The Relationship between the Unified Theory of Acceptance and Use of Technology and Social Media (Check-in Applications)

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ABSTRACT

In today's world, technology is advancing with a fast pace and most of the activities such as shopping, education, business transactions, entertainment, and communication are done by using the Internet. With the help of the Internet, virtual platforms such as social media provide opportunities for people to communicate with each other regardless of time and place. Users can share their information, for instance what they are doing and at which place they are with their companions using check-in websites and applications.

This study aims to determine the factors that affect the use of check-in applications. UTAUT model will be applied to determine the main factors among students of Eastern Mediterranean University in North Cyprus. This study focuses on investigating the impact of the core constructs of the UTAUT model, which are Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions on intention to use check-in applications. Moreover, the study tests the moderating effects of age, gender, and experience on the relationship between the main constructs of the UTAUT model and intention to use check-in applications.

The data for this study was collected from 250 students studying in Eastern Mediterranean University in North Cyprus. According to the analysis conducted using these data, the results illustrate that only Performance Expectancy and Facilitating Conditions have a significant and positive impact on the intention to use check-in applications. In addition, only the relationship between Performance Expectancy and intention to use check-in applications is influenced by the moderating effect of age.

The last chapter of this study includes discussion about the limitations to this study and also provides managerial implications and suggestions for future studies related with the topic of this study.

Keywords: UTAUT, Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Behavioral Intention, Check-in Applications, North Cyprus.

ÖZ

Günümüz dünyasında teknoloji hızla ilerliyor ve alışveriş, eğitim, ticaret işlemleri, eğlence ve iletişim gibi aktivitelerin çoğu internet kullanılarak gerçekleştiriliyor. İnternetin yardımıyla, sosyal medya gibi sanal platformlar, insanların zaman ve mekân gözetmeksizin birbirleriyle iletişim kurmalarına olanak sağlıyor. Kullanıcılar, check-in web sitelerini ve uygulamalarını kullanarak, yaptıkları ve bulundukları yerdeki arkadaşlarıyla bilgilerini paylaşabiliyorlar.

Bu çalışma, check-in uygulamalarının kullanımını etkileyen faktörleri belirlemeyi amaçlamaktadır. UTAUT modeli, Kuzey Kıbrıs'ta Doğu Akdeniz Üniversitesi öğrencilerinin temel faktörlerini belirlemek için uygulanacaktır. Bu çalışma, UTAUT modelinin çekirdek yapısını oluşturan, performans beklentisi, çaba beklentisi, sosyal etkisi ve kolaylaştırıcı koşulların check-in uygulamalarının kullanımına olan etkisini araştırmaya odaklanmıştır. Ayrıca çalışma, yaş, cinsiyet ve deneyimin UTAUT modelinin ana yapıları arasındaki ilişki üzerindeki kontrol etkisini ve check-in uygulamalarını kullanma amacına etkisini de test etmektedir.

Bu çalışma için veriler Kuzey Kıbrıs'ta Doğu Akdeniz Üniversitesi'nde okuyan 250 öğrenciden toplanmıştır. Bu veriler kullanılarak yapılan analize göre, sonuçlar sadece performans beklentisi ve kolaylaştırıcı koşulların, check-in uygulamalarını kullanma amacı üzerinde önemli ve olumlu bir etkiye sahip olduğunu göstermektedir. Ayrıca, sadece Performans Beklentisi ile check-in uygulamalarını kullanma amacı arasındaki ilişki, yaşın ılımlı etkisinden etkilenmektedir.

Bu çalışmanın son bölümü, bu çalışmanın getirdiği sınırlamalar hakkında tartışmayı içermekte ve ayrıca bu çalışmanın konusuyla ilgili gelecekteki çalışmalara ilişkin yönetim sonuçları ve önerileri de sunmaktadır.

Anahtar Kelimeler: UTAUT, Performans Beklentisi, Çaba Beklentisi, Sosyal Etki, Kolaylaştırıcı Koşullar, Davranışsal Amaç, Check-in Uygulamaları, Kuzey Kıbrıs.

To My Family

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LIST OF ABBREVIATIONS

AMOS	Analysis of a Moment Structures
ANOVA	Analysis of Variance
AVE	Average Variance Extracted
BI	Behavioral Intention
CAPI	Computer-assisted Personal Interviewing
CATI	Computer-assisted Telephone Interviewing
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CR	Composite Reliability
DTPB	Decomposed Theory of Planned Behavior
EDMS	Electronic Document Management System
EE	Effort Expectancy
FC	Facilitating Conditions
GFI	Goodness of Fit Index
IDT	Innovation Diffusion Theory
IFI	Incremental Fit Index
IS	Information Systems
IT	Information Technology
MM	Motivational Model
MPCU	Model of PC Utilization
PE	Performance Expectancy
RMSEA	Root Mean Square Error of Approximation
SI	Social Influence

SCT	Social Cognitive Theory
SEM	Structural Equation Modeling
SNS	Social Networking Sites
SPSS	Statistical Package for the Social Sciences
TAM	Technology Acceptance Model
TAM-2	Technology Acceptance Model-2
TAM-3	Technology Acceptance Model-3
TLI	Tucker–Lewis Index
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
UTAUT	Unified Theory of Acceptance and Use of Technology

Chapter 1

INTRODUCTION

1.1 Introduction

Ever since its introduction to the world, technology has been evolving and expanding swiftly. The result of this evolution and expansion is the transformation of technology into a vital force in people`s lives. In fact, it is very difficult to image living in a world without technology because of the ease and the comfort that it has been offering and providing. Moreover, as the result of the evolution of technology, crucial inventions such as computers and the Internet can be mentioned. The Internet is referred to as one of the most influential inventions and since its beginning in 1950s; it has been used by people worldwide for numerous reasons such as education, business, e-commerce, entertainment, and communication. According to Zúñiga, Puig-I-Abril, & Rojas (2009; Park, Kee, & Valenzuela, 2009; Zúñiga, Veenstra, Vraga, & Shah, 2010) cited in Correa, Hinsley, & Zúñiga (2010), the Internet has intensely altered the human experience. The Web is used to discover information, purchase and sell products, watch shows on television, search for mates, pursue entertainment, and join in political domains. The Internet is a universal dispersed network of computers that nowadays has a broad influence and might have an impact on nearly all features of our existence. Indeed, the Internet has merged so well with individuals` lives that, for most of the people, it is extremely hard to picture how they lived in the absence of it (Amichai-Hamburger & Vinitzky, Social network use and personality, 2010). Nowadays, the concept of Social Media is a priority for most of the business executives. Decision

makers and also advisers try to find ways that make it available for firms to gain profit by utilizing applications such as Facebook, Second Life, YouTube, Wikipedia, and Twitter. As claimed by Forrester Research, in the second quarter of 2008, 75% of Internet users utilized “Social Media” by becoming a member of social networks, writing reviews on shopping websites, or reading blogs (Kaplan & Haenlein, 2010).

Regarding using the Internet in order to communicate, social media has a vital role. People can easily communicate with others using social media websites and applications no matter what time and where their location is and this have caused the elimination of boundaries among people.

One characteristic of our daily life where main changes has been introduced by the Internet is our social lives (Amichai-Hamburger, Wainapel, & Fox, 2004; Hamburger & Ben-Artzi, 2000) cited in Amichai-Hamburger & Vinitzky (2010).

The introduction of Social Networking Sites (SNSs) is one of the results of the alteration in communication implementations. The utilization of an SNS could make it able for a person to find other people with related interests, either romantic or social motives McKenna, et al. (2002) cited in Ross, et al. (2009). Studies have illustrated that the user`s individual personality and the way he/she acts online are connected. Nowadays, a huge number of people all around the globe are linked by being members of different Internet social networks (Amichai-Hamburger & Vinitzky, 2010). As claimed by Hansen, Shneiderman, and Smith (2011) cited in Hanna, Rohm, & Crittenden (2011), social media technologies have produced totally new ways of communication.

Today, among the most regular activity of children and adults is utilizing social media websites. Any website that makes social interaction available is regarded as a social media site, including the following social networking sites, gaming sites and virtual worlds, and video sites, and blogs:

1. Facebook;
2. MySpace;
3. Twitter;
4. Club Penguin;
5. Second Life;
6. The Sims;
7. YouTube.

Nowadays, these sorts of sites offer young generation an entryway for entertainment and interaction with others and have developed exponentially during recent years. Becoming involved in different types of social media is a regular activity and it has been illustrated by research that it is beneficial for children and adults by amplifying communication, social relation, and yet technical skills. Social media sites like Facebook and MySpace provide several day-to-day opportunities in order to connect with people, friends, and classmates with similar interests. For teenagers, social media sites provide the opportunity to complete online various tasks that are vital to them offline. Tasks such as: keeping connection with family and friends, finding new friends, photo sharing, and interchanging ideas. Joining social media may also provide deeper benefits for adults and these benefits may spread into their self-view, community, and the globe (O'Keeffe & Clarke-Pearson, 2011).

For a technology to be used by individuals, first it has to be accepted by those individuals. Regarding this issue, several theories have been developed over the years in order to examine the acceptance and use of a technology. Among these theories, important theories such as Theory of Acceptance Model and its variations (TAM, TAM2, and TAM3) and Unified Theory of Acceptance and Use of Technology can be mentioned. The following section reviews the studies that have been conducted regarding the mentioned theories.

1.2 Theoretical Background

The TAM is vastly accepted as an outline in order to investigate intentions to adopt m-banking (Shaikh & Karjaluoto, 2015). TAM, suggested by Davis (1989) in alteration of Theory of Reasoned Action (TRA), is a theoretical framework for describing the acceptance of a new Information Technology (IT) by users. In accordance with TRA, a person`s Behavioral Intention, which contributes to actual behavior, is affected by the person`s subject norm and attitude, and the attitude is affected by personal beliefs (Ajzen & Fishbein, Understanding attitudes and predicting social behavior, 1980); cited in Gu, Lee, & Suh (2009). In order to collect information about person`s perceptions of a system, TAM offers a fast and low-cost way (Gu, Lee, & Suh, 2009).

TAM was initiated in order to forecast personal acceptance and utilization of brand new information technologies. It suggests that people`s Behavioral Intention to utilize an IT is directed by two following views:

1. Perceived usefulness: described as the degree to which an individual has confidence in that the utilization of an IT will augment his or her work performance;

2. Perceived ease of use: described as the extent to which an individual has confidence in that the utilization of an IT is going to be effortless.

It additionally speculates that the impact of outer variables, such as design features, on Behavioral Intention is going to be intermediated by perceived usefulness and perceived ease of use (Venkatesh & Bala, 2008). One main advantage of utilizing TAM in order to recognize system usage behavior is that TAM offers an outline to examine how system usage is affected by external variables (Hong W. , Thong, Wong, & Tam, 2001); cited in Nasri & Charfeddine (2012). According to theories in social psychology, such as the theory of reasoned action (TRA) (Ajzen & Fishbein, Understanding attitudes and predicting social behavior, 1980) and the theory of planned behavior (Ajzen I. , 1985), TAM proposes the belief–attitude– intention–behavior causal relationship for clarifying and forecasting technology acceptance amid potential users. TAM recommends that two beliefs regarding a brand new technology, which are perceived usefulness and perceived ease of use, decide an individual`s attitude toward utilizing that technology, which sequentially decide their intention to utilize it, cited in Ha & Stoel (2009).

TAM seems to be capable of accounting 40 to 50 percent of user acceptance. TAM has developed over time. TAM2 expanded the indigenous model to clarify perceived usefulness and the following usage intentions:

1. Social Influence (subjective norm, voluntariness, and image);
2. Cognitive instrumental processes (job relevance, output quality, and result demonstrability);
3. Experience (Park S. , 2009).

According to TAM2, subjective norm which is one of the variables related with Social Influence, introduces as the discerned social pressure to execute or not to execute the behavior (Ajzen I. , 1991). It appears to be crucial to decide the way Social Influences impact user`s devotion to utilize the information system in order to understand, clarify, and forecast usage of system and acceptance behavior (Malhotra & Galletta, 1999); cited in Park (2009).

TAM2 is combined (Venkatesh & Davis, 2000) with the model of the determinants of perceived ease of use (Venkatesh V. , 2000), and evolve into an integrated framework of technology acceptance, which is TAM3, cited in Venkatesh & Bala (2008). TAM3 offers a comprehensive nomological network of all the factors that determine people`s IT adoption and utilization (Venkatesh & Bala, 2008). We assume the common model of relationships proposed in Venkatesh and Davis (2000) and Venkatesh (2000) to hold in TAM3, cited in Venkatesh & Bala (2008).

In Venkatesh (2000) and Venkatesh and Davis (2000), there are three not empirically experimented relationships that TAM3 suggests those. We propose that experience plays the role of a moderating factor for the relationships between perceived ease of use and the followings:

1. Perceived usefulness;
2. Computer anxiety;
3. Behavioral Intention (Venkatesh & Bala, 2008).

UTAUT (Venkatesh V. , Morris, Davis, & Davis, 2003) was suggested as an augmentation of the famous TAM (Davis F. D., 1989; Davis, Bagozzi, & Warshaw,

1989). UTAUT is the most popular development of the TAM (Oliveira, Faria, Thomas, & Popovič, 2014). The goal of UTAUT is to clarify user`s intention to utilize an IS and their succeeding behavior. The followings are three precursors to the intention to adopt an IS suggested by the theory:

1. Performance Expectancy;
2. Effort Expectancy;
3. Social Influence.

These factors have a positive effect on Behavioral Intention and age and gender influence this effect. Moreover, the relationship between Effort Expectancy and Behavioral Intention could be moderated by experience. In order to investigate technology adoption and Behavioral Intention, UTAUT has been considered by researchers and has been utilized in various research settings (Oliveira, Faria, Thomas, & Popovič, 2014).

The goal of UTAUT is to clarify user`s intention to utilize an IS and their succeeding behavior. There are four constructs that the theory identifies as direct determining factors of intention or behavioral usage. These constructs are:

1. Performance Expectancy;
2. Effort Expectancy;
3. Social Influence;
4. Facilitating Conditions (Venkatesh V. , Morris, Davis, & Davis, 2003), cited in Oliveira, Faria, Thomas, & Popovič (2014).

The UTAUT identifies four fundamental constructs, which are Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions, as direct determining factors of Behavioral Intention and eventually behavior. Moreover, these constructs are successively moderated by gender, age, experience, and voluntariness of use (Venkatesh V. , Morris, Davis, & Davis, 2003), cited in Dwivedi, Alalwan, Rana, & Williams (2015).

1.3 The Aims and Objectives of this Research

The aim of this research is to determine the factors that affect the use of check-in applications. UTAUT model will be applied to determine the main factors among students of Eastern Mediterranean University in North Cyprus. This study focuses on investigating the impact of the following constructs on intention to use check-in applications:

1. Performance Expectancy;
2. Effort Expectancy;
3. Social Influence;
4. Facilitating Conditions;
5. Behavioral Intention.

Moreover, the study concentrates on the relationship among the above constructs and the following moderating factors:

1. Gender;
2. Age;
3. Experience.

In addition, the study examines the impact of the following demographic variables on the intention to use check-in applications:

1. Age;
2. Gender;
3. Income level;
4. Education Level.

The study pursues to achieve a broader understanding of the existence of significant differences between the above demographic variables and the intention to use check-in applications.

1.4 Sampling Procedure and Data Collection Method

Convenience, non-probability sampling technique was conducted in this research. Two hundred and fifty (250) students participated in the research. Each participant who agreed to participate in the research was given a questionnaire and asked to fill out the questionnaire.

In order to collect data for this research, a self-administered questionnaire was developed. The questionnaire includes six sections, the first five sections are regarding the five constructs of the Unified Theory of Acceptance and Use of Technology and the last section is about demographic questions. A seven-point Likert Scale was used in the questionnaire in order to ask questions from the participants. The following are the sections used in the questionnaire:

a) Questions regarding Performance Expectancy;

b) Questions regarding Effort Expectancy;

c) Questions regarding Social Influence;

d) Questions regarding Facilitating Conditions;

e) Questions regarding Behavioral Intention;

f) Demographic questions.

A pre-test was conducted among 10 participants in order to test the reliability of the questions asked in the questionnaire and check for any possible mistakes. The identity of participants remained anonymous and all the data were considered as highly confidential.

1.5 Structure of the Thesis

The thesis is planned based on seven following chapters:

Table 1: Thesis Structure

Chapter 2	Literature Review
Chapter 3	Methodology
Chapter 4	Statement of Hypothesis
Chapter 5	Results of Analysis and Discussion of Findings
Chapter 6	Conclusion

Chapter two presents a review of the literature on each theory (TAM, UTAUT) and the constructs of the Unified Theory of Acceptance and Use of Technology (Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, and Behavioral Intention).

Chapter three provides information regarding research methodology of the research. The chapter discusses about the research design, the steps in in questionnaire design,

data collection methods, sample selection, sample size, methods of analysis, and ethical considerations.

Chapter four is about the research hypotheses and the formation of those hypotheses based on theories. The chapter discusses the hypothesized relationships between the constructs of UTAUT (Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, and Behavioral Intention) and the moderating factors (gender, age, experience).

Chapter five provides information regarding the analysis of the collected data for the research. The chapter includes descriptive analysis, t-test, ANOVA, correlation analysis, reliability test (Cronbach`s Alpha), confirmatory factor analysis, structural equation modeling, and hypothesis testing. Moreover, the chapter presents the explanation of the results and the key results of the study.

Chapter six discusses the conclusion of the research. Moreover, it offers some recommendations regarding the usage of the check-in applications. In addition, the chapter discusses the limitations of this study and proposes suggestions for future studies related with the same subject.

