model include additional factors to investigate and implement the model in different situations. The UTAUT model integrates performance expectancy, effort expectancy, social influence, and facility conditions as the predictors of the behavioural intention. Moreover, the moderators in the UTAUT model, such as gender, age, experience, and voluntariness are integrated accordingly (as shown in Figure 2.1).

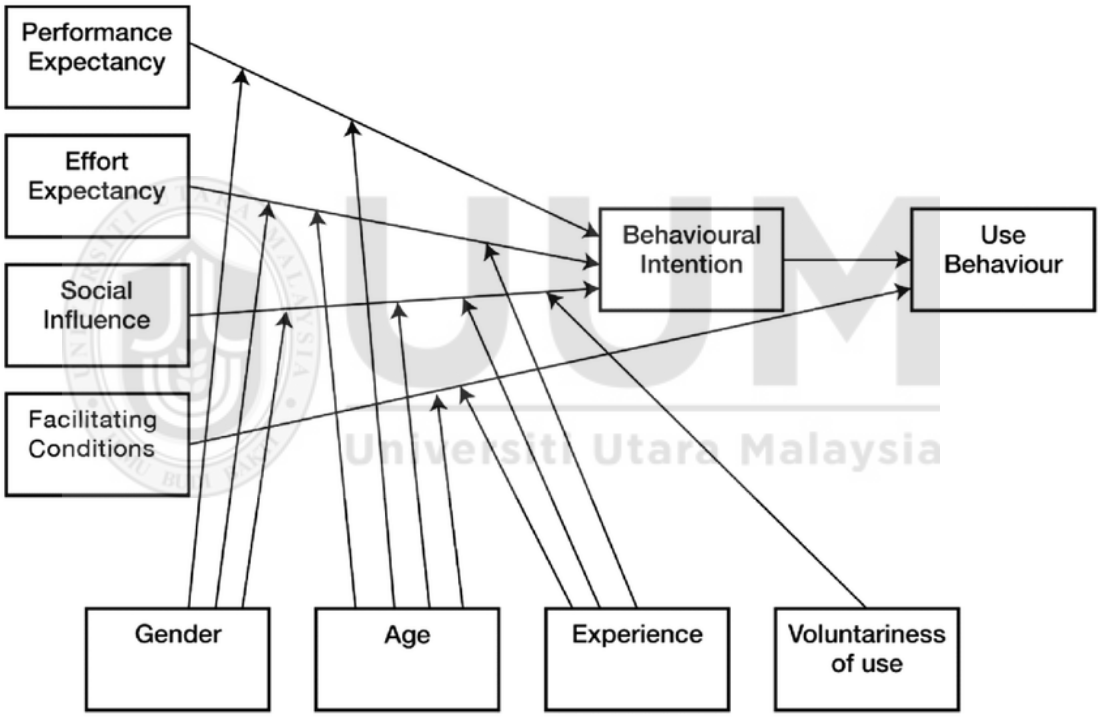

Figure 2.1
The Unified Theory of Acceptance and Use of Technology
Source: Venkatesh et al. (2003)

However, for this research, the original moderators of the constructs were excluded from the model of this research. Gender and age were excluded because they were not included in the research objectives, whereby the gender and age of the respondents were measured using descriptive statistics. Besides that, the experience and voluntariness of

use were also excluded since this research used a mediator variable which is product awareness to explain the relationships between independent variables and a dependent one. The voluntariness of use was excluded since respondents participated in this research voluntarily.

There are limited studies that investigate the millennial consumers' (which is represented by consumers of UUM) intention to use mobile coupon with the model of UTAUT. Therefore, this research extends the theory of UTAUT with product awareness as the mediator between the relationship of independent variable and dependent variable. The following constructs of this research are as follows:

Independent Variable

1. Performance Expectancy
2. Effort Expectancy
3. Social Influence
4. Facilitating Conditions

Mediator Variable

1. Product Awareness

Dependent Variable

1. Intention to Use Mobile Coupon

2.7 Intention to Use

According to Sekaran and Bougie (2009), the dependent variable can be defined as the major focus of the research which represents the problem statement that needs to be explained with the underlying predictors. Therefore, the dependent variable of this research which is the intention to use mobile coupon was examined with four independent variables and one independent variable as stated above.

In UTAUT model, the words "behavioural intention" is used as a term to represent the consumer's behaviour. According to Venkatesh et al. (2003), behavioural intention can be defined as the probability of an act that a person (he/she) will perform a particular behaviour". There are many studies and literature work that represent the context of behavioural intention in different terms. Such synonyms for behavioural intention are **intention to use** (Natarajan, Balasubramanian, & Kasilingam, 2017), **adoption intention** (Zhu, Sangwan, & Lu, 2010), and **continuance intention to use** (Oghuma, Libaque-Saenz, Wong, and Chang, 2016). "intention" is the keyword that has been used in numerous research. Keywords of "use", "adopt", and "purchase" are representing the actions or behaviours.

The behavioural intention in this research is defined as the intention to use mobile coupon. The behavioural pattern of consumers, who are millennial consumers in UUM, is the main objective of this research. There are several studies that used the keyword of 'intention to use' as their main objective representing its dependent variable. Table 2.1 shows the summary of the variables that were used in the studies.

Table 2.1

Summary of Intention to Use Studies

No.	Author (Year)	Context (Location)	Dependent Variable	Independent Variables	Moderator(s)/ Mediator(s)
1	Qin, Kim, and Tan (2018)	Mobile Social Networking Apps (China)	Intention of Use	Attitude Subjective Norm Perceived Behavioural Control	Culture (Me)
2	Natarajan, Balasubramanian, and Kasilingam (2017)	Mobile Shopping Applications (India)	Intention to Use	Perceived Risk Perceived Usefulness Perceived Ease of Use Perceived Enjoyment Personal Innovativeness	Gender (Mo) Experience (Mo) Frequency of Use (Mo)
3	Kim and Rha (2017)	Mobile Learning (South Korea)	Intention to Use	Relative Advantage Compatibility Complexity Observability Trialability Mobile-learning self-efficacy Mobile learning resistance Status quo bias	

Table 2.1 (Continued)

4	Nikou and Economides (2017)	Mobile-based assessment (Greece)	Behavioural Intention to Use	Perceived Ease of Use Perceived Usefulness Facilitating Conditions Social Influence Mobile Device Anxiety Personal Innovativeness Mobile Self-Efficacy Perceived Trust Content Cognitive Feedback User Interface Perceived Ubiquity Value	
5	Lai (2017)	Mobile Electronic Medical Records (Taiwan)	Behavioural Intention to Use	Perceived Usefulness Perceived Ease of Use Social Influence	
6	Hussein, Oon, and Fikry (2017)	mHealth (Malaysia)	Intention to Use	Attitude	
7	Hu and Zhang (2016)	Mobile Book-Reading Apps (China)	Intention to Use	Perceived Ease of Use Perceived Usefulness	Satisfaction (Me) Experiential Value (Mo)
8	Prieto, Miguelanez, and Garcia-Penalvo (2016)	Mobile Technologies (Spain)	Intention to Use	Perceived Usefulness Perceived Ease of Use	Attitude (Me)

Table 2.1 (Continued)

9	Hu and Zhang (2016)	Mobile Book Reading Apps (China)	Behaviour Intention to Use	System Quality Information Quality Service Quality Perceived Usefulness Subjective Norm Self-efficacy Attitude	
10	Arpaci (2015)	Mobile Cloud Storage Services (Turkey)	Intention to Use	Perceived Usefulness Perceived Ease of Use Perceived Ubiquity Trust Perceived Security Perceived Privacy Subjective Norm	Attitude
11	Oghuma, Libaque-Saenz, Wong and Chang (2015)	Mobile Instant Messaging (Nigeria)	Continuance Intention to Use	Perceived Usability Perceived Security Confirmation Perceived Service Quality	
12	Agrebi and Jallais (2014)	Mobile Shopping (France)	Intention to Use	Perceived Usefulness Perceived Ease of Use Perceived Enjoyment	Satisfaction (Me)

Table 2.1 (Continued)

13	Kang (2014)	Mobile Application (USA)	Intention to Use	Performance Expectancy Effort Expectancy Social Influence	
14	Chemingui and Lallouna (2013)	Mobile Financial Services	Intention to Use	Resistance Motivations Trust	
15	Leong, Ooi, Chong and Lin (2013)	Mobile Entertainment (Malaysia)	Behavioural Intention to Use	Perceived Usefulness Perceived Ease of Use Social Influence Perceived Self-efficacy Perceived Enjoyment	
16	Park, Nam and Cha (2011)	Mobile Learning (South Korea)	Behavioural Intention to Use	Self-efficacy Relevance for Consumer's Major System Accessibility Subjective Norm Perceived Usefulness Perceived Ease of Use	Attitude (Me)
17	Zhu, Sangwan and Lu (2010)	Mobile Auction (China)	Adoption Intention	Perceived Value Perceived Cost Self-efficacy	Attitude (Me)

Table 2.1 (Continued)

18	Kim, Mirusmonov and Lee (2009)	Mobile Payment (South Korea)	Intention to Use	Perceived Usefulness Perceived Ease of Use	
19	Yang (2007)	Mobile Advertising (Taiwan)	Intention to Use	Subjective Norm Image Past Adoption Behaviour Knowledge Index Cell Phone Usage Experience Technology Cluster Innovativeness	
20	Nysveen, Pedersen, and Thorbjornsen (2005)	Mobile Services (Norway)	Intention to Use	Perceived expressiveness Perceived Enjoyment Perceived Usefulness Perceived Ease of Use Normative Pressure	Attitude (Me)
21	Wang, Lin, and Luarn (2006)	Mobile Banking (Taiwan)	Behavioural Intention to Use	Perceived Self-Efficacy Perceived Financial Cost Perceived Credibility Perceived Ease of Use Perceived Usefulness	

2.7.1 Performance Expectancy

The construct of performance expectancy was derived from TAM's perceived usefulness (David et al., 1989) and C-TAM-TPB's extrinsic motivation (Davis et al., 1992). Venkatesh et al. (2003) integrated the past constructs into the model of UTAUT. According to Venkatesh et al. (2003), performance expectancy can be defined as "the degree to which an individual believes that using the particular system will assist him or her to achieve advantages in performance". In this research, performance expectancy is defined as the degree to which millennial consumers in UUM perceived that using mobile coupon will enhance daily productivity, financial, transaction quality, and efficiency with the businesses. There are many previous researchers who have examined the relationship between performance expectancy and intention to use. However, there are inconsistent findings of constructs in the UTAUT model.

A study completed by Oye, Iahad, and Rahim (2014) shows that performance expectancy has a significant positive influence on the behavioural intention. The research examined the acceptance and usage of ICT by academicians. A study by Etinger and Orehovacki (2018) also shows that performance expectancy has significance on behavioural intention. The research examined the usage of technological equipment amongst artists. Moreover, a research on ICT adoption in Ghana by Attuquayefio and Addo (2014) indicates that the construct of performance expectancy is insignificant with the behavioural intention. In addition, Cheng, Yu, Huang, Yu & Yu (2011) prove that performance expectancy is also insignificant with the behavioural intention to adopt Information Technology in Taiwan.

These inconsistent findings show that performance expectancy has different results according to contexts and countries; and to the best of the researcher's knowledge, there are no performance constructs that examine the usage intention on mobile coupon. Therefore, this research concludes that the intention to use mobile coupon among the millennial consumers in UUM is reliant on their perception of the mobile coupon' performance. The alternate hypothesis which was developed from the discussion of performance expectancy is as follows.

H1: There is a significant relationship between performance expectancy and intention to use mobile coupon.

2.7.2 Effort Expectancy

The construct of effort expectancy in UTAUT model is derived from TAM and TAM2. According to Venkatesh et al. (2003), perceived ease of use in TAM (Davis et al., 1989), complexity in MPCU (Thompson & Higgins, 1991) and ease of use in IDT (Moore & Benbasat, 1992) have proved similarities in both definition and measurement of scales with the effort expectancy in UTAUT. Effort expectancy can be defined as "the level of ease of technology usage".

There are many technologically-related studies that employed UTAUT model to examine the factors that influence behavioural intention. Oye, Iahad, and Rahim (2014) found out that effort expectancy has a significant relationship towards acceptance and usage of ICT in Malaysia. Mashagba and Nassar (2012) also show that effort expectancy has a significant relationship towards mobile banking in Jordan. Etinger and Orehovacki (2018), Attuquayefio and Addo (2014), Ghalandri (2012), and Gao and

Deng (2012) have similarities on findings of effort expectancy whereby effort expectancy has a significant relationship with behavioural intention. Although, the contexts of the above research are different which are digital audio station, ICT adoption, e-banking services, and e-books accordingly, the findings are adequate to prove that effort expectancy is valid and reliable in order to examine the relationship towards behavioural intention. However, the contrary findings in Chang and Tung (2008) prove that effort expectancy has an insignificant relationship toward behavioural intention of Internet banking in China. Therefore, effort expectancy could have a significant relationship towards intention to use mobile coupon. The hypothesis for the effort expectancy is made as the following statement.

H2: There is a significant relationship between effort expectancy and intention to use mobile coupon.

2.7.3 Social Influence

Fishbein and Ajzen (1975) introduced subjective norm in TRA which is later used by Davis et al. (1989) in TAM2, Ajzen (1991) in TPB/DTPB, and Taylor and Todd (1995) in C-TAM-TPB. The original name of the construct which is a subjective norm was maintained in the above theories. However, Thompson and Higgins (1991) changed the name to social factors and Moore and Benbasat (1991) changed it to social norm. In addition, Venkatesh et al. (2003) also adopted the construct into UTAUT and modified the name to social influence. According to Venkatesh et al. (2003), social influence can be defined as "the individual environment affects the predetermined decision made by the consumer as well as the perception of other people thinking on individual that use the technology". Hence, this research defined it as the degree to which the behaviour of

millennial consumers in UUM is affected by other people who are important to them, thinking that they should use mobile coupon.

There are many inconsistent findings of social influence that acts as a predictor to the behavioural intention. Etinger and Orehoyacki (2018) found that social influence has a significant relationship towards behavioural intention to use digital audio workstations amongst artists. Similar with a research by Oye, Iahad, and Rahim (2014), it found that social influence significantly influences acceptance and usage of ICT in Malaysia. Social influence can be found to significantly influence behavioural intention in the context of e-banking services (Ghalandri, 2012), mobile banking (Yu, 2012), mobile banking (Mashagba & Nassar, 2012), IT innovation (Moghavvemi et al., 2012), and information technology (Cheng et al., 2011).