Chapter 2

LITERATURE REVIEW

2.1 Introduction

The goal of this chapter is to review correlated researches on the subject of this study in order to recognize the research gaps and attempt to fill those gaps. Moreover, this chapter tries to construct essential background information on the research. This section argues literature concerning Technology Acceptance Model (TAM), Technology Acceptance Model 2 (TAM2), Technology Acceptance Model 3 (TAM3), and Unified Theory of Acceptance and Use of Technology and its related elements which are Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, and Behavioral Intention. In addition, moderating factors affecting the mentioned constructs (age, gender, and experience) are discussed. Since this research focuses on investigating the relationship between social media, specifically check-in applications and Unified Theory of Acceptance and Use of Technology, the chapter also reviews different sources of information regarding check-in applications, social media, and in general the Internet.

2.2 Technology Acceptance Model

By growth in technological necessities in the 1970`s and rising of system's failures in organizations, many researchers were interested in forecasting system use. However, most of the studies implemented were unable to yield consistent measures for clarifying acceptance or refusal of a system (Davis F. D., 1989). Fred Davis (1985) suggested the Technology Acceptance Model (TAM) for the thesis of his doctoral at

the MIT Sloan School of Management (Davis F. , 1985). He suggested that user motivation can describe and forecast system use and it is directly affected by the system`s components and competencies as an external stimulus (Fig.1).

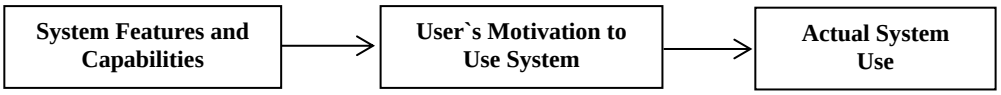

Figure 1: Conceptual Model for Technology Acceptance
(Davis F. , 1985, p. 10).

By observing previous effort done by Fishbein and Ajzen (1975), who expressed the Theory of Reasoned Action, and other similar studies, Davis (1989) later developed the theoretical model to suggest the Technology Acceptance Model (Fig.2).

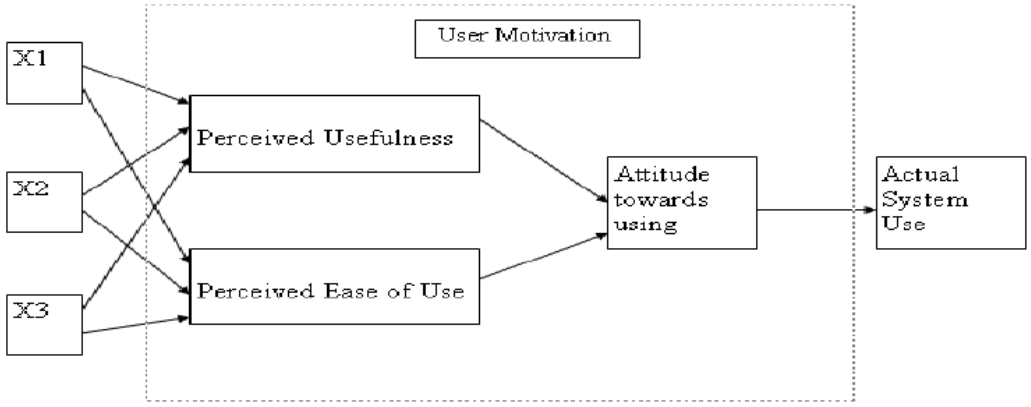

Figure 2: Technology Acceptance Model, Source: Lai P. (2017).

Davis (1985) proposed three factors that can describe users` motivation: “Perceived Ease of Use”, “Perceived Usefulness”, and “Attitude toward Using the System”. He theorized that one of the key factors determining whether the user will use or discard the system is the attitude of the user toward the system. Two main beliefs affect the

attitude of the user: perceived usefulness and perceived ease of use. Moreover, perceived ease of use has a direct impact on perceived usefulness. Lastly, those two views were affected by the system design features directly, and symbolized by X1, X2, and X3 (Figure 2).

Later expansion of TAM would consist of Behavioral Intention as a contemporary factor that would be affected by the perceived usefulness of a system (Davis, Bagozzi, & Warshaw, 1989). Davis et al. (1989) proposed that a person might establish a solid Behavioral Intention to utilize the system without establishing any attitude. Hence, this supports the adjusted version of the TAM model (Fig.3).

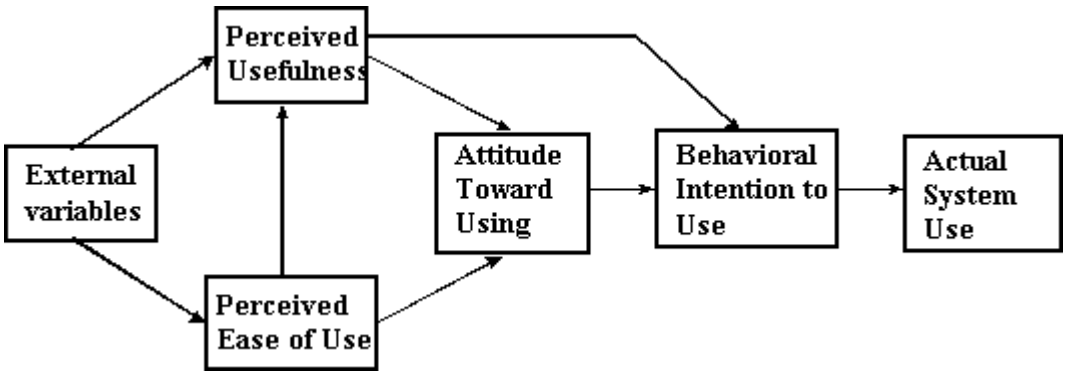

Figure 3: Technology Acceptance Model-Adjusted, Source: Chuttur (2009).

Sadly, TAM could not explain more than the general elements used in order to measure perceived usefulness and perceived ease of use. Thus, it was challenging to diagnose the logic regarding the perceived ease of use or perceived usefulness variables. In addition, most of the researches conducted in TAM targeted particularly the spontaneous setting rather than the compulsory setting. In order to solve these issues, TAM was developed.

2.3 Technology Acceptance Model-2

One of the crucial developments proposed for TAM was by Venkatesh and Davis (2000) who suggested the TAM2 model (Fig.4). Venkatesh and Davis (2000) spotted the restrictions that TAM had in order to define the reason that an individual would perceive a system useful, and thus they came up with additional variables that could be included in perceived usefulness variable in TAM as backgrounds. They named the new model, the TAM2 model.

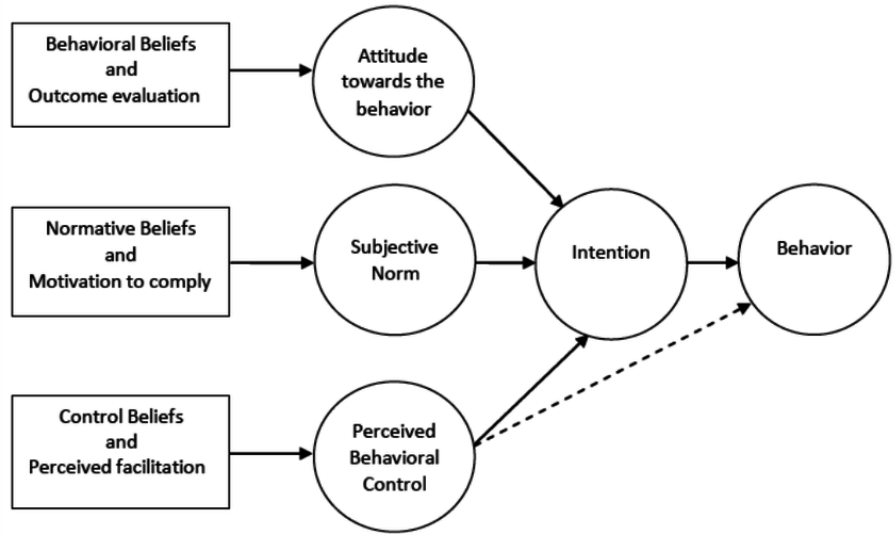

Figure 4: Technology Acceptance Model-2 Source: Chuttur (2009).

A second critical expansion of the TAM model is by Venkatesh (2000). He was attentive to find the backgrounds to the perceived ease of use in TAM. As in Figure 5, Venkatesh clarified two major groups of backgrounds for perceived ease of use: anchors and adjustments. Anchors were regarded as broad beliefs about computers and computer usage and adjustments were regarded as beliefs that are created based on explicit involvement with the target system. Regarding both groups, Venkatesh (2000) suggested numerous motives that are often obtained from earlier studies on

determining the backgrounds to perceived ease of use (Bagozzi, Davis, & Warshaw, 1992; Venkatesh & Davis, 1996). TAM seems to be capable of accounting 40 to 50 percent of user acceptance. TAM has developed over time. TAM2 expanded the indigenous model to clarify perceived usefulness and the following usage intentions:

1. Social Influence (subjective norm, voluntariness, and image);
2. Cognitive instrumental processes (job relevance, output quality, and result demonstrability);
3. Experience.

The brand new model was experienced in both mandatory and voluntary settings. TAM2 was potently supported by the results and by utilizing the updated version of TAM they described user adoption up to 60 percent (Venkatesh & Davis, 2000).

2.4 Technology Acceptance Model-3

TAM2 (Venkatesh & Davis, 2000) combined with the model of the elements of perceived ease of use (Venkatesh V. , 2000) promote a unified model of technology acceptance called TAM3.

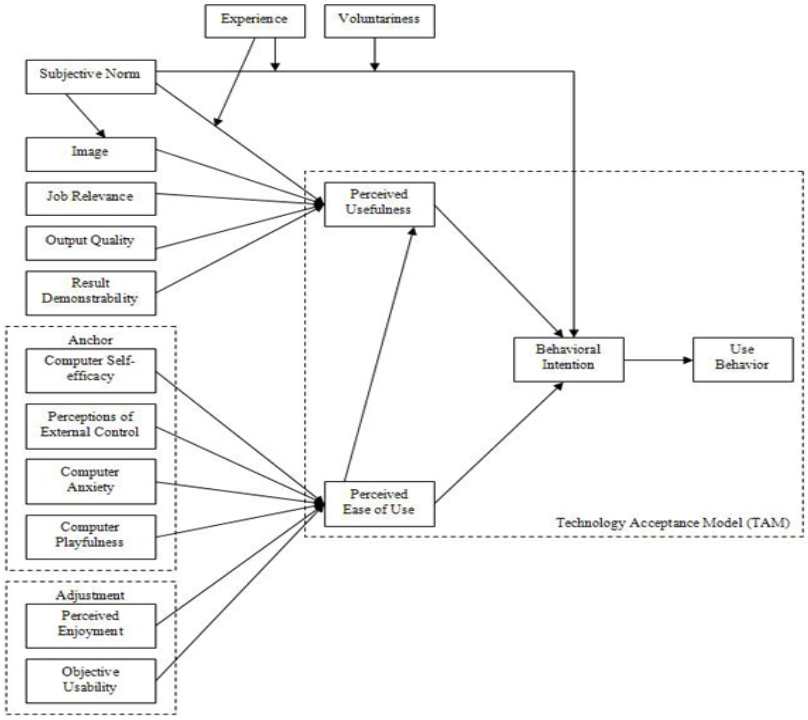

Figure 5: Technology Acceptance Model-3 Source: Venkatesh & Bala (2008).

TAM3 offers a whole nomological network of the elements of a person`s IT acceptance and use. TAM3 proposes three relationships that, in fact, were not examined in Venkatesh (2000) and Venkatesh and Davis (2000). Experience will act as a moderator for the relationships between (i) perceived ease of use and perceived usefulness; (ii) computer anxiety and perceived ease of use; and (iii) perceived ease of use and Behavioral Intention.

- **Perceived ease of use to perceived usefulness, moderated by experience:** It is suggested that as practical experience with a system increases, the knowledge of user regarding the difficulty level of utilizing the system improves. Although perceived ease of use might not be as crucial in developing Behavioral Intention in future of using a system (Venkatesh V. , Morris, Davis, & Davis, 2003), users

will be appreciating perceived ease of use for developing insights regarding usefulness. This reasoning is based on action identification theory (Vallacher & Kaufman, 1996). The theory suggests a flawless dissimilarity amid low-level and high-level action characters. High-level characters are in relation with people`s goals and plans, while low-level identities are about the ways of achieving those goals and plans;

- **Computer anxiety to perceived ease of use, moderated by experience:** Perceived ease of use is affected by computer anxiety and this effect is moderated by experience, such that as experience increases, computer anxiety`s effect on perceived ease of use is going to be reduced. It is expected as experience increases, system specific opinions, instead of general computer opinions, are going to be robust determining factors of a system`s perceived ease of use. Computer anxiety is hypothesized as an attaching belief that prevents the formation of a positive perception regarding a system`s ease of use (Venkatesh V. , 2000);
- **Perceived ease of use to Behavioral Intention, moderated by experience:** Perceived ease of use affects Behavioral Intention and it is expected that experience will act as a moderator for this effect such that as experience increases, the effect is going to be weaker. Perceived ease of use, which determines the difficulty level of using a system is an early obstacle for people when utilizing a system (Venkatesh V. , 2000). Nevertheless, once people become familiar to the system and obtain practical experience regarding the system, perceived ease of use`s impact on Behavioral Intention will diminish and move out of the spotlight as people today have more procedural understanding of how to utilize the system. Therefore, people consider perceived ease of use to be less important while developing their Behavioral Intentions toward using the system.

2.5 Unified Theory of Acceptance and Use of Technology

UTAUT (Venkatesh V. , Morris, Davis, & Davis, 2003) was suggested as a development of the well-known TAM (Davis F. D., 1989; Davis, Bagozzi, & Warshaw, 1989). It is the most popular enhancement of the TAM. The unified theory is based on eight outstanding models in IS acceptance research. The model has been investigated and initiated to surpass the eight specific models, including TAM. Its goal is to define user`s intention to practice IS and their consecutive behavior.

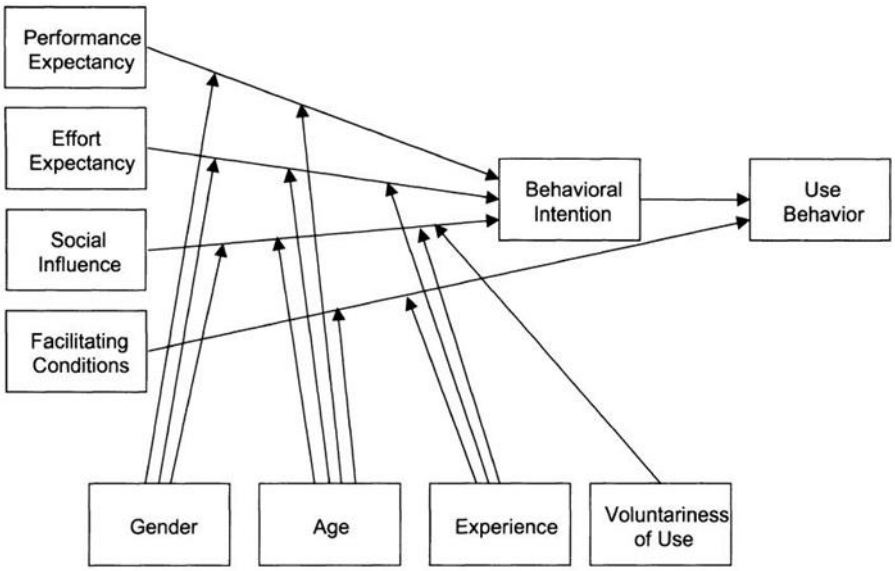

Figure 6: Unified Theory of Acceptance and Use of Technology, Source: Venkatesh, Morris, Davis, & Davis (2003).

Researchers have paid attention to UTAUT and have been using it in diverse research settings to examine behavior intention and technology acceptance (Hong W. , Thong, Chasalow, & Dhillon, 2011).

UTAUT suggests that user approach toward technology is interpreted as Performance Expectancy (Venkatesh V. , Morris, Davis, & Davis, 2003); “The UTAUT model

consists of four core variables - Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions - and four moderating variables – gender, age, experience, and voluntariness of use" (Im, Hong, & Kang, 2011).

2.5.1 Performance Expectancy

Performance Expectancy is described to the extent that an individual believes in the fact that the use of system will help improving job performance (Venkatesh V. , Morris, Davis, & Davis, 2003). This element reproduces the perceived usefulness (TAM/TAM2). From a theoretical perspective, a reason exists in order to anticipate that gender and age will moderate Performance Expectancy`s relationship with intention. Research on gender distinctions illustrates that men have a tendency to be extremely task oriented (Minton, Schneider, & Wrightsman, 1980). Hence, performance expectancies, which emphasize task achievement, are expected to be particularly significant to men. Gender schema theory proposes that the mentioned distinctions have their origins in gender roles and socialization procedures fortified from birth (Lynott & McCandless, 2000; Kirchmeyer & Bullin, 1997).

2.5.2 Effort Expectancy

Effort Expectancy is described as the level of ease related with using the system (Venkatesh V. , Morris, Davis, & Davis, 2003). This element replicates the perceived ease of use (TAM/TAM2) of an IS (Luarn & Lin, 2005; Wang, Lin, & Luarn, 2006; Kuo & Yen, 2009; Miltgen, Popovič, & Oliveira, 2013; Martins, Oliveira, & Popovič, 2014) and positively affects the Behavioral Intention. In earlier models of technology acceptance, for instance the Technology Acceptance Model and the theory of planned behavior (TPB), the effect of Effort Expectancy on intents is intermediated by attitude (Venkatesh V. , Morris, Davis, & Davis, 2003). Customers are more pleased with user

friendly self-service technologies (Meuter, Bitner, Ostrom, & Brown, 2005; Meuter, Ostrom, Roundtree, & Bitner, 2000).

Even though Effort Expectancy is a barrier to the use of technology, insights of Effort Expectancy will merely be properly formed after practical experience (Venkatesh & Davis, 1996). Venkatesh (2000) recommended that before hands-on experience, users' insights regarding ease of use would be attached to different general computer opinions concerning computer use.

If using self-service technologies is easy, customers are more (Meuter, Bitner, Ostrom, & Brown, 2005; Meuter, Ostrom, Roundtree, & Bitner, 2000). Moreover, based on earlier research (Venkatesh V. , Morris, Davis, & Davis, 2003), there is Effort Expectancy`s positive effect on intention as well as its indirect impact through attitude. This is expected to be accurate in continuance frameworks since tendencies of human toward subconsciously following instrumental behaviors are not reliant on the timing or phase of such behaviors (Bhattacherjee, 2001).

2.5.3 Social Influence

Social Influences importance in affecting the intention to utilize information system differs through studies (Venkatesh & Davis, 2000). There is proof that normative beliefs might affect attitude (Schepers & Wetzels, 2007). Bagozzi (1992) proposed that normative influence could be taken into consideration as the outcome of integrating a person`s beliefs and feelings with the perceived expectations and feelings of others that are important to that person regarding the common ethical or social meaning of executing a potential act. According to the mentioned normative effects, if a person was to execute a behavior, such as using a system, earlier expectations could

be confirmed or disconfirmed by the result of that behavior. Consecutively, this can fortify or deteriorate the effects of the other people who formed the expectations. During the usage of system, people might alter their pre-usage Social Influence insights based on their inspections of others:

1. Performance of the behavior;
2. The obtainability of brand new information;
3. Alterations in views of companions and peers.

That is, the perceptions of user toward Social Influence might not be confirmed, and this will, consequently, affect contentment, after-usage Social Influence and then, after-usage attitude and continuance intention.

2.5.4 Facilitating Conditions

Facilitating Conditions is a UTAUT element that is measured to directly affect the technology acceptance. It is described to the extent that an individual has the belief that an administrative and technical organization will provision the use of the system (Venkatesh V. , Morris, Davis, & Davis, 2003). It is viewed as a belief associated with a person`s authority regarding the utilization of information system. Identical to Social Influence, Facilitating Conditions is hypothesized to directly impact intention and the utilization of IS (Venkatesh V. , Morris, Davis, & Davis, 2003). Nonetheless, prior researches propose that the impacts of various beliefs, such as attitudinal, normative and control might become one in order to affect other beliefs (Ryan, 1982). According to dissonance theory (Festinger, 1957), it can be proposed that in occasions where the Facilitating Conditions perform as a preventer, people might negatively alter their attitudes to be consistent with the occasion.

In addition to technology approaches such as Performance Expectancy, task technology fit likewise has a major effect on user acceptance.

In UTAUT model, excluding Effort Expectancy, the other three elements- Performance Expectancy, Social Influence, and Facilitating Conditions- have major impact on user adoption.

Observing the UTAUT model, a technology`s Facilitating Conditions are positively associated with its use. If there are more circumstances that support maintain a technology`s use, then it is probable that people would accept the technology.

2.5.5 Gender, Age, Experience, and Voluntariness of Use

These are suggested to act as a moderator for the four core constructs` effect on usage intention and behavior.

2.6 The Internet

The universally decentralized network of computers which has been entitled as the Internet has a pervasive impact on all aspects lives. Indeed, the integration between the Internet and people`s lives has become utterly unbounded as much as one may not consider aspects of today`s life without it. In this ground, the major changes have been emerged by the Internet in all aspects of social lives (Amichai-Hamburger, Wainapel, & Fox, 2004; Hamburger & Ben-Artzi, 2000). In fact, the Internet takes the main role among people to offer a social arena for meeting and interacting. At the beginning phase, chat forums and newsgroups were introduced as social components of social life on the Internet.

In the recent epoch, the Internet has advanced into numerous supplementary components, including social networks, blogs, and fantasy environments (Amichai–Hamburger, 2002; Amichai-Hamburger & Barak, 2009).

2.7 Social Media

By 1979, Jim Ellis and Tom Truscott from Duke University had constructed the Usenet as it is cited Kaplan & Haenlein (2010), a universal discussion system that Internet users were able to post public messages on it. However, the generation of social media as is known today perhaps started approximately 20 years earlier, by the time Susan and Bruce Abelson established 'Open Diary', a primary social networking platform that consisted of a community for online diary writers. Moreover, the thriving availability of high-speed Internet access derived in the popularity of the concept, and as a result, the emergence of social networking platforms such as Facebook (2004) and MySpace (2003).

Social networking sites are introduced by aiming of enabling users to communicate by providing personal information profiles, inviting people from different levels of relativeness who are able to obtain access to individuals` profiles and getting contact via emails and instant messages. In this regard, the personal profiles are generated in order to share any sorts of information such as photos, videos, audio files, and blogs.

Nowadays, there are significantly minor limitations between humans and technological devices and machines. As the Aboagora Symposium illustrated (Lövheim, Jansson , Paasonen, & Sumiala, 2013), digital media are becoming more universally consolidated into social life and they have become a part of everyday life. Moreover, this means that the previous separation between online communication and

offline or ‘real life’ communication has become approximately obsolete. Today, life is interlaced with digital media and this bond significantly shapes the way people act, even without deliberately using a device. The theory of mediatization aims to clarify this aspect. The German scholar Andreas Hepp describes mediatization as the process in which technical media noticeably influence everyday life and because of this reason they have turned into a part of society and culture (Hepp, 2012).

The term ‘social media’ is complex and its context has been argued in media and communication researches (Lovink, 2012; Boyd & Ellison, 2007).

Yet, the term has become some sort of slang in cultural and political argument and in everyday vocabulary. It is usually used for mentioning social network sites including Facebook, YouTube, blogs, and Twitter. Creating and sharing information and ideas among people is the main feature of social media. With regards to this platform, in spite of its argumentative feature, be practical; since it expresses two specific features of digital media (Liewrow & Livingstone , 2006):

- The first feature identifies the ways in which digital media demonstrate their interconnections. In this sense, for instance, smartphone cannot be simply considered as a device by means that it can be comprehended as a representation of technological systematization including its efficiency, social provisions, and organizational structures emerged around it;
- The second feature focuses on social media in a way that it promotes fundamentally digital media as an interactive construct. This implies that they make social communication more responsive and immediate than former media constructs.

Although it is obvious that social media is very influential, a lot of executives are cautious or impotent to generate strategies and designate resources to adequately involve with social media. Hence, companies in advance reject or mishandle the advantages and disadvantages generated by creative users (Berthon, Pitt, McCarthy, & Kates, 2007). In fact, lacking of comprehension about what social media mean by as well as the diverse structures they may take can be one of the reasons of this incompetency (Kaplan & Haenlein, 2010). In order to note this gap in knowledge, according to Kietzmann, Hermkens, McCarthy, and Silvestre (2011), we may visualize it into a honeycomb representation of seven social media components. Using it individually or collectively, these components may assist directors to understand the ecology of social media, furthermore, to recognize their users and their necessities (Fig.7).

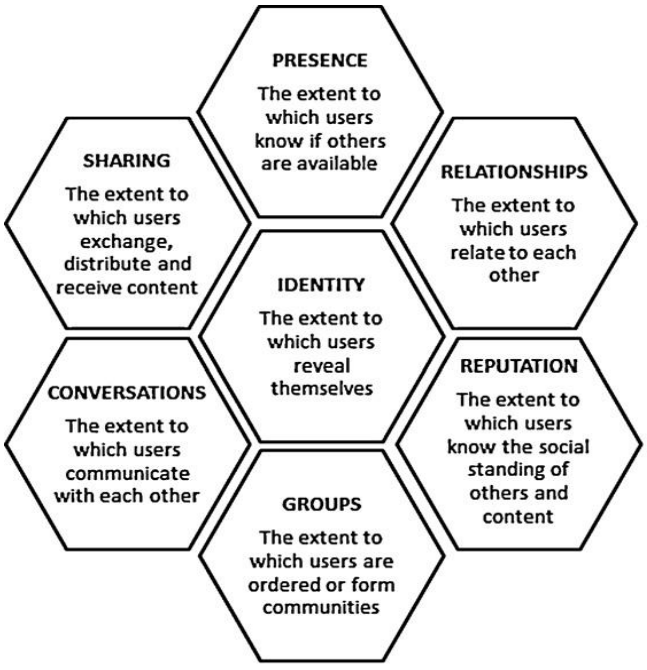

Figure 7: The Honeycomb of the Components of Social Media, Source: Kietzmann, Hermkens, McCarthy, & Silvestre (2011).

In this regard, this study has been defined in the theoretical framework of this honeycomb`s practical components mentioned below:

1. **Identity:** The identity practical component exhibits the degree to which users expose their identities in the context of social media. This consists of revealing information such as age, name, gender, location, profession, and also statistics describe users in specific ways. Accordingly, Kaplan & Haenlein (2010) define that the demonstration of the identity of a user can usually arise through aware or unaware 'self-disclosure' of personal information such as feelings, likes, thoughts, and dislikes. Therefore, social media platforms and users have dissimilar discourse desires and goals. Numerous people who engage in online events use their actual names, while other persuasive social media experts are recognized by their nicknames;
2. **Conversations:** The conversations component signifies the degree to which a communication among users occurs in a social media framework. Numerous social media platforms are designed mainly to simplify discussions among people and groups. There are numerous reasons for the occurrence of these discussions. Individuals blog, tweet, etc. to encounter new people with similar views, to discover true love, to form their self-esteem, or to explore new and fresh ideas, topics, and trends. Nevertheless, others consider social media as an approach for making their opinions and ideas heard and positively affecting charitable causes, economic issues, environmental issues, and political debates (Beirut, 2009);
3. **Sharing:** Sharing represents the degree to which users distribute, exchange, and receive messages. The phrase 'social' usually suggests that interactions among people are critical. Mostly, however, sociality is regarding the matters

that arbitrate these bonds among people (Engeström, 2005); the reasons why people meet online and interact with one another. Moreover, social media contain users that are connected through a shared matter (e.g., a text, picture, video, sound, or link). Sharing by itself is a form of collaborating in social media, but whether sharing directs users to reverse or even form relationships with one another depends on the practical component of the social media. As an example, the components of sociality are pictures for Flickr, careers for LinkedIn, and Indie music for MySpace;

4. **Presence:** Presence signifies the degree to which users can check the accessibility of other users. It includes checking the location of other users both in the real world and/or in the virtual world and their availability. Users in the virtual world illustrate their availability by status lines such as 'hidden' or 'available.' Due to the increasing connection among people, presence links the real and the virtual worlds. As an example, actor and actress Ashton Kutcher and Demi Moore both use Foursquare check in application, and as soon as they 'check in' at a specific location, media reporters and fans can view this information. In addition, the application Friends Around Me allows people to update and share their check-ins across platforms such as Facebook, Foursquare, and Twitter and inform their friends regarding their physical location;
5. **Relationships:** The relationships component represents the degree to which users can be linked to one another. The term 'link' means that two or more users share the components of sociality, meet, or basically list one another as a friend. Thus, the form of connection in social media usually determines the way users exchange information among each other. In this regard, some

platforms such as LinkedIn require formal, structured, and regulated relationships. LinkedIn allows users to check how other users are connected or linked to each other. Moreover, a valid profile is also needed for each user. Social software such as Skype and AOL Instant Messenger provide a platform for users to talk to 'contacts' or 'buddies' they have on their friend list;

6. **Reputation:** Reputation is the degree to which users can identify the position of other users and themselves in a social media. Reputation can have diverse contexts on social media. Mostly, reputation is built upon trust, but since information technologies cannot sufficiently determine such vastly qualitative scale, social media platforms depend on 'mechanical Turks': automated tools that accumulate user-generated information to regulate trustworthiness. In social media, reputation does not only refer to people but also people`s content, which is generally assessed by content voting systems. For instance, on YouTube, the reputation of videos is based on 'ratings' or 'view counts,' while it is 'likes' on Facebook;
7. **Groups:** The groups' component illustrates the degree to which users can create communities and sub communities. The more 'social' a network develops into, the larger the group of contacts, friends, and followers. Two main sorts of groups exist. First, people can set through their contacts and put their friends, buddies, fans, and followers into distinct self-created groups. Second, online groups can be similar to groups in the offline world: open and visible to anyone, closed and approval required, secret and invitation needed. As an example, Flickr and Facebook have groups that are managed by administrators approve applicants and send invitations to other users to join.

As the most ascending and common sites can be exemplified, is the social network which can be introduced as a web-based service allowing people to:

1. To define a profile through an ordered framework;
2. To set up a pool of users with whom a connection is shared with;
3. To investigate the desired connections and review other profiles within the system (Boyd & Ellison, 2007).

In general, the social network is programed in order to endure existing offline connections or maintain offline relationships, in opposite of encountering new individuals. These connections might be depended on weak linkages, rather there are few offline connections existing normally among people (Ellison, Steinfield, & Lampe, 2007).

Social media have been regarded as:

1. A chance for common social mobilization;
2. The source of a gap and infusion of social discourse.

Lövheim, Jansson, Paasonen, & Sumiala (2013) declares that whether separately or collectively, social media might provide ease for any two lines of development. It is important to remark that she stated that ‘social media’ is not regarded as a sole point of reference. Rather, it contains all types of:

1. Applications;
2. Business models;
3. Entertainment constructs and interaction.

2.8 Check in Applications

Nowadays, users of social media such as Facebook, Twitter, Instagram, etc. are able to provide details of their location for the friends on their contact list. When users post something on their social media account, it is also possible for them to indicate the location that they are posting from. This act is also known as ‘check in’. This helps users to keep track of their friends that are on their friend list and follow their activities if needed.

There are some applications that are designed specifically for users to do their ‘check ins’ through those applications. One of the main applications regarding ‘check in’ is Foursquare. Users on Foursquare are able to link their social media accounts such as their Facebook account to Foursquare and provide details of their location and post them on their social media accounts. Moreover, users can obtain information about cities around the world by using Foursquare City Guide application and play ‘check in’ games on Foursquare Swarm application. In addition, Foursquare Location Intelligence application facilitates brands to spot and message their consumers (FOURSQUARE, 2017).

Foursquare initiated in 2009 with adequate exaggeration to buoy an aircraft carrier. It was basically a digital layer over the real world, encouraging individuals to “check in” regardless of their place, announcing their activities during the day. A person is at Dunkin’ Donuts. Now the gym. Now their favored brunch place. The prize for sharing? Stickers. Badges. Friendly race to turn into the mayor of a beloved bar. Also, critically, being member of a community of individuals sharing suggestions on the best of everything around them. However, in spite of its cultural dominance, the app just

wasn’t able to translate into an enduring business. Its number of users never changed from tens of millions to hundreds of millions. After few years passed, engineers decided to leave for other startups. Users turned into less active, and Foursquare started to feel like the chaos caused by a really huge party. Employee self-confidence was low. However, investors supported patiently, spending a lot of money for the app over and over again. Possibly, as one was put it, because everyone believed you would have to be a fool to cause mess in the business.

Chapter 3

RESEARCH METHODOLOGY

3.1 Research Design

A research design plays the role of a plan or a structure when conducting marketing research project. It specifies the required process for collecting necessary information to clarify and solve marketing research issues. The research design defines the details of performing an approach to the problem even if that approach has already been established to the problem. A research design provides the basis directing the project. An effective and efficient marketing research project is the result of a well prepared research design.

Generally, a research design consists of the following steps (Malhotra N. , 2007):

1. Explain the information required;
2. Design the exploratory, descriptive, and/or causal phase of the research;
3. Identify the measurement and scaling processes;
4. Create and pretest a questionnaire (interviewing form) or a proper form for collecting the data;
5. Identify the sampling procedure and sample size;
6. Develop a strategy for analyzing the data.

Research designs generally categorized as exploratory or conclusive as shown in the figure below:

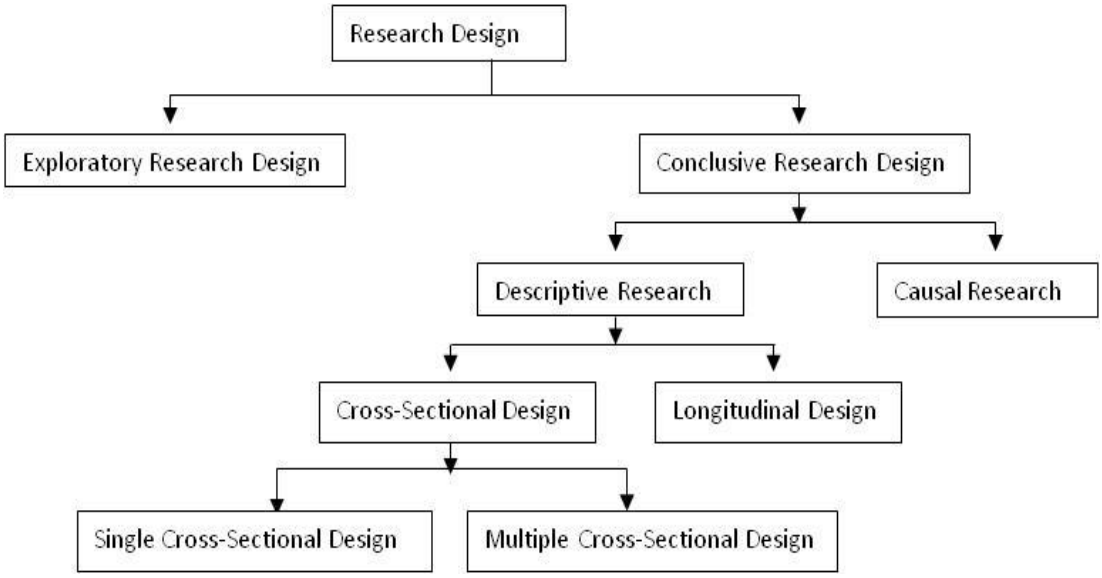

Figure 8: A Classification of Marketing Research Designs Source,
Source: Malhotra (2007).

The main goal of exploratory research is to present a comprehension of the problem that the researcher is facing. Exploratory research is conducted in occasions when the problem must be specified more explicitly, determine resembling plans, or attain further understandings before the development of an approach (Malhotra N. , 2007). Conclusive research is generally planned and formal more than exploratory research. It is subjected to representative, immense samples, and the collected data are based on quantitative analysis. Additionally, Conclusive research designs are either causal or descriptive (Malhotra N. , 2007).