There is a contradiction of the findings on social influence as found by Attuquayefia and Addo (2014) in the context of ICT. Adoption by consumers of tertiary institutions in Ghana, social influence was found insignificant towards the behavioural intention. Similar with Gao and Deng (2012), they found that social influence has an insignificant relationship towards the behavioural intention to use e-books in China. Yamin and Lee (2010) and Birch and Irvine (2009) found that the relationships between social influence and behavioural intention is insignificant. In addition, the studies were conducted in different contexts and locations, which were e-mail system in Malaysia and e-learning in Canada, respectively. Thus, based on the above findings, the hypothesis for social influence is made as the following statement.

H3: There is a significant relationship between social influence and intention to use mobile coupon.

2.7.4 Facilitating Conditions

The construct of perceived behavioural control in TPB/DTPB (Ajzen, 1991) and C-TAM-TPB (Taylor & Todd, 1995) is portrayed as facilitating conditions in UTAUT. In TPB/MPCU (Thompson, Higgins, & Howell, 1995), the unchanged name was facilitating conditions. However, in IDT (Moore & Benbasat, 1991), it was known as compatibility. Despite of the fact that these theories show that facilitating conditions as a direct determinant of behavioural intention, the facilitating conditions introduced by Venkatesh et al. (2003) is not a direct determinant of behavioural intention. Facilitating conditions can be defined as "the degree to which an individual believes that an organisational and technical infrastructure exists to support the use of the system" (Venkatesh et al., 2003). In this research, facilitating conditions is defined as the degree to which millennial consumers in UUM perceive the ease of use of using mobile coupon through telecommunications infrastructures, mobile features, and supports from the service provider.

Although the facilitating conditions is not the direct determinant of behavioural intention in UTAUT, it is used as a direct determinant for this research with the basis of facilitating conditions were established as a direct determinant of behavioural conditions as found in DTPB, TPB, MPCU, and IDT theories. In this research, facilitating conditions will be examined to test the direct causal relationship towards intention to use mobile coupon. The construct of facilitating conditions in Etinger and

Orehovacki (2018) indicates a significant positive relationship towards behavioural intention. Similar findings in Oye, Iahad, and Rahim (2014), Attuquayefio and Addo (2014), Ghalandri (2012), and Mashagba and Nassar (2012) found that facilitating conditions significantly influence the behavioural intention in each context However, Birch and Irvine (2009) found that facilitating conditions have an insignificant relationship with behavioural intention. Therefore, a hypothesis can be concluded from the above discussion whereby facilitating conditions can significantly influence behavioural intention. The hypothesis of this research as following statement. The summary of the UTAUT constructs as shown in Table 2.2.

H4: There is a significant relationship between facilitating conditions and intention to use mobile coupon.

Table 2.2

Summary of UTAUT Constructs in Previous Studies

No.	Authors/ Year	Context/ Country	Independent Variables			
			PE	EE	SI	FC
1	Etinger and Orehovacki (2018)	Digital Audio Workstation (Croatia)	S	S	S	S
2	Hoque and Sorwar (2017)	Adoption of mHealth (Bangladesh)	S	S	S	N
3	Wrycza, Marcinkowski, and Gajda (2017)	Acceptance of Software Engineering Tools (Poland)	S	N	N	N
4	Bhatiasevi (2016)	Adoption of Mobile Banking (Thailand)	S	S	S	N
5	De Sena Abrahão, Moriguchi, and Andrade (2016)	Mobile Payment (Brazil)	S	S	S	
6	Rodrigues, Sarabdeen, and Balasubramanian (2016).	Adoption of E-government Services (UAE)	S	S	S	S
7	Oye, Iahad and Rahim (2014)	Acceptance and Usage of ICT (Malaysia)	S	S	S	S
8	Attuquayefio and Addo (2014)	ICT Adoption (Ghana)	N	S	N	S
9	Nyembezi and Bayaga (2014)	Cloud Computing Adoption (South Africa)	S			
10	Ghalandari (2012)	E-banking services (Iran)	S	S	S	S
11	Gao and Deng (2012)	E-books (China)	S	S	N	
12	Yu (2012)	Mobile Banking (Taiwan)	S	N	S	
13	Mashagba and Nassar (2012)	Mobile Banking Adoption (Jordan)	S	S	S	S
14	Moghavvemi et al. (2012)	IT Innovation (Malaysia)	S	S	S	
15	Cheng et al. (2011)	Information Technology (Taiwan)	N	N	S	
16	Dulle and Minishi-Majanja (2011)	Open Access Adoption Studies (Tanzania)	S	S	S	S
17	Yamin and Lee (2010)	E-mail System (Malaysia)	S	S	N	
18	Chang and Tung (2008)	Internet Banking (China)	S	N	S	
19	Foon and Fah (2011)	Internet Banking (Malaysia)	S	S	S	S
20	Birch and Irvine (2009)	E-learning (Canada)	N	S	N	N

Note. Significant (S)
Not significant (N)

According to Venkatesh et al., the extended constructs of the UTAUT model will enhance the predictive validity beyond the original specifications. The research by Gao and Deng (2012) extended the UTAUT model with 'perceived cost' as the construct. The extended construct succeeded to achieve 74% of variance in intention, which is above the 70% achieved in Venkatesh et al. (2003). Therefore, the UTAUT model for this research is extended by adding 'product awareness' as the mediator variable between the determinants and the dependent variable as well as to test the direct relationships from the determinants towards the product awareness.

2.7.5 Product Awareness

A mediator variable is a construct that explains the relationship between independent variable and dependent variable. The hypothetical variable is used to examine and explain the causal links between the variables. Product awareness can be considered as a new mediator variable in the UTAUT model, thus there are limited particular definitions for the construct. Therefore, the term product awareness is broken-down into two terms, which are product and awareness. According to Kotler, Brown, and Adam (2006), in marketing perspective, product can be defined as anything that can satisfy customer's needs and wants which is offered by companies. For example, in retailing, products are called merchandise. Such merchandise can be categorised into several types, for instance, packaged goods and groceries. In the basis of fulfilling customers' needs and wants, product of this research represents the mobile coupon which are offered by companies to the potential customers. Meanwhile, for awareness, Henley (1984) indicated awareness as an observer which "consciously sees" a stimulus. In addition, Abubakar and Ahmad (2013) define awareness as the degree to which an individual perceives the existence, features, benefits, and information about the subject.

Therefore, based on the above discussion, product awareness can be defined as the exposure of mobile coupon which is offered by marketers or companies to the customers. In this research, product awareness mediates the relationship between independent variables and a dependent variable. Moreover, based on the inconsistencies that occur in the previous research and the discussion of the above definitions, it is adequate that a mediator variable can be introduced to explain the relationship between the determinants of the UTAUT model and the dependent variable, i.e., intention to use. Consequently, the hypotheses of this research that represents the mediator variable is as the following statement.

H9: Product awareness mediates the relationship between performance expectancy and intention to use mobile coupon.

H10: Product awareness mediates the relationship between effort expectancy and intention to use mobile coupon.

H11: Product awareness mediates the relationship between social influence and intention to use mobile coupon.

H12: Product awareness mediates the relationship between facilitating conditions and intention to use mobile coupon.

2.8 Theoretical Framework

The theoretical framework of this research is developed based on the discussion of the literature. Figure 2.2 shows the theoretical framework of this research.

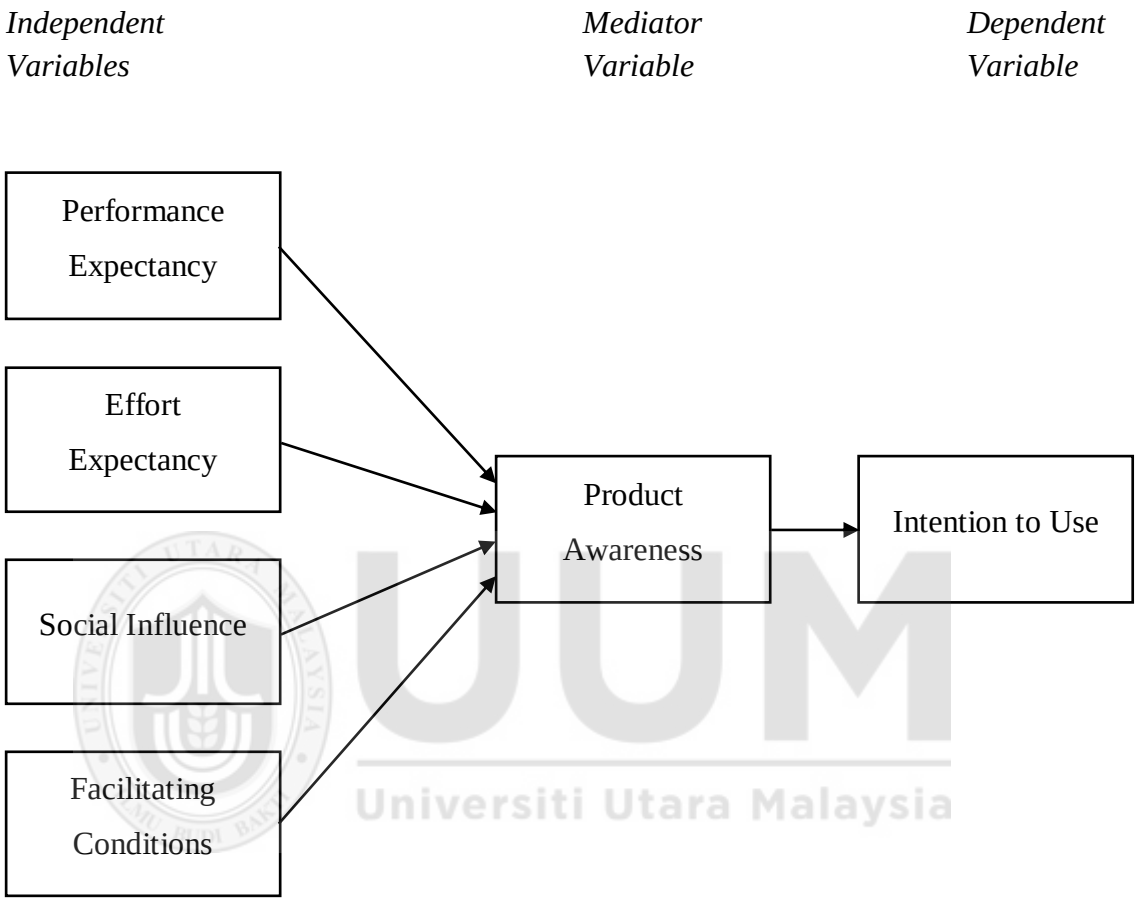

Figure 2.2
Theoretical Framework of The Research

2.9 Underpinning Theories

The research is based on Unified Theory of Acceptance and Use of Technology (UTAUT) which was developed by Venkatesh et al. (2003). The basis form of the theory consists of eight combinations of theories in technology adoption and usage, which are Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975), Social Cognitive Theory (SCT) by Bandura (1986), Technology Acceptance Model (TAM)

by Davis et al. (1989), Theory of Planned Behaviour (TPB) by Ajzen (1991), Innovation Diffusion Theory (IDT) by Moore and Benbasat (1991), Model of PC Utilization (MPCU) by Thompson and Higgins (1991), The Motivational Model (TMM) by Davis et al. (1992), and Combined TAM and TPB (C-TAM-TPB) by Taylor and Todd (1995). Remarkably, the UTAUT model scored the highest theory and model with the variance (R^2) of 0.69 among other theories (Samaradiwakara and Chandra, 2014), hence UTAUT undoubtedly is the most popular, the best theory, as well as model to explain the behavioural intention in technological literature domain.

2.10 Summary of Research Hypotheses

Based on the literature review and the discussion of the research concept, the direct path and mediating hypotheses are formulated as shown in Table 2.3.

Table 2.3
Direct Path Hypothesis and Mediating Hypotheses

No.	Direct Path Hypotheses
H1	There is a significant relationship between performance expectancy and intention to use mobile coupon.
H2	There is a significant relationship between effort expectancy and intention to use mobile coupon.
H3	There is a significant relationship between social influence and intention to use mobile coupon.
H4	There is a significant relationship between facilitating conditions and intention to use mobile coupon.
H5	There is a significant relationship between performance expectancy and product awareness.
H6	There is a significant relationship between effort expectancy and product awareness.

Table 2.10 (Continued)

H7	There is a significant relationship between social influence and product awareness.
H8	There is a significant relationship between facilitating conditions and product awareness.
No.	**Mediating Hypotheses**
H9	Product awareness mediates the relationship between performance expectancy and intention to use mobile coupon.
H10	Product awareness mediates the relationship between effort expectancy and intention to use mobile coupon.
H11	Product awareness mediates the relationship between social influence and intention to use mobile coupon.
H12	Product awareness mediates the relationship between facilitating conditions and intention to use mobile coupon.

2.11 Chapter Summary

Based on the discussion of the context of mobile coupon and the literature of previous studies, it can be concluded that using UTAUT is adequate to solve the addressed issues and to examine the relationship between independent variables and a dependent variable. The proposed mediator variable which is product awareness can be tested to investigate and explains the relationship between determinants and the dependent variable. Therefore, the knowledge gap which exists in previous studies can be identified and fulfilled as well as to extend the knowledge in mobile marketing particularly mobile coupon.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the research methodology used in this research regarding the intention to use mobile coupon among UUM millennials consumers. The population and sample size for this research were also discussed in this chapter. The sampling method, data collection method, and data analysis were discussed in this chapter. A pilot test to measure the reliability and validity of the instruments is also presented in this chapter.

3.1 Research Design

Research design plays important roles academic research in which it provides transparent guidance regarding overall aspects of research procedures. According to Sekaran and Bougie (2013), research design is defined as a blueprint for the research. In order to examine the causal relationships between the independent variables and a dependent variable as well as the mediator variable, this research will be conducted as a correlational research which suggested by Sekaran & Bougie (2013). The relationships that will be examined are performance expectancy, social expectancy, social influence and facilitating expectancy towards intention to use; and the mediating effects of product awareness towards the relationship between performance expectancy, social expectancy, social influence and facilitating expectancy and intention to use.

This research employed a quantitative approach to analyse the variables. Statistical analysis of the research data can be extracted through the questionnaires in a

quantitative method. According to Sekaran and Bougie (2009), a quantitative method can be used to generalize the findings of the research on the particular population.

In order to investigate the phenomenon and to answer the questions of this research, survey research design was employed, in order to gather the primary data via a questionnaire. Moreover, according to Bryman and Bell (2007), usually, a cross-sectional survey was used to gather the data at once in real time because it is cost effective. The secondary data also used to support the findings of the primary data. Such secondary data are articles, online journals, books, websites and published reports.