The main aim of descriptive research is to express something (Malhotra N. , 2007). Descriptive research consists of surveys and fact-finding investigations of various types. The major goal of descriptive research is explanation of situations existing at present. The key attribute of this technique is that there is no supervision over the variables by the researcher; he/she can solely report what is currently happening or what has happened (Kothari, 2008). Descriptive research fragmented into longitudinal

design and cross-sectional design. The most commonly conducted descriptive design in the process of marketing research is the cross-sectional design. In cross-sectional design information is collected only once from any element from the sample population. There are single cross-sectional and multiple cross-sectional designs. In single cross-sectional design one sample of respondents is taken into consideration from the target population, and data is collected once from this sample. Yet, in multiple cross-sectional design information is collected from two or more respondents` samples and the information collection happens only once (Malhotra N. , 2007).

In longitudinal design, a determined sample (or samples) of target population is assessed repetitively on the same variables. There is a difference between a longitudinal design and a cross-sectional design in terms of the same sample(s) over time. Similarly, the same variables and the same people are measured and studied over time (Malhotra N. , 2007). Causal research is conducted in order to obtain proof of cause-and-effect (causal) interactions. Causal research is suitable when determining the cause (independent variables) and the effect (dependent variables) of an occurrence. Furthermore, causal research is for deciding the character of the connection between the predicted cause and effect variables. Similar to descriptive research, a structured design and a plan is required for causal research (Malhotra N. , 2007). There are two sorts of researches: qualitative and quantitative research:

- The goal of quantitative research is to determine how a variable has an effect on another variable in a population, by evaluating the relations between variables (Altinay & Paraskevas, 2009). Measurement of amount or quantity is the base of quantitative research. It is valid for situations that quantity is taken into consideration (Kothari, 2008);

- The focus of qualitative research is to develop a perception of the context where behaviors and phenomena occur. It concentrates primarily on feelings and experiences and its nature is to be examined, hence motivating informers to present important concepts from their own point of view, rather than following pre-determined areas by the researcher (Altinay & Paraskevas, 2009). On the other hand, qualitative research concerns phenomenon with qualitative values in inquiry, for instance, phenomena which is related to or involved in any kind of quality (Kothari, 2008). As stated in this research, for examining the factors influencing the intention(s) to use check-in applications among EMU students in North Cyprus, a descriptive research and a single cross-sectional design has been used. Moreover, a quantitative approach has been used since all the results in this research are presented in statistical figures and numbers. Hence, quantitative approach seems to be the suitable approach for this research. In addition, since each member of the target population does not have an equal chance of being selected, a non-probability sampling technique has been applied for this research. As it is mentioned above, the target population has been selected from EMU students in North Cyprus.

3.2 Questionnaire Design

A questionnaire is a set of formal questions used in order to obtain information from respondents. Usually, a questionnaire is considered as one of the features of a data-collection set. A data-collection package may additionally include (1) processes used in fieldwork, such as guidelines of selecting, reaching, and asking questions from respondents; (2) some offers for respondents such as gift, reward, or payment, and (3) assistance for communication, such as products (similar to personal interviews), pictures, maps, and advertisements and return envelopes (similar to mail surveys).

Without regard to the sort of supervision, a questionnaire identified by some particular objectives. All the questionnaires have three particular objectives. These objectives are as mentioned below:

1. The information needed must be translated by the questionnaire into a group of particular questions that is clear and straightforward for the respondent and he/she is going to answer;
2. Questionnaire needs to encourage, motivate, and uplift the respondent in order to cooperate and participate in the interview and to finish the interview;
3. Response error should be minimized by the questionnaire.

The following steps are the steps for designing a questionnaire (Malhotra N. , 2007) (Table.2).

Table 2: Questionnaire Design, Source: Malhotra (2007).

Step 1: Specify the information needed.
Step 2: Specify the type of interviewing method.
Step 3: Determine the content of individual questions.
Step 4: Design the questions to overcome the respondent`s inability and unwillingness to answer.
Step 5: Decide on the question structure.
Step 6: Determine the question wording.
Step 7: Arrange the questions in proper order.
Step 8: Identify the form and layout.
Step 9: Reproduce the questionnaire.
Step 10: Eliminate bugs by pretesting.

3.2.1 Specify the Information Needed

In design of questionnaire, the initial step is to decide the required information. In addition, this is the initial required step in the process of research design. It should be taken into consideration that the required information becomes more and more vividly characterized as the research or study continues. Moreover, having a clear understanding of the population of the research is crucial. The features of the respondents greatly affect the questionnaire design. Suitable questions for housewives might not be proper for students (Malhotra N. , 2007).

In this research, all the necessary information regarding UTAUT constructs which are Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, and Behavioral Intention has been collected using the questionnaire.

3.2.2 Interviewing Method

An admiration of the impact of the interviewing technique on questionnaire design could be achieved by examining which method has been conducted in order to administer the questionnaire. During personal interviews, respondents observe the questionnaire and have a face to face interaction with the interviewer. Hence, extended, compound, and various questions could be asked. During telephone interviews, there is an interaction between the respondents and the interviewer without observing the questionnaire. Thus, there is a limitation to the length and difficulty of the questions. Mail questionnaires are self-directed. Hence, detailed instructions and simplicity of the questions must be taken into consideration. During computer-assisted interviews (CAPI and CATI), randomization of questions and compound omitting methods can be simply conducted in order to remove order bias (Malhotra N. , 2007).

Questionnaires have two types: structured and unstructured. Structured questionnaires consist of close-ended, formal questions that have been developed by the researcher. Unstructured questionnaires consist of open-ended questions prepared for the respondents to obtain their detailed and unrestricted ideas.

3.2.3 Determining the Contents

When the required information is defined and the sort of interviewing method is determined, the next step will be to regulate the content of individual question: what individual questions consist of. Each question of a questionnaire should add to the required information or be used for a certain purpose. If a question does not contribute to proper data for the research, the question should be removed. However, in some specific situations, questions that are not openly related to the required information might be asked.

In order to create involvement and rapport, it is beneficial to ask some impartial questions by which the questionnaire begins, specifically when there is a controversial or sensitive topic involved in the questionnaire. In some cases, researchers may ask filler questions in order to mask the sponsorship or purpose of the research. The rest is my own words.

3.2.4 Overcoming Inability and Unwillingness to Answer

Sometimes respondents can answer a certain question. However, they might be unwilling to answer that question. This can be because of several reasons such as excessive effort is needed, inappropriate context or situation in order to express the answer, no reasonable need or purpose for the required information is evident, or the required information is sensitive. Most of the respondents are reluctant to dedicate a great effort to deliver information. Thus, the researcher should reduce the effort that

the respondents should make. Some questions may be suitable for specific situations but not appropriate for others. If there are questions that respondents consider improper for the given situation, they are reluctant to response. In some cases, the researcher can change the context of the questions that are going to be asked in a way that the questions seem proper.

Moreover, respondents are reluctant to reveal information if the information does not have an appropriate purpose. The request for information can become legitimate for respondents by explaining why some data are needed and this will result in an increase in respondents` desire to answer. If the information seem sensitive, respondents are reluctant to reveal those information, at least accurately, because this might put respondents` self-image or prestige at risk and cause embarrassment. If respondents are forced to response, they might give biased answers, mainly during personal interviews.

According to Malhotra (2007), the following techniques can be used in order to encourage respondents to deliver information that they are reluctant to provide:

1. Place sensitive topics at the end of the questionnaire;
2. Preface the question with a statement that the behavior of interest is common;
3. Ask the question using the third-person technique;
4. Hide the question in a group of other questions that respondents are willing to answer;
5. Provide response categories rather than asking for specific figures;
6. Use randomized techniques. During these techniques, two questions are presented for the respondents, one sensitive and the other neutral question with

a known probability of a “yes” response. In this research, the effort for answering the questions has been diminished and all the sensitive questions are asked at the end of the questionnaire.

3.2.5 Decide on the Question Structure

There are two sorts of questions: unstructured or structured. Unstructured questions are questions that respondents response using their own words and they are open-ended questions. Moreover, these questions are also known as free-answer or free-response questions. For every topic, it is better to use open-ended questions as first questions. These questions provide the opportunity for the respondents to reveal their general attitudes and thoughts and this will help the researcher relate their answers to structured questions. There are no limitations for respondents in order to express their thoughts and views. Their remarks and descriptions can help the researcher obtain rich understandings. Thus, in exploratory research it is beneficial to use unstructured questions. Structured questions identify the group of response] format and the response alternatives. A structured question can be scales like Likert Scale, multiple-choice, or dichotomous (Malhotra N. , 2007). In this research, Likert Scale and categorical questions have been used in the questionnaire.

3.2.6 Determine the Question Wording

Question wording is about translating the anticipated question content and composition into words that are clearly and simply understandable for the respondents. When developing a questionnaire, perhaps the most crucial and challenging task is determining the question wording. Poor wording of a question will result in respondents` refusal to response or incorrect responses. A question should plainly express the considered issue. In a questionnaire, simple words should be used and they should be according to the vocabulary knowledge of the respondents. Using words that

have multiple meanings and are unknown to the respondents should be avoided in a questionnaire. Every person has his or her own understanding of some words even if the words have an explicit meaning. A leading question indicates the respondent the desired answer and illustrates a specific way of answering. Some respondents agree with any question regardless of what the question is asking them. An implicit alternative is the alternative that is not clearly stated in the options. In order to increase the percentage of respondents choosing an indirect alternative, it can be clearly expressed. The wording of the questions should not cause the answer to be based on indirect assumptions about an outcome in the future. Specific questions should be asked and asking general questions should be avoided. Moreover, the wording of the questions should not force the respondents to generalize or calculate estimates. The wording of several questions, specifically those calculating lifestyles and attitudes should be as statements so that respondents can illustrate whether they are agree or disagree. Evidence illustrates that the answer obtained is based on the directionality of the statements: positively expressed statements or negatively expressed statements (Malhotra N. , 2007). In this research, proper wording of the questionnaire has been taken into consideration and the contents are clear and understandable.

3.2.7 Determine the Order of the Questions

In order to gain the cooperation and confidence of respondents, the opening questions can play a vital role. It is necessary to have interesting, straightforward, and nonthreatening opening questions. Since it is pleasing for people to mention their opinions, questions that are related with respondents` opinions are suitable to be asked as opening questions. As a common instruction, elementary information should be attained first, then classification and, lastly, identification information. Sensitive, complex, challenging, embarrassing, and dull questions should be asked at the end of

the sequence. In a sequence, the answers to upcoming questions can be influenced by questions that are asked earlier. Indeed, in such a case, general questions should be in prior of specific questions. There should be a logical order when asking questions. Before beginning a new topic, all of the questions in the previous topic should be asked. In order to guide the thoughts of respondents, short transitional expressions should be used when switching topics. Branching questions should be deliberately designed (Malhotra N. , 2007). In this research, a proper and specific order for the questions has been applied in the questionnaire. At the beginning of the questionnaire, there are questions regarding the main constructs of UTAUT which are Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, and Behavioral Intention. Then, demographic questions have been asked followed by questions about the participants` experience of using check-in applications. At the end of the questionnaire, a question regarding the most preferred check-in application has been asked.

3.2.8 Form and Layout

The format, positioning, and spacing of questions may have a notable impact on the results. This is mainly vital for self-administered questionnaires. That is beneficial to split a questionnaire to various parts. There might be needed several parts for questions related with the basic information. In each part, questions should be numbered, specifically when using branching questions. In order to ease the coding of responses, numbering of questions can be conducted. If possible, questionnaires should be preceded. The same codes that are going to be entered in the computer are printed on questionnaires when conducting proceeding. Usually, the code classifies the line and column numbers in which a specific answer will be entered (Malhotra N. , 2007). In

this research, a proper format of a questionnaire as mentioned in this section has been applied when designing and preparing the questionnaire.

3.2.9 Reproduction of the Questionnaire

One of the aspects that can affect the results is the way that a questionnaire has been reproduced. For instance, if poor-quality paper is used for reproducing the questionnaire and if the questionnaire has a poor appearance, respondents will consider the project as unimportant and it will have a negative effect on the quality of their response. Hence, when reproducing the questionnaire, good-quality paper should be used and the questionnaire should have a professional appearance (Malhotra N. , 2007). In this research, the questionnaires have been prepared and provided for the participants with a professional appearance and good-quality.

3.2.9.1 Pretesting

Pretesting means identifying and eliminating potential mistakes in a questionnaire by examine and testing the questionnaire on a small group of respondents. There is a chance to improve by pretesting even for the best questionnaire. Generally, a questionnaire should not be used without proper pretesting. It is advantageous to test all characteristics of the questionnaire (Malhotra N. , 2007). In order to reveal the missing questions and determine the necessary modifications and changes needed for questions, pretesting can be conducted. Respondents for both actual and pretest survey should be from the same population (Malhotra N. , 2007). In this research, pretest was conducted on a target sample including 10 participants and all the necessary changes and modifications were done after the pretest in order to improve the quality of the questionnaire. The following table illustrates the structure of the questionnaire conducted (Table.3).

Table 3: Questionnaire Structure

	Items	Reference(s)
Performance Expectancy	**PE1** I would find the check-in apps useful in my life. **PE2** Using the check-in apps increases my effectiveness. **PE3** Using the check-in apps (makes/would make) it easier for me to obtain location information. **PE4** Using the check-in apps (makes/would make) it convenient for me to share my location at any time.	Maduku (2015); Diño & de Guzman (2014).
Effort Expectancy	**EE1** My interaction with the check-in apps would be clear and understandable. **EE2** It would be easy for me to become skillful at using the check-in apps. **EE3** I would find the check-in apps easy to use. **EE4** Learning to operate the check-in apps is easy for me.	Anderson & Schwager (2004).
Social Influence	**SI1** People who influence my behavior (influence/would influence) me to use the check-in apps. **SI2** People who are important to me (influence/would influence) me to use the check-in apps. **SI3** People who are in my social circle (influence/would influence) me to use the check-in apps.	
Facilitating Conditions	**FC1** I have the necessary resources to enable me to use the check-in apps. **FC2** My social environment supports me to use the check-in apps. **FC3** Assistance is available when I experience problems with using the check-in apps. **FC4** Using the check-in apps (is/would be) compatible with my life.	Maduku (2015).
Behavioral Intention	**BI1** I intend to use the check-in apps in future. **BI2** I predict I will use the check-in apps in future **BI3** I plan to use the check-in apps in future.	Lakhal, Khechine, & Pascot (2013).

3.3 Sampling Design

One of the main steps in preparing a questionnaire is considering the sampling design and concentrating on detecting the most appropriate and the best design for the research. There are five steps in sampling design process (Table.4).

Table 4: Sampling Design, Source: Malhotra (2007).

Step 1: Define the target population.
Step 2: Determine the sampling frame.
Step 3: Select sampling technique(s).
Step 4: Determine the sample size.
Step 5: Execute the sampling process.

3.3.1 Define the Target Population

The first step in sampling design is defining the target population. The target population is the group of objects or components that own all the information considered by the researcher and all the implications are going to be made on them. The target population needs to be defined accurately. If the target population is defined inaccurately, the result of the research will be misleading, fruitless, and ineffective. Defining the target population includes converting the problem description into an exact declaration of the participants in the sample (Malhotra N. , 2007). In this research, the target population is EMU students in North Cyprus who have the ability and resources to use the check-in applications.

3.3.2 Determine the Sampling Frame

A target population`s elements are represented by a sampling frame. A sampling frame includes a list or set of instructions in order to identify the target population. For

circumstances in which a list cannot be collected, there should be at least some instructions specified in order to identify the target population. It is possible that often the collected list of population elements does not include some items and elements of the population or consists of other elements that are not necessary. Hence, sampling frame error will occur when using a list. In this research, a non-probability sampling technique has been conducted since every member of the target population does not have an equal chance and probability of being selected (Malhotra N. , 2007).

3.3.3 Select a Sampling Technique(s)

The selection of a sampling technique involves numerous decisions of a comprehensive nature (Malhotra N. , 2007). The most suitable and appropriate sampling technique needs to be selected and used by the researcher. In this research, convenience, non-probability sampling technique has been used in order to obtain information from the target population.

3.3.4 Determining the Sample Size

Sample size discusses the quantity of features and elements that should be involved in the research. The determination of sample size is complicated and consists of numerous qualitative and quantitative deliberations. Generally, for vital decisions, more information is essential and the information required to be attained more accurately. This needs larger samples. However, when the size of the sample increases, the cost of obtaining each unit of information will be higher (Malhotra N. , 2007). There are 20 questions regarding the main constructs of UTAUT in the questionnaire. In this research, the sample size is approximately 10 times the number of the mentioned questions regarding the main constructs of UTAUT in the questionnaire which is 20. Therefore, there are 250 participants in the sample size in this research.

As stated by Sekaran (2003), one of the most commonly asked question is “how large should my sample be?” There is no straightforward answer to this question, and surely not definitive. Numerous researchers have delivered various rules in order to determine the sample size. The rules are:

1. The suitable size for most researches is in between 30 and 500 (Roscoe, 1975); If the sample is fragmented into subgroups, for instance women and men, it is necessary to have a minimum of 30 as the sample size for every group (Roscoe, 1975, p. 126);
2. Nevertheless, Borg and Gall (1989) recommended that for every subgroup, 100 respondents are needed;
3. The sample size may also be determined by the level of accuracy and confidence desired. The superior the required accuracy, the greater the sample size needs to be (Sekaran, 2003).

According to the suggestions from Roscoe (1975), a sample size of approximately 300 respondents can be taken into consideration as sufficient.

3.3.5 Execute the Sampling Process

The sampling process conduction needs an accurate specification of the way sampling design decisions are implemented with regards to (Malhotra N. , 2007):

1. The population;
2. Sampling frame;
3. Sampling unit;
4. Sampling technique;
5. Sample size.

All the decisions for sampling design must be according to accurate information.

3.4 Data Analysis

Based on the collected data, various analyses carried out in order to analyze the data. The analyses include descriptive analysis, t-test, ANOVA, correlation analysis, reliability test (Cronbach`s Alpha), confirmatory factor analysis (CFA), and structural equation modeling (SEM). Descriptive analysis conducted in order to obtain respondents` demographic information. If the two groups have a statistically significant difference in their mean scores, T-test can be used in order to indicate that (Pallant J. , 2010). In many research circumstances, however, there are more than two groups that we would like to compare their mean scores. In this situation, analysis of variance (ANOVA) can be used (Pallant J. , 2005). For indicating the reliability of scales, Cronbach`s alpha test was conducted. Correlation analysis was utilized in order to define the intensity and direction of the linear relationship that exists between two variables (Pallant J. , 2010). Confirmatory factor analysis (CFA) is a sort of structural equation modeling specifically discusses measurement models; which is, the relationships among perceived measures or indicators (such as test articles, test results, and behavioral observation ratings) and dormant variables or factors (Brown, 2014). Structural equation modeling is an analytical approach with multiple varieties utilized to concurrently examine and estimate compound causal relationships amongst variables, whether the relationships are hypothetical or cannot be observed directly (Williams, Vandenberg, & Edwards, 2009).

3.5 Ethics in Data Collection

In the process of data collection, the researcher must pay attention to ethical issues. The aim of the research should be clearly explained and defined for the participants and the researcher should not force the participants to involve in the research. It should

be promised that the identity of the participants will remain anonymous and not be revealed. For preparing more detailed questions, the collected data should be relative to the research problem. In addition, for obtaining precise results, the transformation of data into information should not exploit the database. In this research, all the ethical issues have been taken into consideration in order to avoid any misconduct.

Chapter 4

STATEMENTS OF HYPOTHESES

4.1 Introduction

This chapter explains the relationships between the four main elements of UTAUT model which are Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions and Behavioral Intention element of the model. Moreover, the effects of moderating factors which are gender, age, experience, and voluntariness of use on the mentioned relationships are explained in this chapter. All the relationships are hypothesized based on the findings and literatures and these hypotheses will be examined in order to test their validation.

4.2 Performance Expectancy

Performance Expectancy (PE) represents the belief that an individual has regarding the improvement of work performance by using a specific information system (Venkatesh V. , Morris, Davis, & Davis, 2003). The origins of this construct are five identical constructs from the following earlier theoretical models:

1. Perceived usefulness (TAM/TAM2/C-TAM-TPB);
2. External motivation (MM);
3. Work correlation (MPCU);
4. Relative advantage (IDT);
5. Expectancy to achieve (SCT).

Former research performed by Tan (2013), Wu, Tao and Yang (2008), AbuShanab and Pearson (2007) initiated that Performance Expectancy and Behavioral Intention have a relationship and this relationship is a strong forecaster of technology acceptance. Performance Expectancy (PE) is explained as the belief that an individual has regarding achieving benefits in job performance by using a system (Venkatesh V. , Morris, Davis, & Davis, 2003). Performance Expectancy is a construct that has several dimensions and it is in relation with individuals` perceptions of the following aspects when using the technology:

1. Job-fit;
2. Usefulness;
3. Outcome expectations;
4. Extrinsic motivation;
5. Relative advantage.

Previous studies recommended that Performance Expectancy played a vital role in determining a person`s intention to employ new technology and was a forecaster of Behavioral Intention to utilize IT. (Venkatesh V. , Morris, Davis, & Davis, 2003). Earlier studies proposed that PE was a forecaster of BI to use IT and substantial in forming an individual's intention to use new technology (Venkatesh & Davis, 2000; Venkatesh V. , Morris, Davis, & Davis, 2003; Zhou, Lu, & Wang, 2010). "Performance Expectancy" in the framework of consumer as Venkatesh, Thong, & Xu (2012) define as the extent to which utilizing a technology will be beneficial for consumers in carrying out particular activities. According to the original model introduced by Venkatesh et al. (2003) , Performance Expectancy was found to be the robust forecaster of intention, and in the framework of MP, Performance Expectancy`s

impact on Behavioral Intention has been upheld (Thakur, 2013; Wang & Yi, 2012). Lai and Chen (2011) have confidence in that an individual`s intention to carry out a specific behavior is in accordance with his/her expectancies. Moreover, he clarifies that when a person performs a behavior, expectancy is his/her perceived possibility of the consequences. Based on the above information, the following hypothesis can be proposed:

H1. Performance Expectancy has a significant and positive impact on Behavioral Intention;

Male users compared to female users have a tendency to be more contented toward new information systems and have a tendency to devote more time utilizing new information systems, hence gaining further advantage from the systems (Venkatesh & Davis, 2000; Venkatesh V. , Morris, Davis, & Davis, 2003), while Yi et al. (2005) stated the system is more useful for female users compared to male users. It is difficult and uncomfortable for older users to use information systems, and new information systems found to be less useful for them when carrying out their tasks (Morris & Venkatesh, 2000; Venkatesh V. , Morris, Davis, & Davis, 2003; Burton-Jones & Hubona, 2005). Hence, this will result in lower Performance Expectancy, perceiving the system as not beneficial, and perceiving the system as being unable to satisfy their work necessities. Restrictions on carrying out every day life`s tasks rise with age. However, they may differ across gender. As reported, older women have more tendencies to experience health issues (Annandale & Hunt, 1990) such as functional disability in movement and individual self-care (Orfila, et al., 2006). As supported in a study conducted by Krause et al. (1998) in which male respondents assessed their health more favorably than women respondents.

Temporarily, the likelihood of men pursuing medical care for considered symptoms (Spiers, Jagger, Clarke, & Arthur, 2003). This study aimed to explain Performance Expectancy`s impact on Behavioral Intention regarding the use of Telehealth and gender acting as a mediating factor. Based on the above discussions, the following hypotheses can be presented:

H1a. The impact of Performance Expectancy on Behavioral Intention will be moderated by gender;

H1b. The impact of Performance Expectancy on Behavioral Intention will be moderated by age.

4.3 Effort Expectancy

Effort Expectancy is clarified as the level of ease that a person is involved with when using a system (Venkatesh V. , Morris, Davis, & Davis, 2003). The followings are the sources of Effort Expectancy:

1. Perceived ease of use (TAM/TAM2);
2. Systematic complexity (MPCU);
3. Operating simplicity (IDT).

Perceived ease of use and Effort Expectancy share an identical definition, which is the level of an individual`s belief regarding an effortless usage of a specific technology system (Davis F. D., 1989; Moore & Benbasat, 1991). Potential users will rapidly accept higher Effort Expectancy because of lesser learning effort (Eze, Ling, Manyeki, & Lee, 2011). High Effort Expectancy will result in higher intention for consumers to accept mobile banking. As e-books` successful acceptance is related with their perceived ease of use, it is expected that Effort Expectancy and Behavioral Intention have a positive relationship. Effort Expectancy will have a positive impact on students`

Behavioral Intention toward using e-books. Effort Expectancy is the degree of ease perceived when a system is being used. Venkatesh et al. (2003) explained Effort Expectancy as the level of convenience related with using the system. Numerous earlier studies recommended Effort Expectancy to be significant in determining a person`s Behavioral Intention toward the usage of new technology (Venkatesh & Davis, 2000; Venkatesh V. , Morris, Davis, & Davis, 2003; Zhou, Lu, & Wang, 2010) and endures as one of the most crucial factors contributing to technology acceptance (Orji, Cetin, Ozkan, White, & Andone, 2010). Students` Behavioral Intention toward the usage of electronic library services is directly affected positively by Effort Expectancy. In Wang and Yi`s (2012) study, Effort Expectancy plays a vital role as forecaster of intention toward mobile payments usage. Moreover, Thakur (2013) considers Behavioral Intention to be affected significantly by Effort Expectancy. It is expected that the perceived level of convenience related with the usage of Remote Mobile Payments has an impact on Behavioral Intention as dissimilar technologies to present payment systems is used by Remote Mobile Payments. Behavioral Intention toward the usage of Remote Mobile Payments is affected positively by Effort Expectancy. Travelers that have higher perceived Effort Expectancy toward using mobile technology will display higher intention toward using mobile devices regarding their future journey. Based on the above discussions, the following hypothesis is proposed:

H2. Effort Expectancy has a significant and positive impact on Behavioral Intention;

In addition, the UTAUT model highlights that gender acts as a moderating factor and affects Behavioral Intention. According to Venkatesh et al. (2003) and also Wang and Wang (2010), Effort Expectancy and Behavioral Intention

have a relationship that is significantly affected by gender which is a moderating factor. For women, constructs related to Effort Expectancy are strong determinants of intention (Venkatesh V. , Morris, Davis, & Davis, 2003; Venkatesh & Morris, 2000). Female end users compared to male end users have higher extents of computer anxiety and tend to have lower Effort Expectancy toward new information systems, for instance digital libraries (Venkatesh V. , Morris, Davis, & Davis, 2003). Moreover, women compared to men were more alarmed about the ease of using information systems and considered more intense ease of use (Venkatesh & Morris, 2000). Older users with dissimilar abilities found regaining information form information systems to be challenging, and these abilities decreased while age increased. For instance, unlike younger users, it is more struggling for older users in order to regulate themselves to the new environment (Burton-Jones & Hubona, 2005; Venkatesh & Morris, 2000). Effort Expectancy influences Behavioral Intention and this influence will be moderated by the following factors (Awwad & Al-Majali, 2015):

1. Gender;
2. Age;
3. Experience;
4. Education level;
5. Academic discipline.

Redsell and Nycyk (2010) stated that several older adult users were still facing difficulties using computers. Nevertheless, it was described in the study conducted by Kim (2008) that unlike younger computer users, older computer

users illustrated enhanced level of ease and positive perspective toward computers. From the discussions above, the following hypotheses are developed:

H2a. The impact of Effort Expectancy on Behavioral Intention will be moderated by gender;

H2b. The impact of Effort Expectancy on Behavioral Intention will be moderated by age.

4.4 Social Influence

According to UTAUT model, Social Influence is described as the extent to which a person perceives the belief of others regarding his/her usage of the new system is important (Venkatesh V. , Morris, Davis, & Davis, 2003). In order to predict technology use behavior, Social Influence (SI) plays crucial role (Venkatesh & Davis, 2000). TPB by Ajzen and Fishbein (1980) and subjective norm in TAM and TAM2 by Venkatesh and Davis (2000) have similarities with Social Influence. Riquelme and Rios (2010) claimed that recommendations from friends, members of the family and relatives are vital in the decision-making regarding the usage of new products or services. If the adopters are inexperienced regarding using specific technology system, the effect of subjective norm will be more significant (Hartwick & Barki, 1994). Social Influence is indicated in the impact of referees` thoughts regarding individual user behavior (Zhou, 2011). Social Influence theory states that users have a tendency to abide by other significant referees` thoughts (Bagozzi & Lee, 2002). In the consumer framework, nonusers have more significant control over their choices, outcome of their choices, and the impact of the outcome on their social image. Hence, Social Influence has a crucial and significant effect on consumer behavior. Among the four indigenous constructs of UTAUT, the one that has been the most investigated in the framework of

MP is Social Influence, and its impact on Behavioral Intention has received more support (Yang K. , 2012; Yang, Lu, Gupta, Cao, & Zhang, 2012; Tan, Ooi, Chong, & Hew, 2014) than criticism (Shin, 2010; Wang & Yi, 2012). Social Influence further elaborated by Taylor and Todd (1995) further explained Social Influence as the impact of other people`s thought, great effect, and peer impact. Social pressure is defined as the belief that a person has in following the practices that are accepted by individuals who find having a high social status enjoyable in his/her environment. According to verifications in Agarwal and Prasad (1998), Karahanna et al. (1999), and Venkatesh et al. (2003) recommend that there will be more intention for users to utilize a new information technology if important people to those users consider that it is required for them to embrace the new technology. Based on the above discussions, the following hypothesis can be proposed:

H3. Social Influence has a significant and positive impact on Behavioral Intention;

It has been also considered that Social Influence is more significant among females than males (Hwang, 2010; Riedl, Hubert, & Kenning, 2010). Ventakesh et al. (2003) in accordance with UTAUT model considered that actual use experience acts as the moderating factor for Behavioral Intention`s relationships with Effort Expectancy and Social Influence as well as use behavior`s relationship with Facilitating Conditions. Compatible with these findings, it is expected that users` e-book experience acts as a moderating factor and has an impact on predictors` relationship with the predicted variable. Women had a tendency to have more sensitivity toward others` opinions. Thus, Social Influence was considered to be more crucial in the formation of an intention toward using new technology (Venkatesh V. , Morris, Davis, &

Davis, 2003). Older users tended to struggle more when handling new or compound information, therefore influencing their process of learning new technologies. Moreover, this struggle may cause an increase in mental and physical deficiencies related with age (Morris, Venkatesh, & Ackerman, 2005). Thus, elderly workers find it more important to receive aid and support for work. It appeared that people were greatly affected by social factors more during the initial stage of using a new technology than further during constant usage stage (Venkatesh V. , Morris, Davis, & Davis, 2003). From technological adoption`s perspective, gender dissimilarities play a crucial role in its utilization and process (Venkatesh & Davis, 2000). The study conducted by Mazman, Usluel, & Çevik (2009) confirmed this and revealed that Social Influence was outstandingly higher among females than males in such utilization of technological innovation. Females seem to have higher Social Influence on decision than personal decision compared to males. Hence, at the product level, both types of Social Influences which are informative and normative believed to be affected by gender which acts as an influential demographic (Girard, 2010). Based on the above discussions, the following hypotheses can be suggested:

H3a. The impact of Social Influence on Behavioral Intention is moderated by gender;

H3b. The impact of Social Influence on Behavioral Intention is moderated by age;

H3c. The impact of Social Influence on Behavioral Intention is moderated by experience.

4.5 Facilitating Conditions

Venkatesh et al. (2003) explained Facilitating Conditions as the belief that a person has regarding the existence of an organizational and technical infrastructure that supports technology use. Venkatesh et al. (2003) determined empirically that there were two straight determining factors of adoption behavior which were Behavioral Intention and Facilitating Conditions. Facilitating Conditions, for instance training and assistance provided, had a direct impact on technology use according to the thought that in an organizational setting, Facilitating Conditions can act as a substitution for actual behavior control and has a direct effect on behavior (Ajzen I. , 1991). Numerous studies have discovered that there was a direct and positive impact of the Facilitating Conditions construct on actual use (Al-Gahtani, Hubona, & Wang, 2007; Chang, Hwang, Hung, & Li, 2007; Venkatesh V. , Morris, Davis, & Davis, 2003) or an indirect and positive impact through Behavioral Intention (Taylor & Todd, 1995). In earlier studies, Facilitating Conditions have been found to be a major determinant of Behavioral Intention (Escobar-Rodríguez & Carvajal-Trujillo, 2014; Kaba & Touré, 2014; Al Imarah, Zwain, & Al-Hakim, 2013; Al-Harby, Qahwaji, R., & Kamala, 2010). Triandis (2010) claims that if the environment`s objective conditions prevent a behavior that behavior cannot be conducted. The mentioned objective conditions that cause the encouragement or discouragement of a behavior are known as Facilitating Conditions. Mathieson, Peacock, & Chin (2001), state that in order to adopt and use an ICT (Information and Communication Technology), the following resources can be represented as the Facilitating Conditions:

1. Expertise;
2. The availability of help in case of problems;
3. Money;

4. Documentation such as user`s guide.

For using an innovation, Rogers (1995) identifies the followings as Facilitating Conditions:

1. Risk-taking;
2. Education;
3. The quality of the social network.

Since Behavioral Intention`s core concepts were mostly supported by a large number of Effort Expectancy items, Facilitating Conditions was not originally suggested as direct determinant of the construct in UTAUT (Venkatesh V. , Morris, Davis, & Davis, 2003). In some theories, it was previously initiated that in order to use technology, facilitating condition acts as Behavioral Intention`s direct determinant. These theories are:

1. MPCU;
2. IDT;
3. TPB;
4. DTPB.

Taylor and Todd (1995) and Venkatesh et al. (2003) have claimed that if users identify rich resources in order to use a new information technology, they will use that technology more regularly and positively. In contrast, the available facilitation exists in the environment for each consumer can differ notably across mobile devices, application merchants, generations of technology, etc. In this framework, Facilitating Conditions and perceived behavioral control from the theory of planned behavior

(TPB) act similarly and have an impact on intention and behavior (Ajzen I. , 1991). Precisely, a consumer will have more intention of using a technology if a beneficial set of Facilitating Conditions are accessible for the consumer. As an example, regarding mobile Internet, there are other resources and various levels of accessing information available for consumers in order to ease their utilization, like online tutorials. Generally, considering all things equal, lower degree of Facilitating Conditions will result in less intention to utilize mobile Internet.