3.2 Sample Design

3.2.1 Population

The population of the research is all active consumers in Universiti Utara Malaysia, Sintok, Kedah. The grand total of the population is 31,143 consumers (HEP UUM, 2018). There are 25,334 undergraduate consumers and 5809 postgraduate consumers in UUM. There are three academic colleges mainly for undergraduate consumers to pursue first degree in UUM; which are College of Arts and Science (CAS), College of Business (COB) and College of Law, Government and International Studies (COLGIS). Postgraduate consumers will be managed by three postgraduate academic colleges which are Awang Had Salleh Graduate School of Arts and Science (AHSGS), Othman Yeop Graduate School of Business (OYAGSB), and Ghazali Shafie Graduate School of Government (GSGSG). According to Zikmund (2003), in Uma and Bougie (2009), a population is referring to the number of people or event that wants to be studied and also share a common characteristic that required by the researcher.

3.2.2 Sample and Unit of Analysis

The sample for this research is the millennials consumer in UUM. The age of the millennials consumer from 18 to 36 years old. The unit of analysis used in this research is an individual who is millennials consumer in UUM. According to Rosenbloom (2009), millennials consumer reacts negatively to mobile coupon due to the privacy concerns that hinder them from using the coupon. This research was conducted to test the above statement. Contradict with a study done by Smith (2010), the 571 millennials consumer preferred online coupon for a digital marketing strategy. These inconsistent findings of millennials consumer' behaviour towards the mobile coupon become the justification of selecting millennials consumer as the sample of this research.

3.2.3 Sample Frame and Sample Size

The number of the population of this research is 31,143. According to Krejcie and Morgan (1970)'s Table of Determining Sample Size, the sample size is approximately 379 when the population is not more than 40,000 (N<40,000, S = 379), as shown in Table 3.0. Therefore, the appropriate number of the sample size for this research is 379 respondents.

Table 3.0

Krejcie and Morgan's Table of Determining Sample Size

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Source: Krejcie and Morgan (1970)

Note. "N" is population size
"S" is sample size

3.2.4 Sampling Procedures

According to Sekaran and Bougie (2009), there are two types of sampling techniques which are probability sampling and non-probability sampling. The probability sampling consists of six categories which are stratified random sampling, simple random sampling, systematic sampling, cluster sampling, area sampling and double sampling. Meanwhile, for the non-probability sampling, there are only three types which are convenience sampling, quota sampling, and judgement sampling. According to Sekaran (2006), each type of sampling techniques has different advantages and disadvantages.

Therefore, due to the time constraint and lack of funds, the convenience sampling is used in this research. The convenience sampling is the most convenient whereby, the sample is in near proximity from the researcher and easily accessible. It cannot be

denied that convenience sampling has its own drawbacks. However, the measures to overcome the drawback is discussed in the next section.

3.2.5 Sampling Techniques

The data of this research is collected using the convenience sampling. According to Dornyei (2007), the convenience sampling often used by the researchers because the members of the target population of the study meet several criteria; such criteria are ease of access, location proximity, availability at given time and the voluntarily acts to participate in the study. The questionnaires were distributed using a mall intercept approach (Bush & Hair, 1985) and carried out at the Sultanah Bahiyah library in UUM. The in-depth discussion of the convenience sampling procedures is presented in the section of Data Collection Procedures.

3.3 Preparation of Questionnaire

According to Sekaran and Bougie (2013), a questionnaire is used as a tool to record responses from the respondents in a quantitative approach. In this research, the questionnaires consisted eight sections were used in the collection of data. The respondents were required to answer all questions. The first section (Section A) is about the respondent's demographic profile, such as gender, age, ethnic group, state or country of origin, marital status, education level, name of program, school of program, mode of study, education funding, and monthly income.

The second section (Section B) concerning about the respondent's mobile coupon usage behaviour. The third section (Section C) contains questions concerning the dependent

variable, which is the Intention to Use Mobile Coupon. It was measured with five items which adapted from Du et al. (2012).

The fourth section (Section D) contains questions about the first independent variable which is the Performance Expectancy. It was measured with four items by adapting from Abubakar and Ahmad (2013). The fifth section (Section E) is about second independent variable which is the Effort Expectancy. Four items were asked on the questionnaire. The questions were adapted Oye, Iahad, and Rahim (2012).

The sixth section (Section F) concerning third independent variable which is Social Influence. There are four questions referred from Oye, Iahad, and Rahim (2012) needs to be answered by the respondents. The seventh section (Section G) regarding the fourth independent variable which is the Facilitating Conditions. The items were adapted from Oye, Iahad, and Rahim (2012).

The eighth section (Section H) contains four items which were adapted from Abubakar and Ahmad (2013). In section A and B, the respondents can answer in the box provided for a multiple-choice answer and space provided for an open answer. All the questions in the section C, D, E, F, G, and H can be answered by respondents by indicating how much they agree or disagree which ranging from 1 (strongly disagree) to 5 (strongly agree). The summary of the constructs, the operational definitions, and the items were shown in Table 3.1.

Table 3.1

Summary of Constructs, Operational Definitions and Items

Constructs	Operational Definition	Items	Number of Items	Sources
(DV) Intention to Use	Individual's extrinsic and intrinsic conduct that directly steers into an action following predetermined intent (Du, Zhu, Zhao, & Lv, 2012).	1. I intend to use mobile coupon in future. 2. I have a strong interest in using mobile coupon. 3. I will recommend mobile coupon to others. 4. I will say positive things about mobile coupon to others. 5. I am willing to spend time to use mobile coupon.	5	(Du et al., 2012).
(IV) Performance Expectancy	Level of perceived on using technology will contribute productivity, efficiency, and performance (Abubakar & Ahmad, 2013).	1. Using mobile coupon is useful in my everyday life. 2. Using mobile coupon improve my financial performance. 3. Using mobile coupon enhance my transaction quality with the service provider. 4. Using mobile coupon increase the process efficiency with the service provider.	4	(Abubakar & Ahmad, 2013)

Table 3.1 (Continued)

(IV) Effort Expectancy	User or consumer predicts the level of ease of technology usage (Oye, Iahad, & Rahim, 2012).	1. I can easily understand on how to use mobile coupon. 2. Mobile coupon usage would not take too much time. 3. Mobile coupon easier to use compare to conventional method (e.g., physical card/ printed coupon). 4. I could easily become skilful on using mobile coupon.	4	Oye, Iahad, & Rahim (2012)
(IV) Social Influence	Individual environment affects the predetermined decision made by the consumer as well as the perception of other people thinking on the individual that use the technology (Oye, Iahad, & Rahim (2012).	1. I am aware that important people for me such as family and friends are regularly use mobile coupon. 2. My family and friends who regularly use mobile coupon have benefited from it. 3. People who inspire me (e.g., leaders, artist, officials, lecturers, etc.) would influence me to use mobile coupon. 4. In general, the businesses have supported the use of mobile coupon.	4	Oye, Iahad, & Rahim (2012)

Table 3.1 (Continued)

(IV) Facilitating Conditions	The level of consumer perception of the ease of using mobile coupon through telecommunications infrastructures, mobile features and support from the service provider (Oye, Iahad, & Rahim, 2012).	1. I have smartphone with internet access to use the mobile coupon in my everyday life. 2. Mobile coupon is compatible on my smartphone. 3. I have enough knowledge and skills on how to use mobile coupon on my smartphone. 4. I could reach the businesses that give offers or service provider if I am in difficulties.	4	Oye, Iahad, & Rahim (2012)
(ME) Awareness	According to Abubakar and Ahmad (2013), awareness can be defined as the degree to which an individual perceives the existence, features, benefits, and information.	1. I am aware of the existence of a mobile coupon. 2. I am aware of the features of mobile coupon. (e.g., sharing options, flexible saving options, terms and conditions) 3. I am aware of the benefits that can be obtained from mobile coupon redemption. (e.g., price discounts, free giveaways, cash-back) 4. I receive enough information about mobile coupon from the businesses.	4	(Abubakar & Ahmad, 2013)

3.4 Instrumentation and Measurement of Variables

3.4.1 Research Instruments

The questionnaires were developed to obtain the responses regarding the constructs. There are eight sections which consist of the Demographic Profile (Section A), the Mobile Coupon Usage Behaviour (Section B), the Intention to Use Mobile Coupon (Section C), the Performance Expectancy (Section D), the Effort Expectancy (Section E), the Social Influence (Section F), the Facilitating Conditions (Section G) and the Product Awareness (Section H) as shown in Table 3.2. On the front page of the booklet of the questionnaire, there is a cover page for an introduction. In order to help respondent to visualize and understand the questionnaire, on the next page of the questionnaire contain a short note regarding the operational definitions of this research.

Table 3.2
Distribution of Items

Section	Dimensions	Number of Items	Authors
A	Demographic Profile	11	-
B	Mobile Coupon	6	-
C	Intention to Use	5	Du et al. (2012)
D	Performance Expectancy	4	Abubakar and Ahmad (2013)
E	Effort Expectancy	4	Oye, Iahad, and Rahim (2012)
F	Social Influence	4	Oye, Iahad, and Rahim (2012)
G	Facilitating Conditions	4	Oye, Iahad, and Rahim (2012
H	Product Awareness	4	Abubakar and Ahmad (2013)

3.4.2 Questionnaire Translation

All the items were adapted from previous English written studies, therefore there is no need to translate the questionnaire into another language. In addition, the sample of this research is from university hence, comprehension of basic English sentences is no problem.

3.4.3 Type of Measurement Scales

Generally, there are four types of scale in research which are interval scale, ordinal scale, nominal scale, and ratio scale. Different scale measure different items. For the section A which is the Demographic Profile, the nominal scale was used to measures categorical answer which are, gender, ethnic group, country of origin, marital status, education level, mode of study, education funding and income group. In addition, the Section B which is the Mobile Coupon Usage Behaviour used a nominal scale to measure the pre-categorized answer. The interval scale is used to measure the variables in section C, D, E, F, G, and H. In this research, interval scale is used to quantify the data of the intention to use, the performance expectancy, the effort expectancy, the social influence, the facilitating conditions and the product awareness.

3.4.4 Scaling Design

The measurement scale, which is the nominal scale was used for Section A and B. The nominal scale helps the researcher to get information presents in categorical forms. The items of the questionnaires were adapted from previous studies that were completed by Oye, Iahad, and Rahim (2012) and Abubakar and Ahmad (2012). Therefore, the

questionnaires of this research follow the originality of the five-point Likert scale. The method of primary data collection though the questionnaires.

The Five Point Likert Scale was used to measure the dependent variables, the independent variables, and the mediator as shown in Table 3.3. The respondents were required to identify which level they agree and disagree with each of the statements. Table 3.4 shows the rating scale is ranging from 1 to 5 which are 1 (Strongly Disagree), 2 (Disagree), 3 (Neither Agree nor Disagree), 4 (Agree) and 5 (Strongly Agree).

Table 3.3
Distribution of Variables

Variables	Total Number of Items	Scale Used in Research	Scale Used in Original
Intention to Use Mobile Coupon	5	Five Point Likert Scale (1-5)	Five Point Likert Scale (1-5)
Performance Expectancy	4	Five Point Likert Scale (1-5)	Five Point Likert Scale (1-5)
Effort Expectancy	4	Five Point Likert Scale (1-5)	Five Point Likert Scale (1-5)
Social Influence	4	Five Point Likert Scale (1-5)	Five Point Likert Scale (1-5)
Facilitating Condition	4	Five Point Likert Scale (1-5)	Five Point Likert Scale (1-5)
Product Awareness	4	Five Point Likert Scale (1-5)	Five Point Likert Scale (1-5)

Table 3.4
Rating Scale (Five Point Likert Scale)

Scale	Description
1	Strongly Disagree
2	Disagree
3	Neither Agree or disagree
4	Agree
5	Strongly Agree

Source: Vagias (2006)

3.5 Pilot Test

According to Sekaran (2013), a pilot test is necessary to identify difficulties in a format and to correct for any inadequacies in the instrument used for the research. However, the most important reason for conducting a pilot test is to determine whether the variables used in the research are reliable in order to perform a larger sample size. In addition, DeCoster and Claypool (2004) stated that a pilot test is important to identify whether respondents understand the question and really pay an intention with the questions.

In order to past the pilot test, a reliability test and a validity test was conducted using SPSS software and Cronbach's Alpha was used to assess the reliability to measure the scale with multi-point items (Hayes, 2013). For a correlation research, Cronbach's Alpha values greater than 0.70 consider as a high level of reliability, greater than 0.60 consider as acceptable and less than 0.50 must be discarded because considered as poor reliability value (Sekaran, 2009).

In this research, a pilot test has been done using 30 sample of UUM consumer with age ranging from 18 to 36 years old. In the questionnaire, the operational definition of each construct was given to make sure the respondents have a clear understanding of the variables and can visualize the subject (mobile coupon). The pilot test is completed without any issues, hence, indicates that the questionnaire is ready for distribution. Nevertheless, the result of the pilot test is summarized in Table 3.4 below.

Table 3.5
Result of Pilot Test

Variables	Cronbach's Alpha
Intention to use mobile application	0.865
Performance Expectancy	0.693
Effort Expectancy	0.627
Social Influence	0.756
Facilitating Conditions	0.828
Product Awareness	0.826

3.6 Data Collection Procedures

In order to reduce the bias and avoid the drawbacks the convenience sampling, several steps are carefully initiated during the data collection. There are several steps need to be followed during the session of data collection. The steps are presented in the following statements.

The first step, the researcher identifies the exact number of sample according to the population size. In this research, the sample size is 379 respondents. After that, convenience sampling was used to drawn the sample from the population.

The second step, the researcher identifies which location has a heavy traffic to execute the mall intercept. In this research, Perpustakaan Sultanah Bahiyah (PSB) is considered as the location/ building with the most traffic in UUM. On average, there are almost 700 visitors per day (PSB UUM, 2016).

The third step, systematic sampling is employed to allocate the 379 responses for a collection in a month. To reduce the bias, the period of data collection is divided into three sessions which are morning (9.00 a.m. to 10.00 a.m.), noon (12.00 p.m. to 1.00 p.m.) and evening (3.00 p.m. to 4.00). Due to the time constraint, the researcher allocated 1 hour for each session. Overall, the researcher allocated a total of 3 hours per day to collect the data. After that, the researcher identifies the tenth visitor of the library to participate as a respondent. Before giving the questionnaire paper to the respondent, the researcher asks screening question which is "How old are you?". This step is to ensure that the respondent is aged between 18 and 36 years only, according to the criteria of the sample for this research. If the respondent' age has exceeded the limit, the next tenth library visitor will be approached.