Based on the above discussions, it can be hypothesized:

H4. Facilitating Conditions has a significant and positive impact on Behavioral Intention;

In a study conducted by Curtis, Edwards, Fraser, Gudelsky, Holmquist, Thornton and Sweetser (2010)), it was discovered that in terms of the perception of Facilitating Conditions, women scored lower that men. According to UTAUT model, Venkatesh et al. (2003) discovered that Facilitating Conditions and use behavior have a relationship that is moderated by actual use experience. It is expected that gender, age, and experience act as a moderating factor for Facilitating Conditions ` impact on Behavioral Intention. Older users tended to struggle more when handling new or compound information, therefore influencing their process of learning new technologies (Morris, Venkatesh, & Ackerman, 2005; Plude & Hoyer, 1985). Furthermore, men compared to women have a stronger will to devote more effort in order to overcome various restrictions and complications to follow their goals, while women tend to pay more attention to the extent of effort needed and the procedure to accomplish their objectives (Henning & Jardim,

1977; Rotter & Portugal, 1969; Venkatesh & Morris, 2000). Hence, regarding the use of a new technology, men are less likely to depend on Facilitating Conditions whereas women are likely to consider significant importance on outer supporting factors. Facilitating Conditions and Behavioral Intention have a relationship that is moderated by experience. The result of superior experience is superior understanding of the technology and improved structures of knowledge in order to simplify user learning, therefore decreasing user`s dependency on outer assistance (Alba & Hutchinson, 1987) Similarly, a meta-analysis illustrated that less experienced users or users with less knowledge will have more dependency on Facilitating Conditions (Notani, 1998). Furthermore, Facilitating Conditions and intention are linked and age, gender, and experience have a combined effect on this link. As age increases, differences in gender will become further noticeable when placing importance on instrumentality and in task orientation (Morris, Venkatesh, & Ackerman, 2005). As individuals grow older, mainly from teenagers to grownups, their gender roles` demarcation will be further important. Hence, older females will take Facilitating Conditions more into consideration. Regarding increasing age, the gender differentiations in Facilitating Conditions are in fact more highlighted by referring to empirical evidence (Morris, Venkatesh, & Ackerman, 2005; Venkatesh V. , Morris, Davis, & Davis, 2003). In the initial stages of using technology, older women consider the dependency on Facilitating Conditions to be significantly vital because they place superior importance on decreasing the effort required for using new technology. From the above discussions, the following hypotheses are proposed:

H4a. The impact of Facilitating Conditions on Behavioral Intention is moderated by age;

H4b. The impact of Facilitating Conditions on Behavioral Intention is moderated by experience.

In this study, since voluntariness of use is related with personal preferences of technology users, it has been removed and its moderating effects have not been considered. According to the UTAUT, Effort Expectancy, and Performance Expectancy are the main factors that influence Behavioral Intention, which in turn predicts actual use of technology systems. In accordance with UTAUT, there is no moderating effect of voluntariness on the technology context (Chiu & Ku, 2015).

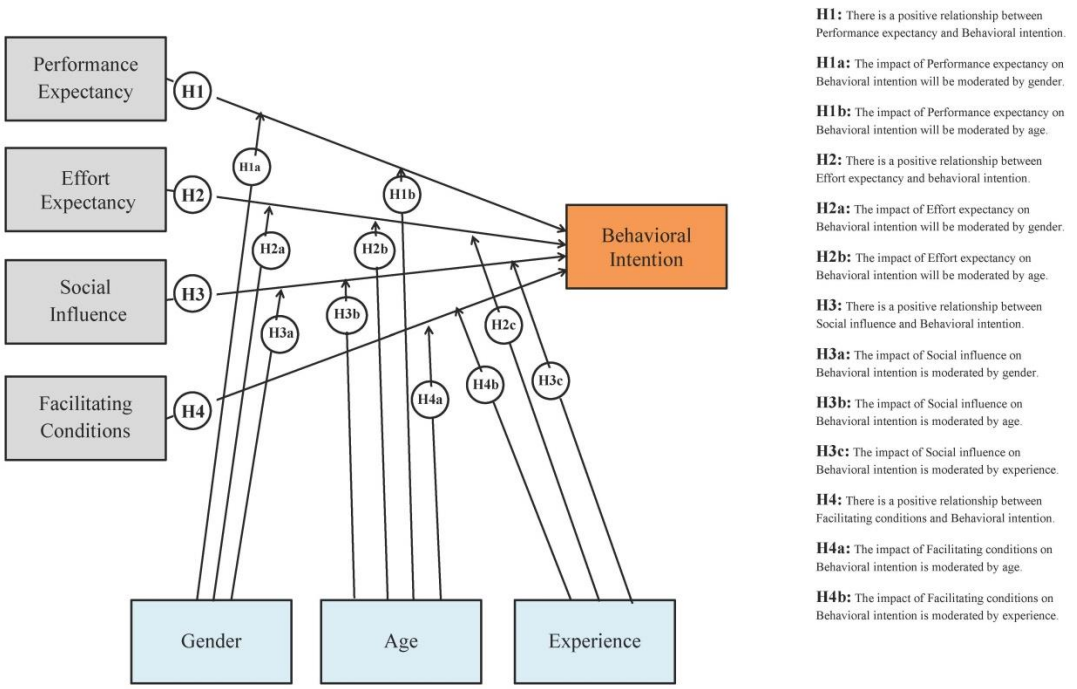

Figure 9: Hypotheses Framework

Chapter 5

RESULTS OF ANALYSIS AND DISCUSSION OF FINDINGS

5.1 Introduction

This chapter focuses on the analysis of the data collected from the questionnaires. For analyzing the data, SPSS 17.0 software is used. In order to develop statistical information to answer the research questions, a data set was prepared, arranged, and certain tests were conducted on the data set. Frequency tables and charts have been provided in order to illustrate the demographic characteristics of the sampled respondents. In addition, mean and standard deviation were attained based on respondents` responses.

5.2 Descriptive Analysis

5.2.1 Gender Distribution

The following pie chart illustrates the gender distribution. Among the sampled respondents, 138 respondents (55.20%) were male and 109 respondents (43.60%) were female.

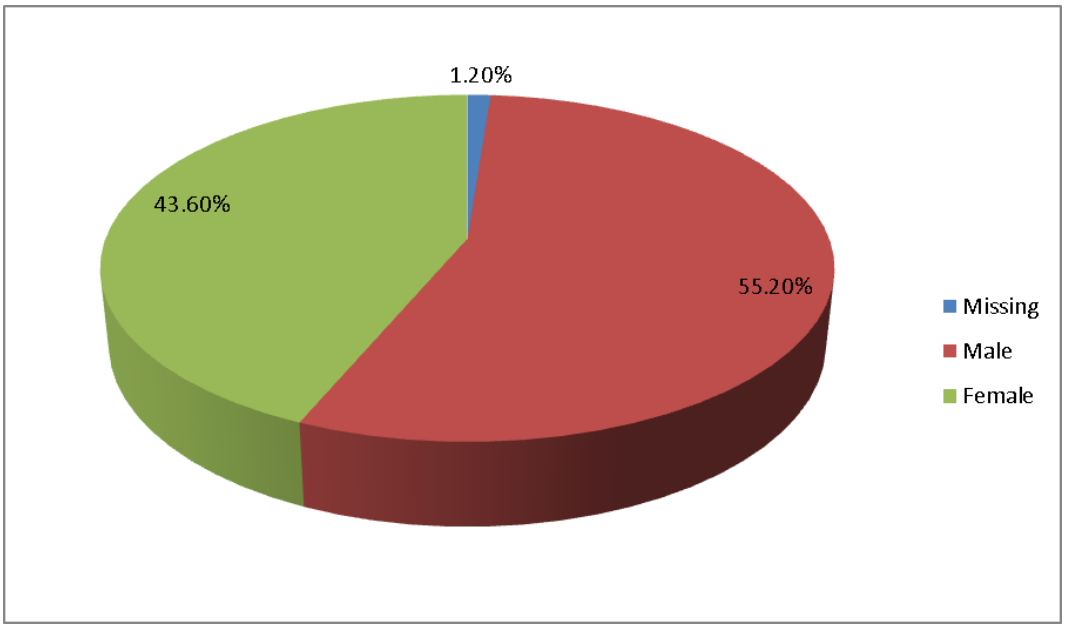

Figure 10: Gender Distribution of Respondents

Table 5: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**Male**	138	55.2	55.9	55.9
	Female	109	43.6	44.1	100.0
	Total	247	98.8	100.0	
Missing	**System**	3	1.2		
Total		250	100.0		

5.2.2 Age Distribution

The pie chart below expresses the age distribution of the respondents. According to the chart, 106 respondents (50.24%) were aged between 18 to 23 years, while 78 respondents (36.97%) fell within 24 to 29 years of age, and 24 respondents (11.37%) were aged between 30 to 35 years. The rest 3 respondents (1.42%) were aged 36 years and older. In addition, 39 data (1.20%) were missing.

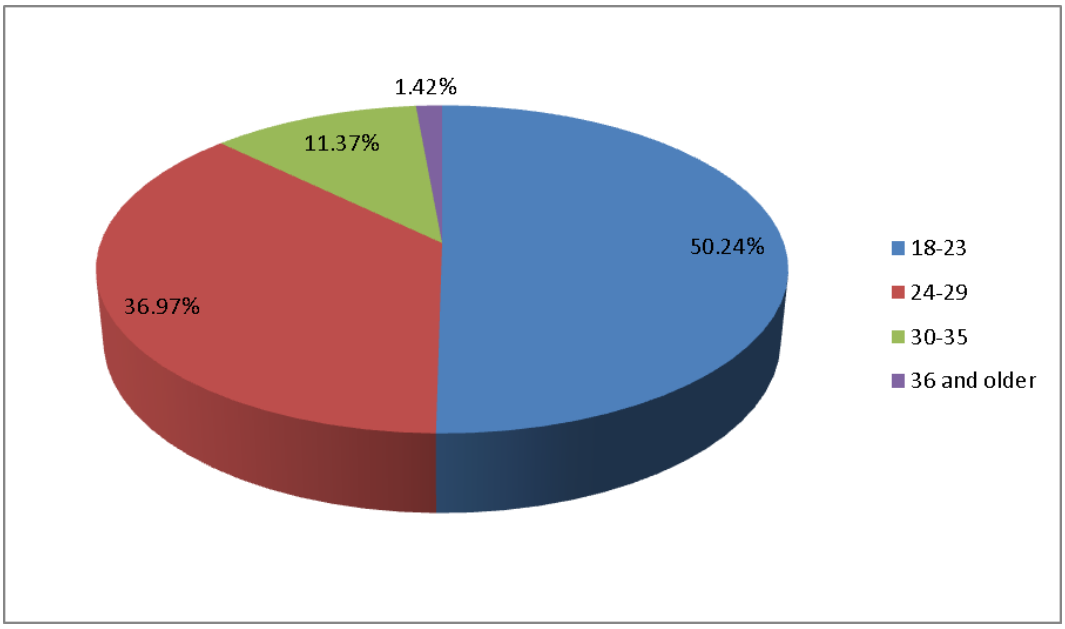

Figure 11: Age Distribution of Respondents

Table 6: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**1**	106	42.4	50.2	50.2
	2	78	31.2	37.0	87.2
	3	24	9.6	11.4	98.6
	4	3	1.2	1.4	100.0
	Total	211	84.4	100.0	
Missing	**System**	39	15.6		
Total		250	100.0		

5.2.3 Education Level Distribution

The following pie chart illustrates the education level of the respondents. According to the chart, 2 respondents (0.81%) held primary school certificate, 6 respondents (2.44%) held secondary school certificate, 32 respondents (13.01%) held a High National Diploma, 132 respondents (53.66%) held a First degree, 55 respondents (22.36%) held a Master`s degree, and 19 respondents (7.72%) held a PhD degree.

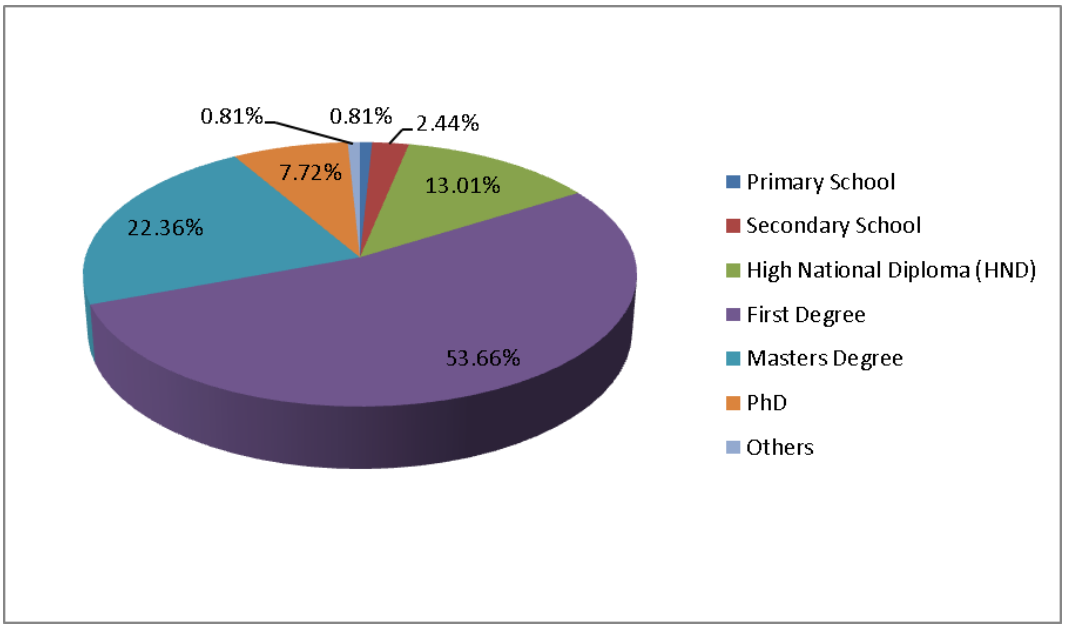

Figure 12: Education Level Distribution

Table 7: Highest Education Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**Primary School**	2	.8	.8	.8
	Secondary School	6	2.4	2.4	3.3
	High National Diploma (HND)	32	12.8	13.0	16.3
	First Degree	132	52.8	53.7	69.9
	Master's Degree	55	22.0	22.4	92.3
	PhD	19	7.6	7.7	100.0
	Total	246	98.4	100.0	
Missing	**System**	4	1.6		
Total		250	100.0		

5.2.4 Marital Status Distribution

The pie chart below expresses the marital status of the respondents. Based on the chart, 225 respondents (90%) were single, while 12 respondents (4.80%) were married, and only 4 respondents (1.60%) were divorced. In addition, 8 data (2.30%) were missing.

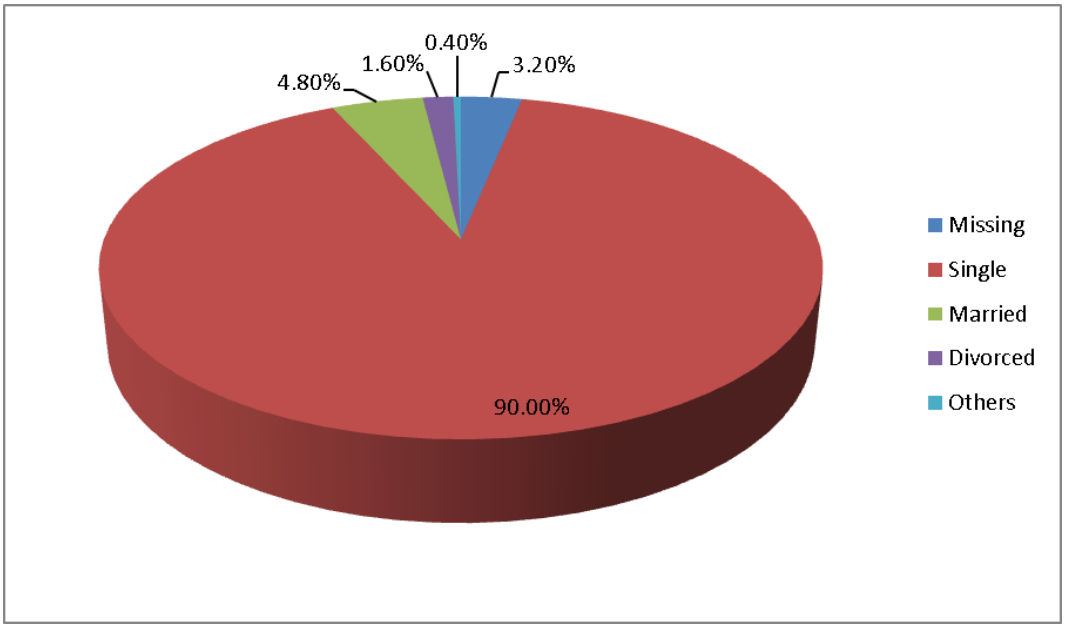

Figure 13: Marital Status Distribution

Table 8: Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**Single**	225	90.0	93.0	93.0
	Married	12	4.8	5.0	97.9
	Divorced	4	1.6	1.7	99.6
	Others	1	.4	.4	100.0
	Total	242	96.8	100.0	
Missing	**System**	8	3.2		
Total		250	100.0		

5.2.5 Income Distribution

The following pie chart illustrates the income level of the respondents. According to the chart, 91 respondents (36.40%) were in the range of up to 20000 TL, 38

respondents (15.20%) were in the range of 20001 – 40000 TL, 12 respondents (4.80%) were in the range of 40001 – 60000 TL, and 25 respondents (10%) were in the range of more than 60001 TL. In addition, 84 data (33.60%) were missing.

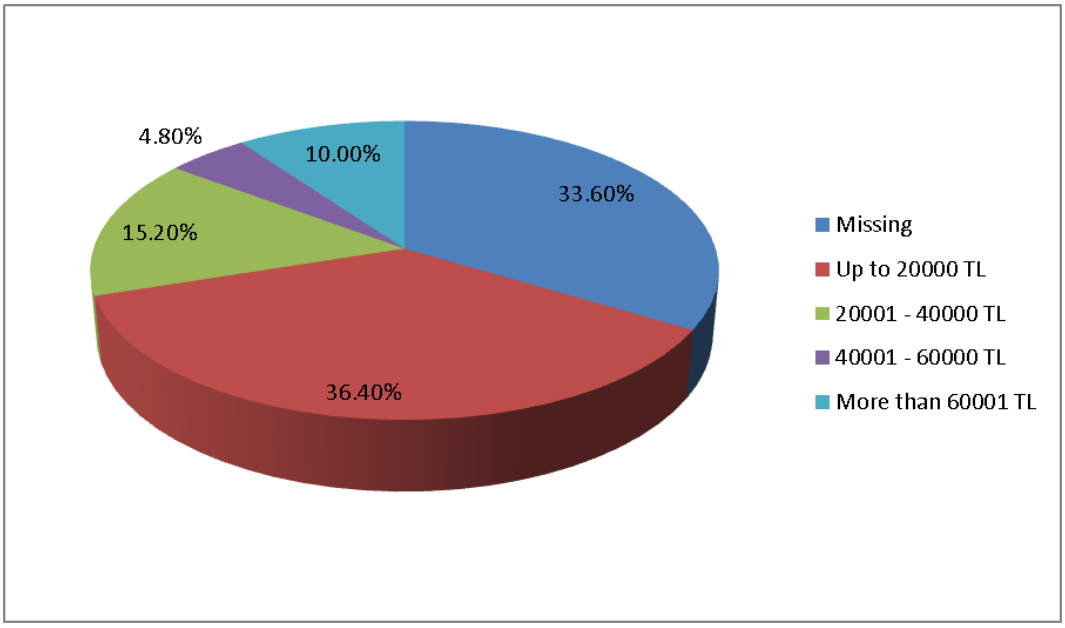

Figure 14: Income Distribution

Table 9: Annual Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to 20000 TL	91	36.4	54.8	54.8
	20001 - 40000 TL	38	15.2	22.9	77.7
	40001 - 60000 TL	12	4.8	7.2	84.9
	More than 60001 TL	25	10.0	15.1	100.0
	Total	166	66.4	100.0	
Missing	System	84	33.6		
Total		250	100.0		

5.2.6 Experience Distribution

The pie chart below expresses the experience distribution of respondents and the first time they started using the check-in applications in social media. Based on the chart, 74 respondents (29.60%) started using the check-in applications since 0 – 2 years ago,

77 respondents (30.80%) started using the check-in applications since 3 – 5 years ago, 30 respondents (12%) started using the check-in applications since 6 – 8 years ago, and 59 respondents (23.60%) started using the check-in applications since more than 9 years ago. In addition, 10 data (4%) were missing.

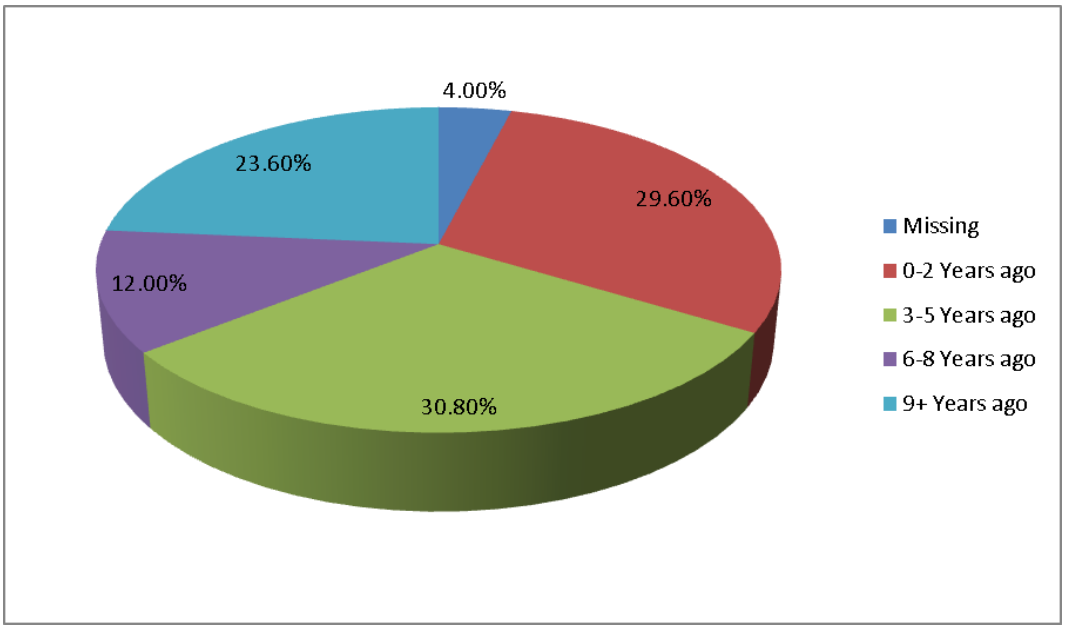

Figure 15: Experience Distribution

Table 10: Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-2 Years ago	74	29.6	30.8	30.8
	3-5 Years ago	77	30.8	32.1	62.9
	6-8 Years ago	30	12.0	12.5	75.4
	9+ Years ago	59	23.6	24.6	100.0
	Total	240	96.0	100.0	
Missing	System	10	4.0		
Total		250	100.0		

5.2.7 Most Preferred Check-in Application Distribution

The following pie chart illustrates the most preferred check-in applications by the respondents. According to the chart, 47 respondents (18.80%) preferred to use

Facebook, 37 respondents (14.80%) preferred to use Instagram, 41 respondents (16.40%) preferred to use Swarm, 10 respondents (4%) preferred to use Facebook and Instagram, 6 respondents (2.40%) preferred to use Facebook and Swarm, 3 respondents (1.20%) preferred to use Instagram and Swarm, 3 respondents (1.20%) preferred to use Facebook, Instagram, and Swarm, and 22 respondents (8.80%) preferred to use other applications. In addition, 81 data (32.40%) were missing.

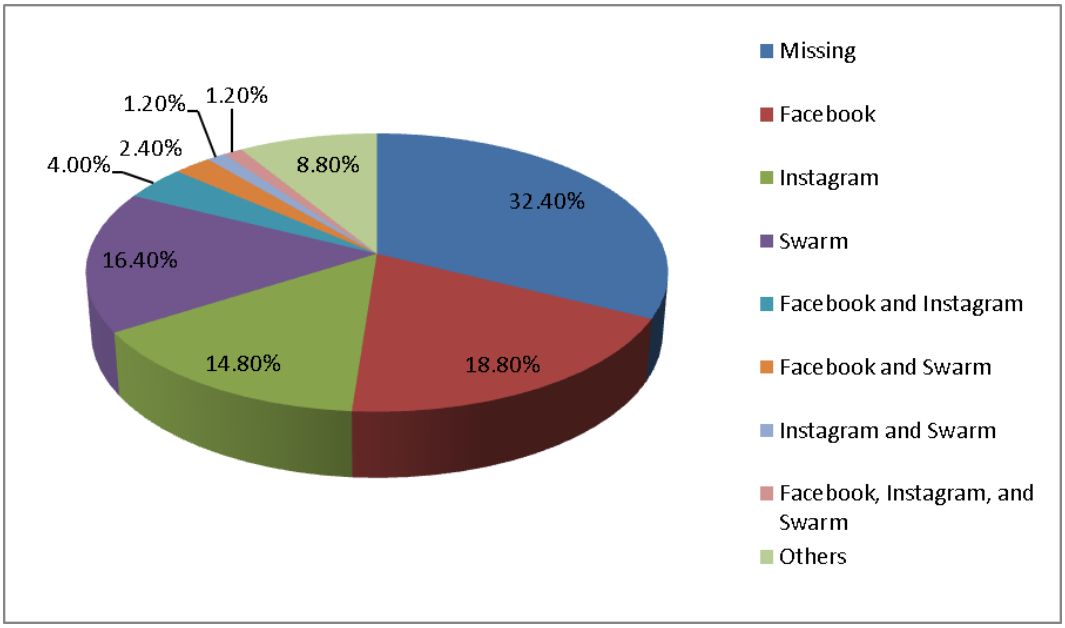

Figure 16: Most Preferred Check-in Application Distribution

Table 11: Most preferred Check-in Application

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Facebook	47	18.8	27.8	27.8
	Instagram	37	14.8	21.9	49.7
	Swarm	41	16.4	24.3	74.0
	Facebook and Instagram	10	4.0	5.9	79.9
	Facebook and Swarm	6	2.4	3.6	83.4
	Instagram and Swarm	3	1.2	1.8	85.2
	Facebook, Instagram, and Swarm	3	1.2	1.8	87.0
	Others	22	8.8	13.0	100.0
	Total	169	67.6	100.0	
Missing	System	81	32.4		
Total		250	100.0		

5.3 T-test for Gender Comparison

If the two groups have a statistically significant difference in their mean scores, T-test can be used in order to indicate that (Pallant J. , 2010). For the data in this research, a T-test was conducted in order to investigate if there were significant differences between the mean scores of males and females. The table below illustrates the group statistics for gender comparison.

Table 12: Group Statistics for Gender Comparison

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Per_ex_Mean	Male	138	4.1975	1.49862	.12757
	Female	109	4.4396	1.41307	.13535
Effort_ex_Mean	Male	138	4.9728	1.10022	.09366
	Female	109	5.1720	1.37845	.13203
Soc_infl_Mean	Male	137	4.0985	1.50116	.12825
	Female	109	4.0856	1.46031	.13987
Fac_con_Mean	Male	137	4.2384	1.14297	.09765
	Female	109	4.5390	1.23892	.11867
Behav_int_Mean	Male	137	4.2068	1.72408	.14730
	Female	109	4.4465	1.60453	.15369

According to the table above, there is a significant difference between males and females regarding Effort Expectancy construct of UTAUT. As the results illustrate, males have less Effort Expectancy than females with means of 4.9728 and 5.1720 respectively. Venkatesh and Morris (2000) conducted Technology Acceptance Model (TAM) among 342 employees working in a workplace and discovered that females have a tendency to utilize the technology that needs less effort. Hence, Effort Expectancy level is higher for women compared to men (Goswami & Dutta, 2016).

Nonetheless, the above results do not illustrate the statistically significant differences in the means. In order to demonstrate this, the Levene`s Test for Equality of Means was conducted and the following table displays the results.

Table 13: Independent Samples Test for Gender Comparison

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Per_ex_Mean	Equal variances assumed	.400	.528	-1.293	245	.197	-.24214	.18728	-.61103	.12675
	Equal variances not assumed			-1.302	237.416	.194	-.24214	.18599	-.60855	.12427
Effort_ex_Mean	Equal variances assumed	6.121	.014	-1.263	245	.208	-.19919	.15770	-.50981	.11143
	Equal variances not assumed			-1.231	203.428	.220	-.19919	.16188	-.51836	.11998
Soc_infl_Mean	Equal variances assumed	.102	.749	.068	244	.946	.01291	.19037	-.36207	.38789
	Equal variances not assumed			.068	234.379	.946	.01291	.18977	-.36096	.38679
Fac_con_Mean	Equal variances assumed	.401	.527	-1.974	244	.050	-.30055	.15227	-.60049	-.00061
	Equal variances not assumed			-1.956	222.697	.052	-.30055	.15368	-.60340	.00231
Behav_int_Mean	Equal variances assumed	.470	.494	-1.117	244	.265	-.23967	.21463	-.66243	.18309
	Equal variances not assumed			-1.126	238.040	.261	-.23967	.21288	-.65903	.17969

For explaining the differences between males and females regarding their Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, and Behavioral Intention using the results from the above table, the significant level of Levene`s Test for Equality of Variances should be taken into consideration. If Levene`s Test for Equality of Variances is insignificant (P>0.05), then equal variances are assumed and it can be concluded that there is no significant difference between the constructs and the selected variables. However, if the Levene`s Test for Equality of

Variances is significant (P<0.05), then equal variances are not assumed and the significant level of t-test for Equality of Means (2-tailed) should be considered.

Venkatesh et al. (2003) discovered that females have more sensitivity toward the recommendations of the peers. Thus, the level of Social Influence`s effect will be higher when developing the intention to utilize Information Technology. Likewise, in Portugal, Afonso et al. (2012) surveyed 2175 individuals who use Electronic Document Management System (EDMS) and noticed that gender only acts as a moderator for Performance Expectancy (PE) towards Behavioral Intention (BI) since men compared to women are more result oriented. In the framework of adopting technological innovation, (Mazman, Usluel, & Çevik, 2009) illustrated that women are more encouraged to adopt technological innovation via Social Influence instead of by a personal decision while in case of men the personal decision in order to adopt innovation is considerably stronger than Social Influence. Raman et al. (Raman & Don, 2013) examined 65 graduate students in Malaysia by using Moodle and noticed that there is no impact of the gender on Performance Expectancy (PE), Effort Expectancy (EE) and Social Influence (SI) towards Behavioral Intention (BI). In India, Suri and Sharm (Suri & Sharma, 2013) studied 477 students and decided that there is no gender differentiation in attitudes regarding e-learning. In India, Joshua and Koshy (2011) studied 553 consumers who have access to computers and the Internet and determined comparable result. Conversely, Foon and Fah (2011) studied 200 respondents in Malaysia and it has been discovered that gender differentiation is not important in the adoption of Internet banking. Similarly, Ainin, Lim, & Wee (2005) stated that there is no influence of gender on Internet banking adoption. Yu (2012) used the UTAUT model to examine the factors related with mobile banking adoption.

Through empirical evidence, it was revealed by him that gender did not significantly moderate Effort Expectancy and Social Influence whereas Performance Expectancy is the one construct that gender controlled. According to an adapted UTAUT Model, Tai and Ku (2013) studied 329 individuals invest in stock in Taiwan and decided that for men, Social Influence affects Behavioral Intention significantly unlike women. Moreover, they concluded that individuals with high Performance Expectancy illustrate a solid intention to utilize mobile stock trading.

As stated by Beavers, Guyot, Meier, Ward, & Xiao (2010), the usage rate of smart phone is lower for males compared to females. Thus, it may be possible to conclude that females use check-in applications more than males. After examining 450 Indian young adults in a city, it has been indicated that 6.67% of the women and 6.04% of the men spent more than three hours on social networking websites. Moreover, regarding spending more than two hours on social networking websites, the percentages for females and males were 7.44 and 3.85, respectively (Goswami & Dutta, 2016).

5.4 ANOVA Comparison of Participants according to Age

In many research circumstances, however, there are more than two groups that we would like to compare their mean scores. In this situation, analysis of variance (ANOVA) can be applied (Pallant J. , 2005).

In the procedure of One-Way ANOVA test, there are two cases that have to be taken into consideration:

a) When Levene`s test is performed, if P value is insignificant (P>0.05), ANOVA test can be conducted. If P value in the result of ANOVA test is insignificant (P>0.05), then it can be concluded that there is no significant difference

between the groups. However, if P value in the result of ANOVA test is significant (P<0.05), then it can be concluded that there is statistically significant difference among the groups;

b) When Levene`s test is performed, if P value is significant (P<0.05), instead of conducting ANOVA test, Robust test needs to be performed and Welch and Brown-Forsythe results needs to be considered. If P value for Welch and Brown-Forsythe is insignificant (P>0.05), then it can be concluded that there is no significant difference between the groups. However, if P value for Welch is significant (P<0.05), then it can be concluded that there is statistically significant difference among groups.

5.4.1 Age

In this section, the aim is to investigate whether there is a significant difference between the age groups and the dependent variable which is Behavioral Intention or not. According to the table below, the Levene`s test shows that P value for Behavioral Intention is 0.031 and it is significant since it is less than 0.05 (0.031<0.05).

Table 14: Test of Homogeneity of Variances (Age)

Test of Homogeneity of Variances			
Behav_int_Mean			
Levene Statistic	df1	df2	Sig.
3.011	3	206	.031

Hence, the Robust test and Welch result are going to be checked. With regard to the following table, results illustrate a P value of 0.065 which is insignificant since it is more than 0.05. Thus, it can be concluded that there is no significant difference between age groups and their Behavioral Intention.

Table 15: Robust Tests of Equality of Means (Age)

Robust Tests of Equality of Means				
Behav_int_Mean				
	Statistic[a]	df1	df2	Sig.
Welch	2.572	3	9.450	.116
Brown-Forsythe	2.758	3	23.790	.065

5.4.2 Annual Income

In this section, the aim is to investigate whether there is a significant difference amongst the annual income of the respondents and the dependent variable which is Behavioral Intention or not. According to the table below, the Levene`s test shows that P value for Behavioral Intention is 0.182 and it is insignificant since it is more than 0.05 (0.182>0.05).

Table 16: Test of Homogeneity of Variances (Annual Income)

Test of Homogeneity of Variances			
Behav_int_Mean			
Levene Statistic	df1	df2	Sig.
1.642	3	161	.182

Thus, the ANOVA table needs to be checked. With regard to the following table, P value is 0.097 and it is insignificant (0.097>0.05). Hence, it can be concluded that there is no significant difference between the annual income of respondents and Behavioral Intention.

Table 17: ANOVA

ANOVA					
Behav_int_Mean					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17.159	3	5.720	2.143	.097
Within Groups	429.638	161	2.669		
Total	446.797	164			

5.4.3 Experience

In this section, the aim is to investigate whether there is a significant difference amongst the respondents` technology usage experience and the dependent variable which is Behavioral Intention or not. According to the table below, the Levene`s test shows that P value for Behavioral Intention is 0.015 and it is significant since it is less than 0.05 (0.015<0.05).

Table 18: Test of Homogeneity of Variances (Experience)

Test of Homogeneity of Variances			
Behav_int_Mean			
Levene Statistic	df1	df2	Sig.
3.536	3	235	.015

Thus, the Robust test and Welch result need to be checked. According to table 19, results illustrate a P value of 0.006 which is significant since it is less than 0.05. Thus, Post Hoc analysis should be conducted.

Table 19: Robust Tests of Equality of Means (Experience)

Robust Tests of Equality of Means				
Behav_int_Mean				
	Statistic[a]	df1	df2	Sig.
Welch	4.380	3	97.732	.006
Brown-Forsythe	4.018	3	177.188	.009

Table 20: Post Hoc (Experience)

Multiple Comparisons						
Behav_int_Mean Games-Howell						
(I) Experience	(J) Experience	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
0-2 Years ago	3-5 Years ago	-.86065*	.25161	.005	-1.5153	-.2060
	6-8 Years ago	-.75676	.35620	.158	-1.6994	.1859
	9+ Years ago	-.29913	.31470	.778	-1.1189	.5206
3-5 Years ago	0-2 Years ago	.86065*	.25161	.005	.2060	1.5153
	6-8 Years ago	.10390	.32658	.989	-.7689	.9767
	9+ Years ago	.56152	.28073	.195	-.1721	1.2951
6-8 Years ago	0-2 Years ago	.75676	.35620	.158	-.1859	1.6994
	3-5 Years ago	-.10390	.32658	.989	-.9767	.7689
	9+ Years ago	.45763	.37734	.621	-.5376	1.4529
9+ Years ago	0-2 Years ago	.29913	.31470	.778	-.5206	1.1189
	3-5 Years ago	-.56152	.28073	.195	-1.2951	.1721
	6-8 Years ago	-.45763	.37734	.621	-1.4529	.5376

According to table 20, only 0-2 Years and 3-5 Years groups have a significant mean difference. Thus, there is statistically significant difference between these groups and their Behavioral Intention. Users with more experience have more intention to use check-in applications.