According to Sekaran and Bougie (2013), an academic research, usually employed the questionnaire, the interview and the observation for the data collection. This research was conducted in a quantitative approach; therefore, the most suitable data collection would be the questionnaires. One month is allocated for the data collection which starts in mid-Mac 2018 till mid-April 2018. The collection of the data was started immediately after the supervisor of the researcher approved the pilot test. To collect an adequate total number of returned questionnaires which is 379 sets of questionnaires,

the researcher would extend the period of data collection for another one week if the returned questionnaires are insufficient. As discussed in the section of sampling technique, the Perpustakaan Sultanah Bahiyah (PSB) UUM is the location of the data collection.

3.7 Data Analysis Techniques

In this research, all the raw data were processed by using the Statistical Packages for Social Science (SPSS) version 23.0 software and the SmartPLS software version 3.0. A pilot test was deployed to conclude the hypotheses test and the technique of data analysis was discussed on the following section. The SPSS only used to compute the frequency analysis and the descriptive analysis, the correlation analysis, the reliability analysis, and the multiple regression analysis.

This research examines the causal relationship between independent variables and a dependent variable as well as to determine the mediating effects of the mediator variable towards the relationships between independent variables and a dependent variable. The use of computer software which is SmartPLS version 3.0 is the best choice to analyses the data. The SmartPLS is used to analyse the measurement model and the structural equation modelling of the data.

3.7.1 Frequency Analysis

Frequency analysis is used to attain the respondent's demographic profile statistics, the factors that are being measured such as gender, age, ethnic group, state or country of origin, marital status, education level name of program, school of program, mode of

study, education funding, and monthly income. It is also including the mobile coupon usage behaviour. This analysis is convenient to determine the details of frequency and percentage of the UUM millennials consumer's intention to use mobile coupon.

3.7.2 Descriptive Statistics

Descriptive statistic was directed by adding the minimum value, the maximum value, the mean and the standard deviation of each measurement of the dependent and the independent variables. The purpose of this analysis was to obtain the result of the measures of central tendency and the measures of variability.

3.7.3 The Assessment of Measurement Model: Construct Validity Analysis

There are two parts of the measurement model, such two parts are the relationship path between the items and the constructs; the second part is the correlational relationship amongst the constructs. According to Sekaran and Bougie (2009), the construct validity can be defined as the degree to which a combination of measured items represents the theoretical latent construct which is designed to be measured. The confirmatory factor analysis (CFA) is used to carry out the assessment of the measurement model. CFA can be used to assess the convergent validity, discriminant validity and reliability. The advantage of CFA is the ability to examine the validity of the constructs of a proposed theory of measurement. Moreover, the convergent validity is examined by using the factor loadings, the composite reliability as well as the average variance extracted (AVE). After that, the square root of AVE was generated to examine the discriminant validity. Moreover, Venkatesh et al. (2003) recommended that the internal consistency reliability (ICR) can be used to assess the reliability.

3.7.4 Data Analysis using Structural Equation Modelling (SEM): Structural Model

There are two types of structural equation modelling in social science research which are Covariance-based SEM (CB-SEM) and Variance-based SEM (PLS-SEM). According to Hair, Black, Babin, & Anderson (2010), in order to implement PLS-SEM for the data analysis, the researcher need to follows two steps of assessment which are the assessment of the measurement model and the assessment of the structural equation model. The assessment of measurement model consists of reliability and validity tests of the constructs. The assessment of the structural equation model examines the path coefficients of the model.

The general justification on using SmartPLS to analysis the Structural Equation Modelling (SEM) is this research proposed a multivariate analysis, which SmartPLS can compute multiple predictors and constructs simultaneously (Hair et al., 2010). Moreover, Ringle et al. (2005) pointed out that the PLS-SEM have the adequate strength as compared to others hence, able to simultaneously compute several tests on the relationships of the variables. Usually, two types of variable known as endogenous variables and exogenous variables. According to Hair et al. (2010), endogenous can be classified as both dependent and independent variables in the structural model while the exogenous variable can be presented as the independent variable.

In addition, Hair, Ringle, and Sarstedt (2011), point out that the analysis of cause-effect relations between the latent constructs in marketing and management research has become a quasi-standard by using the structural equation modelling. Moreover, using

PLS-SEM is also flexible suitable for reflective measurement models and for formative measurement models, as well as it gives an attractive graphical output and it is very flexible as compared to SPSS graphics. In addition, Hazen, Overstreet, and Boone (2015) suggested that the PLS-SEM is adequate to be flexible in order to analyse the data that are normally distribute and not normally distribute. Besides, if the data faced multicollinearity problem, PLS-SEM still can work perfectly to analyse the data. Therefore, in order to answer the research questions and to achieve the objective of this research, PLS-SEM was selected.

There are several steps that were followed by the researcher to analyse the data, first of all, the path analysis of the model was computed by using PLS Algorithm feature in the SmartPLS, then the mediating effect was computed by using Bootstrapping feature. The values of path coefficient, the standard error, the t-value and the p-value were identified for the assessment. Based on the path coefficients value and the p-value, the hypotheses can be accepted or rejected. The significant and acceptable value of the t-value should greater than 1.96 and the p-value should less than 0.05.

3.8 Chapter Summary

Chapter three is about how the researcher will conduct the research. The research design was plotted to describe how this research was done. Then, the sampling framework for this research was explained. This research respondents' data were obtained through the questionnaires. A pilot test is employed before the questionnaires distributed to the respondents. The respondents' data were analysed by using SPSS version 23.0 software to extract only the frequency and the descriptive statistics. The PLS-SEM in SmartPLS

version 3.0 is used to compute the assessment of measurement model and the structural model. The results of the respondents' data are statistically analysed in the next chapter, Chapter Four.

CHAPTER 4

DATA ANALYSIS AND FINDINGS

4.0 Introduction

This chapter presents the data analysis and findings of the research. The data were analysed using two computer software which are the Statistical Package for the Social Sciences (SPSS) version 23.0 and the SmartPLS version 3.0. First of all, the initial screening was done towards the questionnaires for the incomplete answer. This step helps to filter the questionnaires that usable for the purpose of data analysis. The descriptive statistics of the sample were analysed using the SPSS version 23. The SmartPLS is used to examine the measurement model analysis and the structural model analysis. Finally, the hypotheses were tested and confirmed for the direct relationship, the indirect relationship and the mediation relationship using computer software, the SmartPLS.

4.1 Data Collection and Responses

The questionnaire was distributed using the questionnaire form to millennials consumer in UUM. One month was allocated for the distribution and the collection of the questionnaires. A total of 379 sets of questionnaires were distributed to the respective respondents at the Perpustakaan Sultanah Bahiyah (PSB) at UUM. The library in UUM is known as a place of interest for students and has an average visit of 700 consumers on a daily basis (Perpustakaan Sultanah Bahiyah (PSB), 2016). Therefore, 379 respondents easily approached by the researcher. After the distribution and within the collection period, exactly 379 questionnaires were returned by the respondents. The high response rate due to the researcher immediately retrieved the 379 paper

questionnaires in real time from the respondents at the library in UUM. Hence, the returned questionnaires represent the 100% response rate, which is 379 responses. Several elements that contribute to the higher response rate which is researcher's initiative to distribute and immediately retrieved the questionnaires paper, non-sensitive items and shorter time taken to answer the questionnaire.

4.2 Data Preparation and Screening

The retrieved questionnaires were examined for ambiguity, inconsistency, and omissions. As stated by Field (2009), the missing values, the outliers and the straight-line answer should be noted when performing the data screening. The data preparation and the screening help the researcher to avoid the invalid responses. There are two absolute questionnaires which were only answered 70% by the respondents. Moreover, approximately 62 questionnaires which were answered by respondents with no intention of using mobile coupon in future, thus, the questionnaires are exempted from the data entry.

In order to exclude the outliers in the data, a Linear Regression analysis based on Mahalanobis Distance is conducted by using computer software, the SPSS version 23.0. According to Miller (1991), the recommended value of the standard deviations of 3.0 is very conservative, the value of 2.5 is moderate conservative, and the value of 2.0 is poorly conservative. Moreover, in the SPSS version 23.0, the default value of standard deviation for outliers is 3.0. Therefore, the researcher used 3.0 as the threshold to determine the outliers. There is one case is considered as an outlier as shown in Table 4.0, and the case is immediately cleared. After that, the researcher reruns the test to

ensure that there are no cases left with an outlier. Finally, there is a total of 314 responses which are eligible for data entry. According to Hair et al. (2010), the eligible response rate (314) for data entry which represents 83% out of 100% response rate is considerably high for the sample size.

Table 4.0
Case-wise Diagnostics

Case Number	Std. Residual	MEANDV	Predicted Value	Residual
303	-3.188	3.00	4.2115	-1.21150

Note. Dependent Variable: MEANDV (Intention to Use)

4.2.1 Non-Response Bias Test

The data of this research are collected by using the questionnaire paper thus, respondents need to be volunteered and self-administered to complete the questionnaire. However, according to Matteson, Ivancevich and Smith (1984), there is always likely that the respondents and non-respondents contrast in some significant manner. Therefore, it is important to conduct a test of non-response bias before the process for in-depth analysis. Furthermore, Armstrong and Overton (1977) highlighted that early respondents and late respondents have similar characteristics. The procedure of conducting non-response bias involves categorized the sample into early responses (survey conducted within the first month) and the late response (the first week of the second month). After that, the selected demographic characteristics of the respondents were analysed by using the SPSS version 23.0 with T-test method. In the first month, there are only 300 returned questionnaires. In order to meet the sample size of this research, another one week on the next month was allocated to collect 79 more questionnaires. Therefore, approximately 300 respondents considered as early

responses while the residual 79 responses were categorized as late responses. By using the independent samples, T-test of means, the result indicates that there is no significant difference between early response and late response. The null hypothesis is accepted if Sig. value greater than .05 while Sig. value less than .05 means rejections of the null hypothesis.

Table 4.1
Non-Response Bias Result

Null Hypothesis of Non-Response Bias	Sig.	Result
There is no significant different between early response and late response.	.207	Accepted

4.3 Data Coding Procedure

The researcher used SPSS version 23.0 to analyse the descriptive data. The items and variables of the questionnaire were given a unique code. First of all, researcher identify each case by using a serial number that starts with number one until 315. The demographic profile (Section A) and mobile coupon usage behaviour (Section B) variables are correspondingly labelled with particular terms. The items in Section C, D, E, F, G and H were labelled with unique code as follows; Intention to Use Mobile Coupon as IU1-IU5; Performance Expectancy as PE1-PE4; Effort Expectancy as EE1-EE2; Social Influence as SI1-SI4; Facilitating Conditions as FC1-FC2 and Product Awareness as PA1-PA4. The values of mean of each construct were labelled as follows; mean of Intention to Use Mobile Coupon as MEAN DV; Performance Expectancy as MEAN IV1; Effort Expectancy as MEAN IV2; Social Influence as MEAN IV3; Facilitating Conditions as MEAN IV4 and Product Awareness as MEAN ME.

4.3.1 Data Error Detection Method

The researcher checked all the cases for data error by using frequency analysis. There is a technical error which was a typo error and amended appropriately. The keyed-in data and each case have no missing value (0).

4.4 Descriptive Statistics Analysis of Demographic Profile

The researcher used frequency method of descriptive analysis to show the demographic profile of the respondents. The demographic profile (Section A) consists of 11 items, which are gender, age, ethnic group, state or country of origin, marital status, education level, name of program, school of program, mode of study, education funding and monthly income in Malaysia Ringgit (RM). The data of demographic profile are broken down into several tables accordingly.

4.4.1 Demographic Profile of Respondents

Female respondents dominated the response rate by 237 (75.5%) while 77 (24.5%) are male respondents. The population of this research is millennials consumer aged between 18 and 36 years, therefore there were four age groups that could be chosen by the respondents. Many respondents were from group between 22 - 25 years old in a total number of 214 (68.2%). The second-highest responses rate from respondents aged between 18 – 21 years old with a frequency of 63 (20.1%). Age group 30 - 34 and 26 - 29 years old, recorded a total of 19 (5.7%) and 18 (6.1) respectively. The distribution of data as shown in Table 4.2. UUM have a multiracial consumer who come from various places of origin. Approximately 212 (67.3%) respondents are Malay, 64 (20.4%) are Chinese and 31 (9.8%) are Indian. A total of seven (2.2%) consumers are

International Ethnic. They are broken down into four different ethnic group which are Indonesia 3 (1.0%), Nigeria 2 (0.6%), Thailand 1 (0.3%) and Sudan 1 (0.3%). There are 11 different states and two federal territories extracted from the data.

The majority of respondents aged 22 to 25 years old, hence, there is a high tendency that there are many respondents still single while studying in the university. Approximately, 311 (99.0%) respondents are single and only three (1.0%) respondents were married. The population of this research is millennials consumer in UUM and has been stratified by the researcher into an education level which are undergraduate consumers and postgraduate consumers. The Foundation level and the Bachelor Degree falls into the undergraduate category while the Master Degree and the Doctoral Degree fall into the postgraduate category. There are 261 (83.1%) out of 315 valid responses from the undergraduate respondents and 53 (16.9%) from the postgraduate respondents. The distribution of data is shown in Table 4.2.

UUM have three academic colleges which are College of Business (COB), College of Arts and Science (CAS), and College of Law, Government and International Studies (COLGIS); and one foundation center which is the Center for Foundation Studies in Management (CFSM) to manage undergraduate programs. In addition, there are three academic center, which are Othman Yeop Abdullah Graduate School of Business (OYAGSB), Awang Had Salleh Graduate School (AHSGS) and Ghazali Shafie Graduate School of Government (GSGSG) to manage postgraduate programs. The breakdown of the respondents' school of program as shown in Table 4.2. There are 297

(94.3%) respondents studying in UUM in full-time mode while only 18 (5.7%) respondents studying in part-time mode.

Table 4.2
Demographic Profile of Respondents

Item	Category	Frequency	Percentage
Gender	Female	237	75.5
	Male	77	24.5
Age	18 - 21 years old	63	20.1
	22 - 25 years old	214	68.2
	26 - 29 years old	18	5.7
	30 - 37 years old	19	6.1
Ethnic Group	Malay	212	67.3
	Chinese	64	20.4
	Indian	31	9.9
	International	7	2.2
Marital Status	Single	311	99.0
	Married	3	1.0
Education Level	Foundation	2	.6
	Bachelor Degree	259	82.5
	Master Degree	41	13.1
	Doctoral Degree	12	3.8
School of Program	COB - SEFB	82	26.1
	COB - SBM	73	23.2
	COB - TISSA-UUM	45	14.3
	CAS - SMMTC	30	9.6
	COLGIS - STHEM	24	7.6
	CAS - SQS	23	7.3
	OYAGSB	15	4.8
	COB - STML	7	2.2
	CAS - SOC	6	1.9
	AHSGS	3	1.0
	GSGSG	3	1.0
	SOIS	1	0.3
	CFSM	2	0.6

4.5. Descriptive Statistics on Mobile Coupon Usage Behaviour

The Section B in the questionnaire mainly focused on the behavioural usage of mobile coupon as well as to filter out respondents which have no intention to use mobile coupon in the future by asking the related items. The proposed sample of the research is 379 sample, however, there are 64 (16.9%) responses which are returned by respondents with no intention to use mobile coupon in the future thus, become invalid. It is important to filter out invalid responses to make sure the validity and reliability of the results remain intact.

4.5.1 Respondent's Intention to Use Mobile Coupon and Future Usage Frequency

A total of 314 (82.8%) respondents agreed to have the intention to use mobile coupon in the future. The respondents had chosen several categories of usage frequency for future use of coupon which are once in a week 125 (39.8%); twice in a week 36 (11.5%); three times a week 58 (18.5%); once in two weeks 15 (4.8%); once in a month 20 (6.4%); and once in one to two months 60 (19.1%) (as shown in Table 4.3).

Table 4.3

Respondents' Intention to Use Mobile Coupon and Future Usage Frequency

Item	Category	Frequency	Percentage
Intention to Use Mobile Coupon in Future	YES	314	82.8
	NO	65	17.2
Mobile Coupon Usage Frequency in Future	Once in a week	125	39.8
	Twice in a week	36	11.5
	Three times a week	58	18.5
	Once in two weeks	15	4.8
	Once in a month	20	6.4
	Once in 1 - 2 months	60	19.1

The price discount which is 161 (51.3%) is the highest preferred type of mobile coupon followed by the free shipping 88 (28.0%) and the buy-one-get one 51 (16.2%). The least preferred types of mobile coupon which are only respectively 3 (1.0%) for the trade-in for redemption and the first-time customer coupon. Meanwhile, the cash-back and the free giveaways recorded as much as 4 (1.3%) accordingly as shown in Table 4.4. Price discount became the most preferred by millennials might be consequences of the economic downturn as well as millennials group known for the most cost-conscious group among other age groups.

Table 4.4

Preferred Types of Mobile Coupon

Item	Category	Frequency	Percentage
Types of Mobile Coupon Preferred in Future	Price Discount	161	51.3
	Free Shipping	88	28.0
	Buy-one get one	51	16.2
	Trade-in for redemption	3	1.0
	First-time customer coupon	3	1.0
	Cash-back	4	1.3
	Free giveaways	4	1.3

4.5.2 Preferred Products and Services by Use of Mobile Coupon

About 120 (38.2%) majority of millennials are likely to use mobile coupon on food and drink sold in fast-food restaurant and approximately as much as 48 (15.3%) respondents preferred to use mobile coupon on food and drink sold in café. Furthermore, there are 46 (14.6%) respondents and 40 (12.7%) respondents preferred to use mobile coupon on electronic gadgets. The distribution of the data as shown in Table 4.6. Meanwhile, for preferred services, a majority of 249 (79.3%) respondents chose to use mobile coupon on transportation services. This behaviour might have interrelated with the trends of millennials on using sharing-economy transportation services such as Uber and GrabCar as well as the numerous promotion of low-fare airline AirAsia. In addition, a total number of 54 (17.2%) respondents chose hotel services and 11 (3.5%) respondents chose tutoring services. The rest of the list as shown in Table 4.5.

Table 4.5
Preferred Types of Product and Services

Item	Category	Frequency	Percentage
Products Preferred by Using Mobile Coupon	Food and drink sold in fast-food restaurant	120	38.2
	Food and drink sold in casual restaurant	7	2.2
	Food and drink sold in cafe	48	15.3
	Groceries	25	8.0
	Apparel	22	7.0
	Mobile and gadgets	40	12.7
	Computers and laptops	46	14.6
	Home appliances	4	1.3
	Cosmetics	2	0.6
Preferred Services Used by Mobile Coupon	Transportation services	249	79.3
	Tutoring services	11	3.5
	Hotel services	54	17.2

4.5.3 Preferred Mobile Application for Redemption of Mobile Coupon

There are numerous mobile applications that can be used for the mobile coupon redemption offered to Google's Android smartphone users and Apple's iOS smartphone users. An online shopping platform Lazada, a mobile application becomes the most preferred as much as 132 (42.0%) for the mobile coupon redemptions followed by AirAsia mobile application with a total number of 94 (29.9%) and other online shopping platform Shopee 70 (22.3%). Moreover, Starbucks, U Mobile and Hermo recorded a total of 13 (4.1%), 4 (1.3%) and 1 (0.3%) accordingly.

Table 4.6
Preferred Mobile Application for Redemption of Mobile Coupon

Item	Category	Frequency	Percentage
Mobile Application Preferred for Mobile Coupon Redemption Valid	AirAsia	94	29.9
	Lazada	132	42.0
	Shopee	70	22.3
	Starbucks	13	4.1
	Umobile	4	1.3
	Hermo	1	0.3

4.6 Descriptive Analysis of Variables

In this section, the descriptive analysis of variables is shown by using the minimum and the maximum value, the mean and the standard deviation. According to the interpretation of the mean score pointed out by Moidunny (2009), mean score can be categorized into five groups which are very low (1.00-1.80), low (1.81-2.60), 2.61-3.20 (medium), 3.21-4.20 (high) and 4.21-5.00 (very high). In examining this research question which is "What are the level of UUM millennial consumers' intention to use mobile coupon?", the mean value for intention to use is 3.95 (as shown in Table 4.21). This indicates that the level of UUM millennial consumers' intention to use mobile

coupon is significantly high. Therefore, the sample (314) which represent the population have a high intention to use mobile coupon. Therefore, the millennials consumers are likely to use the mobile coupon.

The mean values for the independent variables and mediator variable were also present in Table 4.7. The independent variables which are the Performance Expectancy, the Effort Expectancy, the Social Influence, and the Facilitating Conditions have high mean score in range of 3.95 to 4.0. The mediating variable which is the Product Awareness has high mean score which is 3.90. Therefore, the respondents significantly perceived the level of dimensions is high. The standard deviation which represents the variation of respondents' judgement is considered moderate as shown in Table 4.7.

Table 4.7
Descriptive Analysis of Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Intention to Use	314	3.00	5.00	3.9586	.55790
Performance Expectancy	314	3.00	5.00	3.9650	.59279
Effort Expectancy	314	2.25	5.00	4.0470	.60909
Social Influence	314	3.00	4.75	3.8177	.43139
Facilitating Conditions	314	3.00	5.00	3.9212	.55522
Product Awareness	314	2.25	5.00	3.9268	.60599

4.7 Measurement Model Analysis

In this section, the analysis of measurement model was conducted by using computer software which is the SmartPLS version 3.0. The relationships between constructs and the items are presented as well as the correlational relationships between the constructs. The result of the measurement model is shown in Figure 4.0.

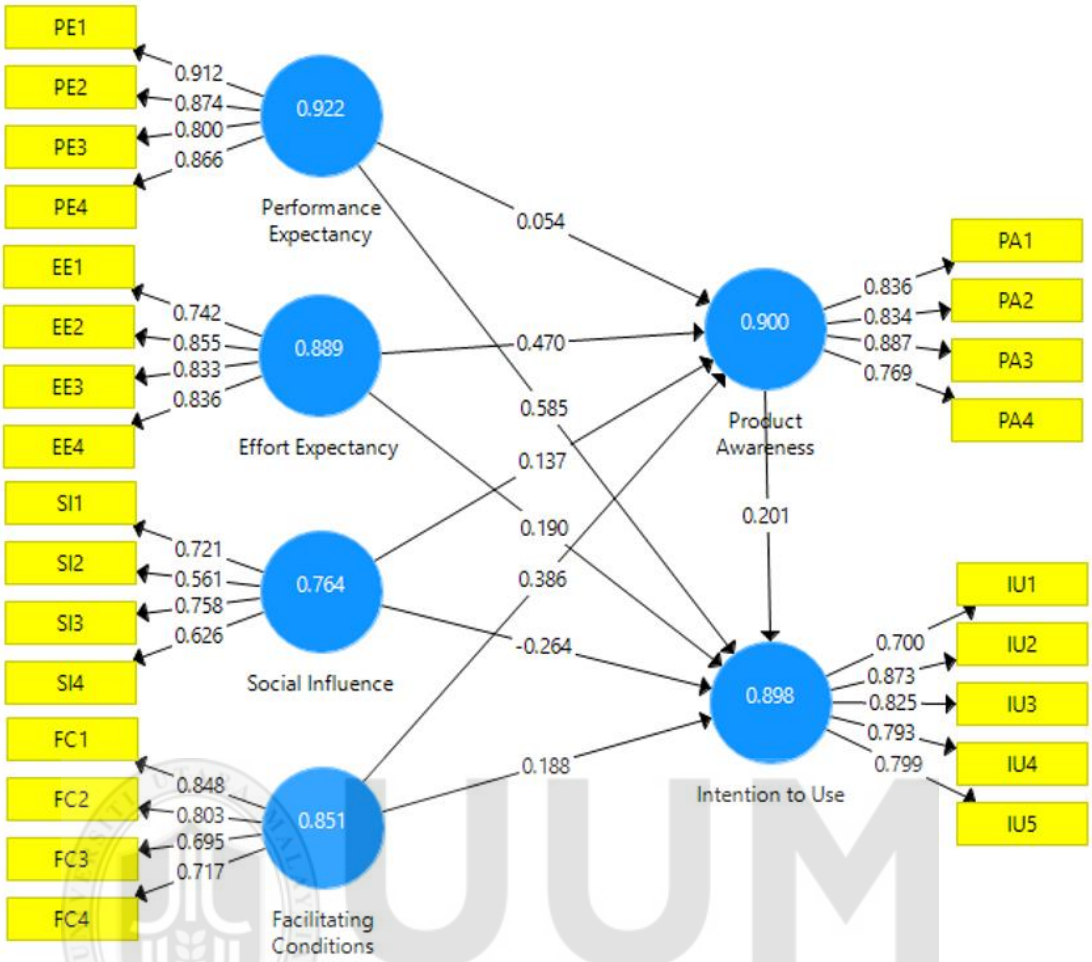

Figure 4.0

The Result of Measurement Model

Note. Inner Model (Path Coefficients)
Outer Model (Outer Loadings)
Constructs (Composite Reliability)

4.7.1 Assessment of Construct Reliability

Generally, many researchers preferred to use Cronbach Alpha to determine the reliability of the constructs. However, by using SmartPLS version 3.0, the researcher can refer composite reliability to indicate the degree of reliable of the constructs. All the constructs of the research are reliable with composite reliability above 0.7.

Table 4.8
Constructs and Measurement of Items

Constructs	Items	Loadings	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Performance Expectancy	PE 1	0.912	0.888	0.922	0.747
	PE 2	0.874			
	PE 3	0.800			
	PE 4	0.866			
Effort Expectancy	EE 1	0.742	0.834	0.889	0.669
	EE 2	0.855			
	EE 3	0.833			
	EE 4	0.836			
Social Influence	SI 1	0.721	0.615	0.764	0.450
	S1 2	0.561			
	S1 3	0.758			
	SI 4	0.626			
Facilitating Conditions	FC 1	0.848	0.767	0.851	0.590
	FC 2	0.803			
	FC 3	0.695			
	FC 4	0.717			
Product Awareness	PA 1	0.836	0.852	0.900	0.693
	PA 2	0.834			
	PA 3	0.887			
	PA 4	0.769			
Intention to Use	IU 1	0.700	0.858	0.898	0.640
	IU 2	0.873			
	IU 3	0.825			
	IU 4	0.793			
	IU 5	0.799			

4.7.2 Assessment of Convergent Validity

According to Fornell and Larcker (1981), the convergent validity can be presented through Average Variance Extracted (AVE). In addition, Hair, Hult, Ringle, and Sarstedt (2014) highlighted that the Factors Loadings and the Average Variance Extracted (AVE) are widely used to indicate the convergent validity of the constructs and the items. Moreover, the convergent validity was commonly used to express an indicator that positively correlates with the alternative indicators of the same constructs (Hair et al., 2014). The assessment of the convergent validity is used in the relationship

between the construct and the items whereas the model is presents in the reflective direction.

The assessment of the convergent validity of the performance expectancy, the effort expectancy, the social influence, the facilitating conditions, the product awareness and the intention to use is shown in Table 4.13. The results of the assessment showed that the social influence indicates the least value of AVE amongst the constructs which is approximately 0.450. The performance expectancy scored the highest value of AVE which is 0.747. The social influence with 0.450 of AVE value still can be accepted as supported by Fornell and Larcker (1981) whereas if AVE is less than 0.5 but the composite reliability is higher than 0.6, it is adequate for the construct to have the convergent validity. Although the social influence indicates only 0.450 of AVE values, it is still acceptable because the value of composite reliability is 0.764 and the value of Cronbach's Alpha is 0.615.

In addition, Hair et al. (2010) suggested that the minimum acceptable value of the Cronbach's Alpha is 0.6. However, there is no agreed standards among researcher for the cut-off value of acceptable Cronbach's Alpha. As stated by Hinton, Brownlow, McMurray, & Cozens (2004), the Cronbach's Alpha value of 0.50 and below, shows reliability, 0.50 to 0.70 shows moderate reliability, 0.7 to 0.90 shows high reliability, and 0.90 and above shows excellent reliability.

Meanwhile, for the assessment of factor loadings, there is no compulsory threshold of factor loadings. According to Hair et al. (2010), the factor loading is the correlation

between items and constructs; the range of the factor loadings for the interpretation are 0.30 to 0.40, acceptable for a minimal level of interpretation; 0.50 to 00.69 are practically significant; 0.70 indicates a good level for interpretation. However, as pointed out by Stevens (1992), the 0.4 value of factor loadings can be accepted for interpreting sample size. Moreover, Tabachnick and Fidell (2007) supported Comrey and Lee (1992) proposed cut-off of factor loadings whereas 0.32 and below (poor), 0.45 (fair), 0.55 (good), 0.63 (very good), and 0.70 excellent. Therefore, the construct and items of the social influence are acceptable with no item deletion.

4.7.3 Assessment of Discriminant Validity

The discriminant validity shows the degree of distinction among the constructs. In this research there are three methods to evaluate the discriminant validity. Such methods are the Fornell-Larcker Criterion, the Cross Loadings, and the Heterotrait-Monotrait Ratio (HTMT). Fornell-Larcker (1981)'s criterion is the first method to evaluate discriminant validity of a research. The value of the AVE's square root should be higher than the value of the correlation of each variable (Fornell and Larcker, 1981). Table 4.9 shows the assessment of the discriminant validity.

Table 4.9
Fornell-Larcker Criterion

	Effort Expectancy	Facilitating Conditions	Intention to Use	Performance Expectancy	Product Awareness	Social Influence
Effort Expectancy	0.818					
Facilitating Conditions	0.435	0.768				
Intention to Use	0.352	0.505	0.800			
Performance Expectancy	0.094	0.474	0.649	0.864		
Product Awareness	0.703	0.712	0.498	0.338	0.832	
Social Influence	0.442	0.704	0.326	0.418	0.639	0.671

The second method of evaluation is the Cross-Loadings. Through Cross-loading, each item in the constructs can be observed thoroughly. To achieve adequate discriminant of the item and construct, the loading of each item should be higher than others. The overall results of the Cross-loadings as shown in Table 4.10.

Table 4.10
Cross-loadings of the Variables

	Effort Expectancy	Facilitating Conditions	Intention to Use	Performance Expectancy	Product Awareness	Social Influence
Effort Expectancy 1	0.742	0.315	0.251	-0.001	0.518	0.332
Effort Expectancy 2	0.855	0.295	0.345	0.078	0.627	0.302
Effort Expectancy 3	0.833	0.446	0.323	0.168	0.622	0.409
Effort Expectancy 4	0.836	0.366	0.210	0.042	0.512	0.414
Facilitating Conditions 1	0.434	0.848	0.400	0.458	0.635	0.570
Facilitating Conditions 2	0.302	0.803	0.563	0.484	0.513	0.469
Facilitating Conditions 3	0.383	0.695	0.177	0.202	0.592	0.758
Facilitating Conditions 4	0.208	0.717	0.372	0.262	0.449	0.393
Intention to Use 1	0.559	0.230	0.700	0.317	0.526	0.246
Intention to Use 2	0.328	0.419	0.873	0.613	0.402	0.241
Intention to Use 3	0.238	0.339	0.825	0.555	0.244	0.195
Intention to Use 4	0.118	0.518	0.793	0.569	0.352	0.226
Intention to Use 5	0.206	0.492	0.799	0.504	0.496	0.408
Product Awareness 1	0.596	0.567	0.395	0.325	0.836	0.515
Product Awareness 2	0.475	0.687	0.571	0.356	0.834	0.522
Product Awareness 3	0.693	0.560	0.407	0.275	0.887	0.588
Product Awareness 4	0.586	0.550	0.254	0.150	0.769	0.500
Performance Expectancy 1	0.195	0.510	0.681	0.912	0.428	0.431
Performance Expectancy 2	0.145	0.456	0.488	0.874	0.328	0.430
Performance Expectancy 3	-0.178	0.268	0.477	0.800	0.087	0.167
Performance Expectancy 4	0.071	0.351	0.553	0.866	0.243	0.363
Social Influence 1	0.314	0.406	0.456	0.462	0.414	0.721
Social Influence 2	0.249	0.360	-0.055	0.135	0.339	0.561
Social Influence 3	0.383	0.695	0.177	0.202	0.592	0.758
Social Influence 4	0.198	0.352	0.146	0.277	0.299	0.626

The Heterotrait-Monotrait Ratio (HTMT) is the third method to evaluate the discriminant validity. The value lower than one (1) indicates that the discriminant validity of the constructs is exists. Although social influence indicates 0.978, it is still considered acceptable. The overall results of the Result of Heterotrait-Monotrait Ratio (HTMT) as shown in Table 4.11.

Table 4.11
Result of Heterotrait-Monotrait Ratio (HTMT)

	Effort Expectancy	Facilitating Conditions	Intention to Use	Performance Expectancy	Product Awareness	Social Influence
Effort Expectancy						
Facilitating Conditions	0.541					
Intention to Use	0.421	0.602				
Performance Expectancy	0.204	0.537	0.718			
Product Awareness	0.831	0.880	0.582	0.359		
Social Influence	0.589	0.978	0.435	0.519	0.834	

4.8 Assessment of Structural Model

In order to answer the third research question, which is "Does product awareness mediate the relationship between performance expectancy, effort expectancy, social influence and facilitating conditions and intention to use mobile coupon?", a mediating analysis is conducted using the Bootstrapping method in SmartPLS. The non-parametric test which repeatedly compute random sampling technique over data. According to Hayes (2013), 10,000 bootstrap samples are recommended to compute the chosen statistic for each variable. Hence, 10,000 bootstrap samples are chosen to achieve better results. The overview results of the bootstrap method as shown in Figure 4.1.

Moreover, to assess the structural model effectively, there are five procedures to be conducted accordingly. According to Hair et al., the first procedure is to identify the collinearity issues on the structural model; after that the path coefficients are evaluated,

followed by evaluating the level of the R^2 and f^2; finally, the evaluation of predictive relevance Q^2.

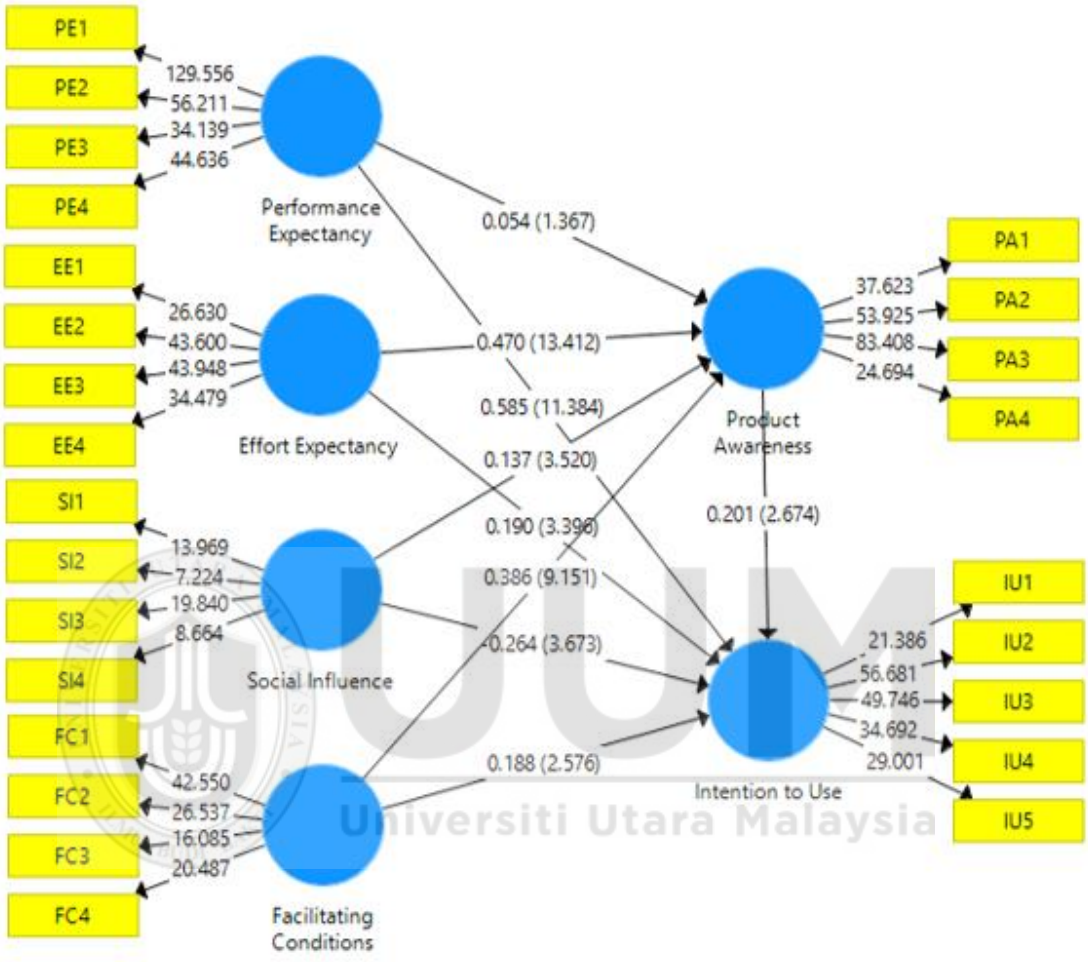

Figure 4.1
The Result of Bootstrap Method
Note. Inner Model (Path Coefficients and T-values)
Outer Model (T-values)

4.8.1 Identify the Issues of Collinearity

The Variance Inflation Factor (VIF) values should be below 10 to avoid issues (Hair et al., 2010; Sarstedt & Mooi, 2014). According to Ringle, Sarstedt, and Schlittgen. (2014), suggested, five (5) as the maximum value of VIF. All the VIF values of items

and constructs is below four (4), hence there is no indication of collinearity issues. The details of the VIF values are shown in Table 4.12 and 4.13.

Table 4.12
Outer VIF Values of Items

Items	VIF
Effort Expectancy 1	1.651
Effort Expectancy 2	2.014
Effort Expectancy 3	2.156
Effort Expectancy 4	2.215
Facilitating Conditions 1	1.862
Facilitating Conditions 2	1.624
Facilitating Conditions 3	1.329
Facilitating Conditions 4	1.407
Intention to Use 1	2.755
Intention to Use 2	3.562
Intention to Use 3	2.063
Intention to Use 4	3.396
Intention to Use 5	2.492
Product Awareness 1	2.102
Product Awareness 2	1.872
Product Awareness 3	2.606
Product Awareness 4	1.753
Performance Expectancy 1	3.077
Performance Expectancy 2	2.778
Performance Expectancy 3	2.138
Performance Expectancy 4	2.557
Social Influence 1	1.160
Social Influence 2	1.236
Social Influence 3	1.191
Social Influence 4	1.267

Table 4.13
Inner VIF Values of Constructs

	Effort Expectancy	Facilitating Conditions	Intention to Use	Performance Expectancy	Product Awareness	Social Influence
Effort Expectancy			2.096		1.333	
Facilitating Conditions			2.791		2.276	
Intention to Use						
Performance Expectancy			1.365		1.355	
Product Awareness			3.456			
Social Influence			2.205		2.140	

4.8.2 The Assessment of Path Coefficient

The procedure was employed to determine the significance of the research hypotheses and to examine the relationship between performance expectancy, effort expectancy, social influence, facilitating conditions, product awareness and intention to use. There are eight hypotheses related to the procedure as shown in Table 4.14.

Table 4.14 shows the results of the analysis of the path coefficient. The confidence level of the analysis is 99.95%, which represents the p-value less than 0.05 of the significance level. Table 4.14 shows that the social influence is statistically not significantly influence the intention to use. In addition, the relationship between the social influence and the intention to use is a negative relationship. Moreover, with a value of direct effect (0.054) shows a weak relationship and the p-values (0.169) showed the performance expectancy, statistically did not have a significant relationship with the product awareness. The details of the assessment are shown in Table 4.14.

Table 4.14

The Assessment of Path Coefficients

Hypotheses	Relationships	R2	Direct Effect	Std. Beta	T-values	P-values	Decision
H1	Performance Expectancy → Intention to Use	0.555	0.585	0.052	11.273	0.000	Accept
H2	Effort Expectancy → Intention to Use		0.190	0.056	3.388	0.001	Accept
H3	Social Influence → Intention to Use		-0.264	0.073	3.609	0.000	Accept
H4	Facilitating Conditions → Intention to Use		0.188	0.073	2.573	0.010	Accept
H5	Performance Expectancy → Product Awareness	0.711	0.054	0.039	1.377	0.169	Reject
H6	Effort Expectancy → Product Awareness		0.470	0.035	13.343	0.000	Accept
H7	Social Influence → Product Awareness		0.137	0.039	3.492	0.000	Accept
H8	Facilitating Conditions → Product Awareness		0.386	0.042	9.116	0.000	Accept
H9	Performance Expectancy → Product Awareness → Intention to Use			0.035	2.684	0.007	Accept
H10	Effort Expectancy → Product Awareness → Intention to Use			0.029	2.659	0.008	Accept
H11	Social Influence → Product Awareness → Intention to Use			0.010	1.124	0.261	Reject
H12	Facilitating Conditions → Product Awareness → Intention to Use			0.015	1.884	0.060	Reject

4.8.3 The Assessment of Coefficients of Determination (R^2 values)

The R^2 shows the variation of the endogenous variable and the exogenous variable. According to Hair et al. (2014), R^2 can be categorized into three levels which are 0.35 (weak), 0.50 (moderate) and 0.75 (good). Table 4.27 shows approximately 0.555 of R^2 value for the performance expectancy, the effort expectancy, the social influence and the facilitating conditions towards the intention to use. The strength of the relationship which is 55% of the variance in the intention to use can be considered moderate. Meanwhile, for the strength of the relationship between the performance expectancy, the effort expectancy, the social influence and the facilitating conditions towards the product awareness is 0.711. The variance for the product awareness which is 71% showed a high strength of relationship.

4.8.4 The Assessment of Effect Size (f^2 value)

The f2 effect size is employed to measure the impact of a particular construct on the endogenous construct. The omitted particular exogenous construct which changed the R^2 value is measured by the f^2 of the effect size. The impact of the particular exogenous construct on R^2 values can be examined by the f^2 value. According to Cohen (1988), he suggested four levels of effect size which are less than .20 (small), .21 to .49 (moderate), .50 to .79 (medium) and above .80 (large).

The performance expectancy (0.563) has a medium effect size on the intention to use. The rest of the constructs have small effect size on the intention to use. Meanwhile, for the facilitating conditions (0.226) has a moderate effect size on the product awareness and the effort expectancy (0.572) has a medium effect size on the product awareness.

The rest only have small effect size. The effect size of each construct is shown in Table 4.15.

Table 4.15
Table of Predictive Relevance and Effect Size

Constructs	Coefficient of Determination (R^2)	Predictive Relevance ($Q^{2)}$	Intention to Use (f^2)	Effect Size	Product Awareness (f^2)	Effect Size
Performance Expectancy			0.563	Medium	0.007	Small
Effort Expectancy			0.039	Small	0.572	Medium
Social Influence			0.071	Small	0.030	Small
Facilitating Conditions			0.028	Small	0.226	Moderate
Product Awareness	0.711	0.462	0.026	Small		
Intention to Use	0.555	0.331				

4.8.5 The Assessment of Predictive Relevance (Q^2)

In order to examine the predictive power of the exogenous on the endogenous constructs, a blindfolding technique was conducted by using SmartPLS version 3.0. If the value of Q^2 is zero or less than zero its indicates the lack of predictive relevance while if the value is greater than zero its indicates the particular exogenous constructs have the ability to predict the endogenous constructs. Table 4.15 shows that the Q^2 value of the product awareness is 0.462 and Q^2 value of the intention to use is 0.331. The Q^2 value of each construct is greater than zero indicates that the exogenous construct (performance expectancy, effort expectancy, social influence and facilitating

conditions) have predictive relevance over the endogenous construct (product awareness and intention to use).

4.9 Summary of Findings

Generally, the researcher employed two types of computer software to compute and analyse the data which are the SPSS version 3.0 and the SmartPLS version 3.0. The SPSS is used to measure the level (mean, median, frequencies) of the particular data. The descriptive statistics of the respondents which are millennial consumers in UUM demonstrated moderate level of intention to use mobile coupon. The method of Structural Equation Modelling using the Partial Least Squares Path Modelling (PLS-SEM) in SmartPLS version 3.0 is used to investigate the cause-effect relationship of the factors with intention to use mobile coupon as well as the effect of mediator variable. The results of the analysis demonstrated that the performance expectancy, the effort expectancy and the facilitating conditions have a significant relationship with the intention to use mobile coupon. However, the social influence has a weak relationship with the intention to use, thus the hypothesis is rejected. Moreover, the performance expectancy has a weak relationship on the product awareness (mediator variable), thus the hypothesis is rejected. Finally, to determine the mediating effect of the product awareness between the independent variables and the dependent variable, the bootstrap method in the SmartPLS was conducted to interpret the phenomenon. The summary of findings is shown in Table 4.16.

Table 4.16
Summary of Findings

No.	Hypotheses	Results
	Direct Relationships	
H1	There is a significant relationship between performance expectancy and intention to use mobile coupon.	Accept
H2	There is a significant relationship between effort expectancy and intention to use mobile coupon.	Accept
H3	There is a significant relationship between social influence and intention to use mobile coupon.	Accept
H4	There is a significant relationship between facilitating conditions and intention to use mobile coupon.	Accept
H5	There is a significant relationship between performance expectancy and product awareness.	Reject
H6	There is a significant relationship between effort expectancy and product awareness.	Accept
H7	There is a significant relationship between social influence and product awareness.	Accept
H8	There is a significant relationship between facilitating conditions and product awareness.	Accept
	Indirect Relationships	
H9	Product awareness mediate the relationship between performance expectancy and intention to use mobile coupon.	Accept
H10	Product awareness mediate the relationship between effort expectancy and intention to use mobile coupon.	Accept
H11	Product awareness mediate the relationship between social influence and intention to use mobile coupon.	Reject
H12	Product awareness mediate the relationship between facilitating conditions and intention to use mobile coupon.	Reject

CHAPTER FIVE

DISCUSSION AND CONCLUSION

5.0 Introduction

This chapter summarizes the findings of this research, implications, contribution, and suggestions for future research. The findings of the measurement model and the structural model presented in this chapter. The discussion on the structural model consists of direct hypotheses and mediating hypotheses. Moreover, the assessment of the objectives of this research. The contribution of this research in the theoretical and the practical domain are presented. Finally, the limitations of this research and the future prospects are highlighted.

5.1 Summary of Findings

The data of the research were analysed using Partial Least Squares – Structural Equation Modelling via SmartPLS 3.0. The research model was assessed in two methods which are measurement model and structural model. In the measurement model, the predictor variables were examined to ensure that items were measuring the right context and constructs of the research. In the structural model, the hypotheses of the research were tested, the predictive relevance was assessed and the effect size of the constructs was computed.

5.2 Discussion of the Findings

5.2.1 The Direct Determinants of Intention to Use Mobile Coupon

There are four direct determinants of intention to use mobile coupon which was derived from the UTAUT constructs. The adapted determinants are; the performance

expectancy, the effort expectancy, the social influence and the facilitating conditions. The hypotheses result in these determinants were proved to have a significant relationship with the intention to use mobile coupon.

5.2.1.1 Performance Expectancy

Performance expectancy in this research is defined as the degree which millennials consumers perceived that using mobile coupon will contribute daily usefulness, financial performance, transaction quality and efficiency. The result of the proposed hypothesis indicated that the performance expectancy has a significant positive relationship with intention to use mobile coupon. This result is similar to many previous studies. For example, a study by Hoque and Sorwar (2017), found out that the performance expectancy significantly influences consumers in Bangladesh to adopt mHealth. Moreover, a study on the acceptance and usage of ICT by the academicians, Oye, Iahad and Rahim (2014), the result indicated that the performance expectancy significantly influences the behavioural intention. In line with a study on the digital audio workstation by Etinger and Orehovacki (2018), the result showed that the performance expectancy significantly influences the artist to use the digital audio workstation. Therefore, the performance expectancy can be concluded as the powerful determinant which was proved in different contexts and research setting.

The inclusive result in this research can be interpreted as, millennials consumer in UUM believed that using mobile coupon can improve their performance in term of the daily usefulness, the financial performance, the transaction quality and efficiency. For example, millennials consumer believed that using the price discount mobile coupon to

buy goods provide a financial saving. In addition, the price discount mobile coupon which was offered by the marketers and the retails stores will have a high redemption rate. Hence, performance expectancy subsequently influences the millennials consumer's intention to use mobile coupon.

5.2.1.2 Effort Expectancy

The effort expectancy of this research is defined as millennials consumer predicts on the level of difficulty of using mobile coupon. The previous discussion of the effort expectancy in chapter two showed that inconsistent findings from the several studies. However, an alternate hypothesis for this construct was formulated which is, the effort expectancy has a significant relationship with the intention to use mobile coupon. The result of this hypothesis is accepted; therefore, these findings are similar to several previous studies such as Etinger and Orehovacki (2018) and Ghalandri (2012). Moreover, in Hoque and Sorwar (2017) found that effort expectancy significantly influences consumers in Bangladesh to adopt mHealth. Additionally, in Etinger and Orehovacki (2018), effort expectancy significantly influences the artists' behavioural intention to use a digital audio workstation in Croatia. The result of the effort expectancy in a study by Ghalandri (2012) at Iran also indicated that effort expectancy significantly influences consumers' intention to use e-banking services. In the context of mobile banking in Taiwan, the significant findings also found in Yu (2012), whereas the effort expectancy influence the consumers' intention to use mobile banking.

Additionally, for the context of this research, the result can be interpreted as millennials consumers in UUM perceived the ease of use of mobile coupon as easy. Such ease of

use is; easy to use mobile coupon, less time is taken for mobile coupon redemption, perceived flexibility and more convenience compared to paper-based coupon. In addition, the millennials generation was considered as a tech-savvy generation as highlighted by Smith (2012), the millennials were the heavy users of digital technology as compared to other generations Hence, the mobile coupon will be more preferred by the millennials as compared to the paper-based coupon whereas the paper-based coupon required the millennials to spends more time, energy and effort to search (on printed magazine and newspaper), to cut (according to printed form) and to store (requires space to store). These actions will have hindered the millennials from using the paper-based coupon. As supported by Smith (2012), the millennials consumers preferred to receive digital coupon. Hence, effort expectancy significantly influences their intention to use mobile coupon.

5.2.1.3 Social Influence

The hypothesis of the social influence which is "Social influence has a significant relationship with the intention to use mobile coupon". Interestingly, it was tested and statistically found that social influence has a significant negative relationship with the intention to use mobile coupon. In a negative relationship, the two variables in which, if the social influence increases, the intention to use mobile coupon is decreased, and vice versa. In this research context, millennials consumer's intention to use the mobile coupon statically influenced by social influence. As such the social influence derived from the items are; family and friends benefited regular user among family and friends, role model and the companies in which offers mobile coupon. The significant findings found in Bhatiasevi (2016), whereas the social influence significantly influenced consumers' intention to adopt mobile banking. Several studies were done by

Attuquayefio and Addo (2014) and Gao and Deng (2012) found out that social influence has an insignificant with behavioural intention. While in, Etinger and Orehovacki (2018), Oye, Iahad and Rahim (2014) and Ghalandri (2012) found out that social influence has a significant relationship with behavioural intention. Therefore, in the context of this research, the social influence might influence the millennials consumer' intention to use mobile coupon because, although they are a tech-savvy generation, the decision to make an online purchase with financial benefits via redemption of the coupon is restricted by the cost-conscious purchase behaviour among millennial consumer (Rickes, 2009).

The negative relationship between the social influence and the intention to use mobile coupon can be interpreted as millennials consumer believed that purchasing luxury items or high end branded goods with mobile coupon could be seen as an underprivileged person. Moreover, they believed that the behaviour of coupon redemption will affect social status, whereas millennials that concern on their image will avoid using the mobile coupon, as they believed that using mobile coupon makes them look underprivileged. According to Deloitte (2017), the millennials purchase luxury items to make them feel good and look good. As supported by, Gustafson (2016), high-end brand Micheal Kors, they no longer use coupon strategy in order to avoid damaging its luxury brand. Therefore, social influence subsequently influences their intention to use mobile coupon.

5.2.1.4 Facilitating Conditions

The facilitating conditions in this context of research is defined as the level of the millennials consumer perceived the ease of using mobile coupon via telecommunications infrastructures, mobile features and support from the service provider. The developed hypothesis for this construct is "Facilitating conditions has a significant relationship with the intention to use mobile coupon". The alternate hypothesis was accepted. Therefore, the facilitating conditions indicate to have a significant positive relationship with the millennials consumer' intention to use mobile coupon. The result is similar to several previous studies such as in Etinger and Orehovacki (2018), found out a significant relationship between facilitating conditions and behavioural intention in the context of digital audio workstation. Similarly, in Rodrigues, Sarabdeen and Balasubramanian (2016), the facilitating conditions have a significant relationship with intention to adopt e-government services. Moreover, Oye, Iahad, and Rahim (2014) and Ghalandri (2012) found out the facilitating significantly influenced the behavioural intention in the context of ICT and e-banking services accordingly.

The interpretation of the hypothesis can be concluded as the ownership and compatibility of mobile coupon helps in the redemption of mobile coupon. In addition, the millennials consumer's knowledge on skills also contributes in the redemption. If the companies that offers mobile coupon assists and solve problems faced by millennials consumers during redemption process, millennials consumer will continue to make the redemption. Hence, the facilitating conditions significantly influence their intention to use mobile coupon.

5.3 Discussion of Mediating Hypotheses

Based on the literature review in chapter two, the product awareness included in the UTAUT model as a mediator variable. Product awareness was included to explain the relationship between the independent variables and the dependent variables. In the context of this research, the product awareness is defined as the millennials consumer perceived the existence, the features, the benefits and the information of the mobile coupon. Therefore, there are four mediating hypotheses were developed to explain the relationships. Overall, the product awareness mediates the relationship between the performance expectancy and the effort expectancy with the intention to use mobile coupon.

5.3.1 Performance Expectancy → Product Awareness → Intention to Use

The hypothesis of this path which is "Product awareness mediates the relationship between performance expectancy and intention to use mobile coupon" was accepted. The results of the hypothesis can be interpreted as the product awareness is fully intervene the relationship between the performance expectancy and the intention to use mobile coupon. Full mediation happened in the relationship between the performance expectancy and the intention to use mobile coupon. Consequently, the millennials consumer's that interacted with the product awareness might intend to use mobile coupon regardless the performance expectancy.

5.3.2 Effort Expectancy → Product Awareness → Intention to Use

A mediating hypothesis was developed in order to explain the relationship between the effort expectancy and the intention to use. The mediating hypothesis which is "Product

awareness mediates the relationship between effort expectancy and intention to use mobile coupon" indicates the acceptance of the mediating hypothesis. Therefore, product awareness mediates the positive relationship between the effort expectancy and the intention to use mobile coupon.

5.3.3 Social Influence → Product Awareness → Intention to Use

The mediating hypothesis for this path is "Product awareness mediate the relationship between social and intention to use mobile coupon". Surprisingly, the mediating hypothesis is statistically rejected with a low t-value (1.124) and a high p-value (0.261). Therefore, the product awareness did not mediate the relationship between the social influence and the intention to use mobile coupon. Moreover, the direct path between the social influence and the product awareness is 0.137. Consequently, the millennials consumer which perceived the social influence did not affect by the product awareness, thus continue to intend to use mobile coupon.

5.3.4 Facilitating Conditions → Product Awareness → Intention to Use

The mediating hypothesis for this path is "Product awareness mediate the relationship between facilitating conditions and intention to use mobile coupon". However, the mediating hypothesis is statistically rejected due to a low t-value (1.884) and a p-value (0.060).

5.4 Discussion of Research Objectives

In this research, there are 12 objectives which were developed to answer the research questions. The research questions can be answered and measured using PLS-SEM. The

number one (1) objective of this research is to determine the relationship between performance expectancy and intention to use mobile coupon. Secondly (2) to determine the relationship between effort expectancy and intention to use mobile coupon. Thirdly, (3) to determine the relationship between social influence and intention to use mobile coupon. Fourthly, (4) to determine the relationship between facilitating conditions and intention to use mobile coupon. Fifthly, (5) to determine the relationship between performance expectancy and product awareness. Sixthly, (6) to determine the relationship between effort expectancy and product awareness. Seventhly, (7) to determine the relationship between social influence and product awareness. Eighthly (8), to determine the relationship between facilitating conditions and product awareness. Ninthly (9), to determine the mediating effect of product awareness on the relationship between performance expectancy and intention to use mobile coupon. Tenthly, (10) to determine the mediating effect of product awareness on the relationship between effort expectancy and intention to use mobile coupon. Eleventhly, (11) to determine the mediating effect of product awareness on the relationship between social influence and intention to use mobile coupon. Finally, (12) to determine the mediating effect of product awareness on the relationship between facilitating conditions and intention to use mobile coupon.

The number one (1) till four (4) research's objectives is to determine the relationship between performance expectancy, effort expectancy, social influence and facilitating conditions with intention to use mobile coupon. Therefore, the four independent variables were hypothesized as direct determinants of intention to use mobile coupon. Based on the result of the hypotheses testing, all independent variables were found to have significant relationships with intention to use mobile coupon. Moreover, the

accepted hypotheses in line with the findings of the previous studies. The details justification of the findings was discussed in chapter four.

Then, the number five (5) till eight (8) research objectives is to determine the direct effect of the constructs towards product awareness (mediator variable). The findings showed that performance expectancy has an insignificant relationship towards product awareness. Meanwhile, effort expectancy, social influence and facilitating conditions have significant relationships towards product awareness. The analysis of these objectives was examined by the measurement model analysis.

The ninth (9) till twelfth (12) objectives, which are to determine the mediating effect of product awareness on the relationship between performance expectancy, effort expectancy, social influence and facilitating conditions and intention to use mobile coupon. The developed hypotheses from the objective is tested by using PLS-SEM. Therefore, all the mediating hypotheses except social influence and facilitating conditions were rejected. Consequently, only two objectives were achieved in the mediating objectives of this study.

Moreover, through the analysis of mediating effect of product awareness, it showed that the Coefficients of Determination (R^2) of the product awareness is high which is 0.711 and for the intention to use indicates 0.555. In addition, to examine the effect size of the constructs, it can be done by the assessment of effect size (f^2 values). Therefore, the performance expectancy has a medium effect size (0.563) towards the intention to use mobile coupon. However, the performance expectancy has a small effect size (0.007)

towards the product awareness. Surprisingly, the effort expectancy has a medium effect size (0.572) and can be considered as the largest effect size among the construct. The details of the result of the effect size is shown in Table 4.30.

Finally, the blindfolding method in SmartPLS was employed to compute the predictive relevance (Q^2). Therefore, the product awareness indicates a Q^2 value of 0.462 and the Q^2 value of intention to use is 0.331. According to Hair et al. (2014), a Q^2 value that is >0 indicates the predictive relevance of the model.

5.5 Contribution of the Research

The overall aim of this research is to extend the usage of the UTAUT model in the literature of mobile coupon as well to test the UTAUT model for solving the raised issues. Moreover, the research aimed to introduce a mediator variable which is the product awareness in the UTAUT model. The contribution of the research can be divided into the theoretical and the practical domain.

5.5.1 Theoretical Contribution

First of all, although the UTAUT theory and model is widely used across different context literature, there is limited literature in the domain of mobile coupon which is based on the UTAUT model. Therefore, the output of this research contributes to the respective literature. Secondly, this research used modified UTAUT model whereby, the existing moderators were excluded and replaced by one mediator variable which is the product awareness. Thirdly, the sample of this research which is millennials consumers, therefore their behaviours and lifestyle pattern can be extracted from the

overall findings. Consequently, contribute to the literature of the millennials generation's behaviour and lifestyle.

5.5.2 Practical Contribution

Service Providers

The result of this research can be useful to the marketers (usually the digital coupon aggregator companies) and the existing retail companies that want to closely understand the behaviour of the millennials consumers in the redemption of mobile coupon. The preference of the millennial consumers in purchase behaviour also can be extracted from the descriptive statistics. Therefore, a tailored and personalized mobile marketing strategy can be developed effectively and efficiently.

Contribution to Business Sustainability

New companies that want to compete with the existing companies in the market can consider to implementing mobile coupon for their business as the millennials consumer's intention to use mobile coupon is high as discussed in the previous chapter. In addition, the implementation of the mobile coupon as marketing and sales tool definitely helps to increase revenue. Moreover, the mobile coupon market, especially in U.S. worth billions of dollars and the value, is increased every year. Hence, the Malaysia based market can be considered affected and the value of the mobile coupon market in Malaysia will increase every year. Therefore, this initial research might contribute to the future references.

5.6 Limitations of the Research

There are several limitations of this research, first of all, this research is conducted within a very limited time, therefore the sample which is millennials consumer of this research only acquired from UUM, Malaysia. Thus, the output of this research cannot be used to generalize all millennials consumer in Malaysia.

Secondly, there are four items in each construct, therefore if some items are not valid and reliable, the item deletion for purification will be limited as the minimum number of items of each construct is three. However, there is no action necessary to delete the items in this research. Thirdly, this research examines only the intention to use not the actual usage of the subject which mobile coupon. Therefore, the output of this research is only limited to the intention to use mobile coupon. Fourthly, this research employed non-probability sampling technique which is the convenient sampling due to the limited time, limited allocation of expenses, convenient accessibility and nearer sample proximity to the researcher. Despite all the necessary steps in convenient sampling are carefully followed, the probability sampling technique would be preferred.

5.7 Suggestions for Future Research

The limitations of this research can be used as the suggestions for future research. Therefore, this section presents the elaboration of the limitations of this research. First of all, with the adequate allocated time and money, this research could be executed in a different sample, wider research area and extended items in constructs for generalizing a larger population. Secondly, the view on this research can be shifted from intention to use to actual usage of mobile coupon. Hence, the sample that actually

uses mobile coupon can be studied to better understand the phenomenon. Thirdly, the researcher can collaborate with the mobile coupon aggregator companies to ease the costs of research. Fourthly, the probability sampling techniques such as stratified sampling can be used for future research because stratified sampling gives an equal probability that each individual in the population will be selected as a sample.

5.6 Conclusion

The driving forces for the researcher to conduct this research was the mobile coupon industry in Malaysia have the potential to grow year by year because the mobile coupon market in Malaysia is not fully exploited in comparison with the U.S. existing market. Moreover, this research is done to extend the usage of the UTAUT theory and model in the domain of the mobile marketing and the customer loyalty program i.e. the mobile coupon. Through this research, the introduction of product awareness as a mediator variable in the UTAUT model can be realized. While all the objectives of this research were achieved as well as the questions of this research were answered.

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Appendix A: Questionnaire

Questionnaire No: ☐☐☐☐

Dear respected respondents,

I am Iskandar bin Ab Jaafar, student of School of Business Management, Universiti Utara Malaysia, conducting a research concerning intention to use mobile coupon among UUM students. An example of mobile coupon would be a promo codes used to get discounts when buying goods through the smartphone application. I would greatly appreciate if you could spend some time in completing this survey and you will able to complete this questionnaire easily within less than 10 minutes.

There is no right or wrong answer. Your cooperation in answering this questionnaire honestly, I highly appreciate in order to produce reliable research results.

Please be assured that, your responses obtained through this questionnaire will be coded and will remain confidential. This research and questionnaire are intended for educational purposes only which is required to complete my study. Thank you for your attention and full cooperation. Please return your completed questionnaire and if there are any enquiries you can contact me at: -

Iskandar bin Ab Jaafar (820895)
Master in Science Management
School of Business Management
Universiti Utara Malaysia
Sintok, Kedah, Malaysia.
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Explanation of terms used in this research.	
Mobile Coupon	A combination set of numbers and letters that usually used in marketing in order for users to get rewards such as price discounts. The mobile coupon is redeemed through mobile application.
	Also known as coupon codes, promotion codes, voucher codes, discount codes and keycodes.
Intention to use	The degree to which an individual will perform or not to perform some specified behavior in future. The variables are intending, interest, recommend, say things and willingness. This research looks into the intention to use mobile coupon.
Performance Expectancy	The degree of which individuals believes on their performance if they used the mobile coupon. Variables involved such as usefulness, financial performance, transaction quality, and process efficiency. For example, redemption of mobile coupon can save money.
Effort Expectancy	The degree to which an individual perceive convenience on using mobile coupon. The variables consist of understanding efforts, time, comparison, and skill.
Social Influence	The degree to which an individual perceives other people that can influence him or her to use mobile coupon. For example, family, friends, role model, and organization.
Facilitating Conditions	The degree to which and individual perceives that technical and infrastructure required to use mobile coupon. For example, smartphone and internet access, technology compatibility, technical knowledge and skills, and organization supports
Awareness	The degree to which and individual perceives the existence, features, benefits of mobile coupon.

Please tick (/) in the box provided for statements relating to yourself. For open answer, **write your answers on the space** provided correctly and clearly.

Section A: Demographic Profile

1	Gender	☐ Male	☐ Female
2	Age	☐ 18 - 21	☐ 22 -25
		☐ 26 - 29	☐ 30 - 36
3	Ethnic Group	☐ Malay	☐ Chinese
		☐ Indian	☐ Others (Please specify): _____
4	State/ Country of Origin	☐ Malaysian: State (Please specify): _____	☐ International: Country (Please specify): _____
5	Marital Status	☐ Single	☐ Married
		☐ Separated	☐ Widowed
6	Education Level	☐ Foundation	☐ Bachelor Degree
		☐ Master Degree	☐ Doctoral Degree
7	Name of Program *e.g: Bachelor of Multimedia*	(Please specify): _____	
8	School of Program *e.g: School of Business Management*	(Please specify): _____	
9	Mode of Study	☐ Full-time	☐ Part-time
10	Education Funding	☐ PTPTN	☐ MARA
		☐ Family	☐ JPA
		☐ Self-employed	☐ Others (Please specify): _____
11	Monthly Income (RM)	☐ < 1000	☐ 1001 - 2000
		☐ 2001 - 3000	☐ 3001 - 4000
		☐ 4001 -5000	☐ > 50001

Please tick (/) in the box provided for statements relating to yourself. For open answer, **write your answers on the space** provided correctly and clearly.

Section B: Mobile Coupon Usage Behavior

1 Are you intend to use mobile coupon in future? ☐ Yes (Please proceed to question # 2) ☐ No

If your answer is NO, please tick (/) for your argument.

☐ No idea about mobile coupon ☐ Using mobile coupon is risky

☐ Others (Please specify): _____ **Thank you for your time.**

2 How often do you want to use mobile coupon in future?

(Please select one answer only)

☐ Once in a week ☐ Twice in a week
☐ Three times a week ☐ Once in two weeks
☐ Once in a month ☐ Once in 2 - 3 months

3 Which types of mobile coupon would you intend to use in future?

(Please select one answer only)

☐ Price Discounts ☐ Free Shipping
☐ Buy-one get-one ☐ Trade-in for redemption
☐ First Time Customer Coupons ☐ Cash-back
☐ Free giveaways ☐ Others (Please specify): _____

4 What kind of product would you likely intend to buy by using mobile coupon?

(Please select one answer only)

☐ Food and drink sold in fast-food restaurant ☐ Food and drink sold in casual restaurant
☐ Food and drink sold in Cafe ☐ Groceries
☐ Apparel ☐ Mobile and gadgets
☐ Computers and Laptops ☐ Home Appliances
☐ Software/ Application ☐ Others (Please specify): _____

5 What kind of service would you intend to use by redeeming mobile coupon? *(Please select one answer only)*

☐ Transportation services ☐ Tutoring services
☐ Hotel services ☐ Others (Please specify): _____

6 Which application would you intend to use when you want to redeem the mobile coupon in future?

☐ AirAsia ☐ B Infinite
☐ Lazada ☐ Shopee
☐ Starbucks ☐ Umobile

(Please select one answer only) ☐ Others (Please specify): _____

For section C, D, E, F, G and H, please **circle (O)** in the space provided for statements relating to yourself.
Direction: Please read each statement carefully and rate the following statements on a scale of 1 - 5.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	**2**	**3**	**4**	**5**

Section C: Intention to Use Mobile Coupon						
No.	Statements					
IU1	I intend to use mobile coupon in future.	1	2	3	4	5
IU2	I have a strong interest in using mobile coupon.	1	2	3	4	5
IU3	I will recommend mobile coupon to others.	1	2	3	4	5
IU4	I will say positive things about mobile coupon to others.	1	2	3	4	5
IU5	I am willing to spend time to use mobile coupon.	1	2	3	4	5

Section D: Performance Expectancy						
No.	Statements					
PE 1	Using mobile coupon is useful in my everyday life.	1	2	3	4	5
PE 2	Using mobile coupon improve my financial performance.	1	2	3	4	5
PE 3	Using mobile coupon enhance my transaction quality with the service provider.	1	2	3	4	5
PE 4	Using mobile coupon increase the process efficiency with the service provider.	1	2	3	4	5

Section E: Effort Expectancy (EE)						
No.	Statements					
EE 1	I can easily understand on how to use mobile coupon.	1	2	3	4	5
EE 2	Mobile coupon usage would not take too much time.	1	2	3	4	5
EE 3	Mobile coupon easier to use compare to conventional method (e.g., physical card/ printed coupon).	1	2	3	4	5
EE 4	I could easily become skillful on using mobile coupon.	1	2	3	4	5

Section F: Social Influence (SI)						
No.	Statements					
SI 1	I am aware that important people for me such as family and friends are regularly use mobile coupon.	1	2	3	4	5
SI 2	My family and friends who regularly use mobile coupon have benefited from it.	1	2	3	4	5
SI 3	People who inspire me (e.g., leaders, artist, officials, lecturers, etc.) would influence me to use mobile coupon.	1	2	3	4	5
SI 4	In general, the businesses have supported the use of mobile coupon.	1	2	3	4	5

Section G: Facilitating Conditions (FC)						
No.	Statements					
FC 1	I have smartphone with internet access to use the mobile coupon in my everyday life.	1	2	3	4	5
FC 2	Mobile coupon is compatible on my smartphone.	1	2	3	4	5
FC 3	I have enough knowledge and skills on how to use mobile coupon on my smartphone.	1	2	3	4	5
FC 4	I could reach the businesses that give offers or service provider if I am in difficulties.	1	2	3	4	5

Section H: Product Awareness (PA)						
No.	Statements					
PA 1	I am aware of the existence of a mobile coupon.	1	2	3	4	5
PA 2	I am aware of the features of mobile coupon. (e.g., sharing options, flexible saving options, terms and conditions)	1	2	3	4	5
PA 3	I am aware of the benefits that can be obtained from mobile coupon redemption. (e.g., price discounts, free giveaways, cash-back)	1	2	3	4	5
PA 4	I receive enough information about mobile coupon from the businesses.	1	2	3	4	5

Thank you for your cooperation.

Appendix B: Application Letter for Statistics of Students in UUM

Iskandar bin Ab Jaafar (820895)
Postgraduate Student of MSc Management

Encik Mohd Zamri Bin Ahmad
Pengarah Jabatan Hal Ehwal Akademik
Universiti Utara Malaysia,
06010 UUM sintok,
Kedah Darul Aman

27 Mac 2018

Tuan,

Permohonan Statistik Semasa Pelajar UUM 2018

Berhubung dengan perkara di atas, saya, Iskandar bin Ab Jaafar, No. Matrik 820895 ingin memohon statistik semasa **pelajar UUM** (*undergraduate* dan *postgraduate*) di bawah pengurusan pihak tuan/puan.

2. Statistik tersebut akan diguna pakai dalam tugasan khusus bagi Research Paper (BPMZ 69912) saya yang bertajuk "**Intention to Use Mobile Coupon Among Millennials Consumer in UUM**".

3. Keperluan statistik adalah seperti berikut:

Perkara	**Jumlah**
Jumlah Pelajar *Undergraduate* 2018	
Jumlah Pelajar *Postgraduate* 2018	

4. Diharapkan agar permohonan ini dapat dipertimbangkan untuk saya melengkapkan tugasan khusus pada semester ini. Saya berharap pihak HEA dapat memberikan jawapan secepat mungkin memandangkan saya perlu membuat tugasan khusus dengan secepat mungkin.
Kerjasama daripada pihak HEA amatlah dihargai.

Sekian, Terima Kasih.

Yang Benar,

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