5.4.4 Marital Status

In this section, the aim is to investigate whether there is a significant difference amongst the participants` marital status and the dependent variable which is Behavioral Intention or not. According to the table below, the Levene`s test shows that P value for Behavioral Intention is 0.360 and it is insignificant since it is more than 0.05 (0.360<0.05).

Table 21: Test of Homogeneity of Variances (Marital Status)

Test of Homogeneity of Variances			
Behav_int_Mean			
Levene Statistic	df1	df2	Sig.
1.026	2	237	.360

Thus, the ANOVA table needs to be checked. With regard to the following table, P value is 0.222 and it is insignificant (0.222>0.05). Hence, it can be concluded that there is no significant difference between the annual income of respondents and Behavioral Intention.

Table 22: ANOVA (Marital Status)

ANOVA					
Behav_int_Mean					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11.904	3	3.968	1.475	.222
Within Groups	637.413	237	2.690		
Total	649.317	240			

5.5 The Reliability Analysis of the Scales

Cronbach`s alpha coefficient is one of the most frequently utilized indicators of internal consistency (Pallant J. , 2010). Lee Cronbach developed alpha in 1951 in order to deliver a measure for the internal consistency of a test or scale. The alpha is stated as a digit between 0 and 1 (Tavakol & Dennick, 2011). Preferably, a scale`s Cronbach alpha coefficient should be more than 0.7 (Pallant J. , 2010).

In this study, Cronbach`s Alpha has been used in order to evaluate the reliability of each scale by examining the link between questions related to each scale in the questionnaire and the results are shown below:

Table 23: Cronbach's Alpha Test for Reliability

Scale	Cronbach's Alpha
Performance Expectancy	0.871
Effort Expectancy	0.840
Social Influence	0.872
Facilitating Conditions	0.734
Behavioral Intention	0.948

According to the above table, since the Cronbach`s Alpha for all the scales is more than 0.7, it can be concluded that all the questions used for each scale in the questionnaire are connected and all the scales used in this study are highly reliable.

5.6 Correlation Analysis

Correlation analysis is utilized in order to define the intensity and direction of the linear relationship that exists between two variables (Pallant J. , 2010). The Pearson correlation coefficient assesses the intensity of linear relationship between two variables (Sedgwick, 2012). Pearson correlation coefficients (r) can be assigned to

only numbers from -1 to +1. The positive and negative signs illustrate the positive correlation (when one variable increases, the other one increases as well) and negative correlation (when one variable increases, the other one decreases). The magnitude of the absolute value (disregarding the sign) illustrates the intensity of the relationship. A flawless correlation of 1 or -1 specifies that if the value of one variable is known, the other variable`s value can be accurately determined (Pallant J. , 2010).

A correlation of 1.0 indicates perfect positive correlation and a correlation of -1.0 indicates perfect negative correlation, and a correlation of 0 indicates no correlation at all. Nevertheless, some guidelines exist that can be utilized to clarify the values from between 0 and 1. As stated by Cohen (1988) cited in Pallant (2010, p. 126), values between 0.10 and 0.29 illustrate small correlation, values between 0.30 and 0.49 illustrate medium correlation, and values between 0.50 and 1.0 illustrate large correlation among variables.

The following table illustrates the results for the correlation of variables in this study:

Table 24: Correlation Analysis

		Per_ex_Mean	Effort_ex_Mean	Soc_infl_Mean	Fac_con_Mean	Behav_int_Mean
Per_ex_Mean	Pearson Correlation	1	.511**	.615**	.567**	.640**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	250	250	249	249	249
Effort_ex_Mean	Pearson Correlation	.511**	1	.341**	.539**	.398**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	250	250	249	249	249
Soc_infl_Mean	Pearson Correlation	.615**	.341**	1	.469**	.568**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	249	249	249	249	249
Fac_con_Mean	Pearson Correlation	.567**	.539**	.469**	1	.525**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	249	249	249	249	249
Behav_int_Mean	Pearson Correlation	.640**	.398**	.568**	.525**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	249	249	249	249	249

Note: **. Correlation is significant at the 0.01 level (2-tailed).

5.6.1 Behavioral Intention and Performance Expectancy

Based on the results from above table, it can be concluded that there is a statistically significant (P<0.01), large and positive linear relationship between Behavioral Intention and Performance Expectancy since the correlation coefficient for these two constructs is 0.640.

5.6.2 Behavioral Intention and Effort Expectancy

According to the data from the above table, the correlation coefficient between these two constructs is 0.398. Hence, it can be mentioned that there is a statistically significant (P<0.01), medium and positive linear relationship between Behavioral Intention and Effort Expectancy.

5.6.3 Behavioral Intention and Social Influence

According to the information from the above table, since the correlation coefficient for these two constructs is 0.568, then it can be mentioned that there is a statistically

significant (P<0.01), large and positive linear relationship between Behavioral Intention and Social Influence.

5.6.4 Behavioral Intention and Facilitating Conditions

Based on the data from the above table, the correlation coefficient for these two constructs is 0.525. Hence, it can be concluded that there is a statistically significant (P<0.01), large and positive linear relationship between Behavioral Intention and Facilitating Conditions.

5.7 Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM)

5.7.1 Confirmatory Factor Analysis

To evaluate the matching of the measurement model, Confirmatory Factor Analysis is conducted in order to examine the model fitness (Arasli, Teimouri, Kiliç, & Aghaei, 2017).

CFA should be used as an antecedent to structural equation modeling (SEM) that identifies structural relationships (such as regressions) amongst the dormant variables. Structural equation modeling was conducted using AMOS 22 software.

In the process of the analysis, one item was dropped during CFA analysis (i.e. low standardized loading estimates). More specifically, one item from the Facilitating Conditions measure was discarded (Table 25). This item was removed from further analysis.

As presented in Table 25, all standardized loading ranging from 0.60 to 0.95. The average variance extracted (A.V.E) by each latent variable was greater than 0.50. These results indicated that convergent validity is supported (Anderson & Gerbing,

1988; Fornell & Larcker, 1981). As presented in Table 26, the composite reliability (C.R) of each latent variable was greater than the suggested cut-off value of 0.70, indicating a high reliability of all constructs (Hair, Anderson, Tatham, & Black, 1998; Hayduk, 1987). Moreover, the square root of the average variance extracted (A.V.E) for each variable is more than the variable`s correlation with other variables. In other words, the value for the square root of the average variance extracted in each cross point of rows and columns is more than the correlation before and the correlation below it. These results illustrated that there was evidence of discriminant validity.

Table 25: Summary of Factor Loadings

Scale items	Factor Loadings
Performance Expectancy (PE)	
P1	.84
P2	.83
P3	.70
P4	.70
Effort Expectancy (EE)	
EE1	.85
EE2	.72
EE3	.71
EE4	.63
Social Influence (SI)	
SI1	.78
SI2	.87
SI3	.86
Facilitating Conditions (FC)	
FC1	-
FC2	.64
FC3	.51
FC4	.84
Behavioral Intention (BI)	
BI1	.91
BI2	.95
BI3	.93
$\chi 2$=169.639, $\chi 2$/df = 1.585, p < .001, GFI =.927, IFI=.978, TLI=.971, CFI=.977, RMSEA=.049.	

Note: Comparative Fit Index (CFI); Goodness of Fit Index (GFI); Incremental Fit Index (IFI); Tucker–Lewis Index (TLI); Root Mean Square Error of Approximation (RMSEA).

Overall, the analysis indicated a good fit of the measurement model ($\chi 2$ = 169.639; $\chi 2$/df = 1.585; GFI = 0.927; TLI = 0.971; CFI = 0.977; IFI = 0.978; RMSEA = 0.049). These values all met the threshold requirements (CFI, GFI, IFI, TLI>0.9, RMSEA<0.08) suggested by previous researches (Browne & Cudeck, 1993; Kim, Tao, Shin, & Kim, 2010).

Table 26: Discriminant Validity Check

	CR	AVE	MSV	ASV	PE	EE	SI	FC	BI
PE	0.854	0.595	0.587	0.489	0.771				
EE	0.820	0.535	0.360	0.255	0.511	0.731			
SI	0.875	0.701	0.506	0.378	0.615	0.341	0.840		
FC	0.709	0.590	0.587	0.477	0.567	0539	0.469	0.770	
BI	0.949	0.861	0.569	0.412	0.640	0.398	0.568	0.525	0.930

5.7.2 Structural Equation Modeling

Structural equation modeling is an analytical approach with multiple varieties utilized to concurrently examine and estimate compound causal relationships amongst variables, whether the relationships are hypothetical or cannot be observed directly (Williams, Vandenberg, & Edwards, 2009).

Based on the modification indices obtained from the results of confirmatory factor analysis, the goodness of fit of the model has been illustrated and the model has been improved. Thus, structural equation modeling has been conducted in order to test the hypotheses. Table 27 shows the investigated direct effect of independent variables on the dependent variable.

Table 27: SEM Analysis

	β	S. E.
PE → BI	.389**	.154
EE → BI	-.040	.134
SI → BI	.089	.097
FC → BI	.575***	.143

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Based on the results, Facilitating Conditions and Performance Expectancy have been found to have a significant and positive effect on intention to use check-in applications. Furthermore, Effort Expectancy and Social Influence do not seem to have an effect on intention to use check-in applications.

Table 28: Moderation (Gender, Age, Experience)

Gender:

Independent	Dependent: BI		Difference (z-score)
	Male	Female	
PE	0.222	0.540**	1.091
EE	0.026	0.006	-0.074
SI	0.211	-0.028	-1.171
FC	0.623***	0.510***	-0.405

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Age:

Independent	Dependent: BI		Difference (z-score)
	Younger	Middle	
PE	1.057***	0.185	-1.923*
EE	0.229	0.047	-0.611
SI	-0.180	0.160	1.217
FC	0.328	0.579***	0.861

Independent	Dependent: BI		Difference (z-score)
	Younger	Older	
PE	1.057***	1.122	0.044
EE	0.229	2.029	0.526
SI	-0.180	0.961	1.029
FC	0.328	-0.710	-0.504

Independent	Dependent: BI		Difference (z-score)
	Middle	Older	
PE	0.185	1.122	0.647
EE	0.047	2.029	0.580
SI	0.160	0.961	0.717
FC	0.579***	-0.710	-0.627

Experience:

Independent	Dependent: BI		Difference (z-score)
	0-2 years	3-5 years	

PE	0.141	0.564**	0.999
EE	0.056	0.080	0.068
SI	0.164	0.086	-0.279
FC	0.765***	0.244	-1.349

Independent	**Dependent: BI**		**Difference**
	0-2 years	**6-8 years**	**(z-score)**
PE	0.141	-5.162	-0.148
EE	0.056	2.420	0.152
SI	0.164	-8.643	-0.153
FC	0.765***	14.220	0.149

Independent	**Dependent: BI**		**Difference**
	0-2 years	**9+ years**	**(z-score)**
PE	0.141	0.763*	1.137
EE	0.056	0.182	0.345
SI	0.164	0.079	-0.330
FC	0.765***	0.318	-1.280

Independent	**Dependent: BI**		**Difference**
	3-5 years	**6-8 years**	**(z-score)**
PE	0.564	-5.162	-0.160
EE	0.080	2.420	0.150
SI	0.086	-8.643	-0.151
FC	0.244	14.220	0.154

Independent	**Dependent: BI**		**Difference**
	3-5 years	**9+ years**	**(z-score)**
PE	0.564**	0.763*	0.389
EE	0.080	0.182	0.269
SI	0.086	0.079	-0.031
FC	0.244	0.318	0.208

Independent	**Dependent: BI**		**Difference**
	6-8 years	**9+ years**	**(z-score)**
PE	-5.162	0.763*	0.166
EE	2.420	0.182	-0.144
SI	-8.643	0.079	0.151
FC	14.220	0.318	-0.154

Based on the results in table 28, it can be seen that gender and experience do not moderate the relationship between independent and dependent variables and it is only age that acts as a moderator for the relationship between Performance Expectancy and Behavioral Intention. In other words, gender and experience do not affect the strength of the relationship between independent and dependent variables. Only age does regarding Performance Expectancy and Behavioral Intention.

5.7.3 Hypothesis Testing

Hypothesis testing was executed in order to determine which hypotheses are supported and the results are illustrated in table 29.

Table 29: Hypothesis Testing

Hypothesis	Supported/ Not Supported
H1. PE has a significant and positive impact on BI.	Supported
H1a. The impact of PE on BI will be moderated by gender.	Not Supported
H1b. The impact of PE on BI will be moderated by age.	Supported
H2. EE has a significant and positive impact on BI.	Not Supported
H2a. The impact of EE on BI will be moderated by gender.	Not Supported
H2b. The impact of EE on BI will be moderated by age.	Not Supported
H3. SI has a significant and positive impact on BI.	Not Supported
H3a. The impact of SI on BI is moderated by gender.	Not Supported
H3b. The impact of SI on BI is moderated by age.	Not Supported
H3c. The impact of SI on BI is moderated by experience.	Not Supported
H4. FC has a significant and positive impact on BI.	Supported
H4a. The impact of FC on BI is moderated by age.	Not Supported
H4b. The impact of FC on BI is moderated by experience.	Not Supported

Chapter 6

CONCLUSION

6.1 Introduction

The earlier chapters have delivered a complete survey of the topic. The concepts of Social Media (check-in applications), the Unified Theory of Acceptance and Use of Technology and the related theories have been explained in details based on the literature. Moreover, the methodology of the study and the details of it have been described. All the hypotheses have been defined and in the previous chapter all the necessary data have been analyzed and the results have been discussed in order to support the hypotheses. In this chapter, we will go through the managerial implications and recommendations regarding the use of check-in applications in businesses in North Cyprus based on the core constructs of the Unified Theory of Acceptance and Use of Technology. In addition, the limitations of the study and the suggestions for future studies related with our topic will be discussed.

6.2 Managerial Implications

This study is advantageous for those businesses in North Cyprus that would like to benefit from check-in applications. In today's world, technology is advancing with an extremely fast pace and because of the ease, speed, and comfort that it provides, people are becoming more and more dependent on it. People prefer to use their laptops, phones, tablets, etc. in order to do their work because it is fast and requires less effort.

Among all the people, young adults are more familiar and comfortable with using the technology. Hence, businesses can target those young adults and provide technology related offers in order to attain benefits. Since this study is about check-in applications and the target population of this study is EMU students, businesses in North Cyprus may benefit from providing these students with offers that are related with online check-in.

There are several benefits for businesses in North Cyprus if they provide opportunities for customers to use check-in applications. Check-in is a free or inexpensive way of advertising a business. If customers use check-in at a certain business place such as a restaurant or a shop, they will share the brand name with their family members and friends that are virtually connected with. By this way, the brand name will spread and indicates that the customers are satisfied with the way they are being served. More check-ins means that the service of that particular business is well and worth trying. Thus, the result will be the attraction of new customers.

Businesses in North Cyprus can offer incentives such as discounts for customers in order to encourage them to use check-in at their place. For instance, for some restaurants and bars there are certain times of the day that not many customers are being served. In order to bring customers and encourage them to visit those places at those particular times, incentives such as free food or drinks can be offered to customers if they use check-in in the restaurants and bars at those particular times of the day. By offering those incentives, the existing customers will be kept and new customers that have been informed about the incentives through check-ins will be attracted.

On some websites such as Facebook, there is a comment section under each check-in that is done. People may write comments, reviews, and their personal experience about the business that its name has been used in the check-in section. Businesses can track these comments and reviews and find out how customers perceived the service and their level of satisfaction and dissatisfaction. This will help businesses improve their services if the level of satisfaction is high or consider necessary changes if the level of satisfaction is low.

Based on the results of the analysis of this study, the core constructs of the UTAUT have an impact on an individual`s intention to use check-in applications. These constructs are Performance Expectancy and Facilitating Conditions. Businesses and managers should take these constructs into consideration when providing opportunities for customers to use check-in applications in order to benefit from the check-in. The first construct is Performance Expectancy. In the consumer context, Performance Expectancy is about customers gain benefit from conducting a particular activity. If there is an incentive provided for customers who check-in at a certain business place, this will encourage them to do so. It should be taken into consideration that age moderates the impact of Performance Expectancy on Behavioral Intention. Thus, the decisions and actions of businesses and managers regarding Performance Expectancy might vary toward different age groups.

The second construct is Facilitating Conditions. The construct indicates a person`s belief regarding the existence of support when using a technology. Businesses and managers should try to offer customers check-in applications that have online tutorials and a help section for customers that are new to those applications. This will support

the customers who have difficulty using the check-in applications. In addition, businesses places should provide Internet connection for customers if they aim to encourage customers to check-in since there may be customers that do not have access to the Internet via 3G, 4G, etc.

6.3 Limitations of the Study

There are some limitations that need to be considered regarding this study. The first limitation is that this research is a quantitative research. A qualitative research would be more suitable in order to achieve a more profound perception of the topic.

The second limitation is the sampling technique. A convenience, non-probability sampling technique was used for this research. Hence, the whole population of North Cyprus is not included in the research and only EMU students are included.

The third limitation is that the data collection method in this research was cross-sectional. Thus, the opinion of respondents regarding the questions may change and they may provide different answers to these questions later on.

The fourth limitation is understanding the language and communication issues. The questionnaire has been provided in English. However, respondents may have different perceptions toward the questions since most of the respondents` mother tongue is not English. Hence, there may be issues when communicating the main aim of the questionnaire.

The fifth and last limitation is about using check-in applications. This study only applies to the students who use check-in applications and the students who do not have an experience using check-in applications were not included in the study.

6.4 Suggestions for Future Studies

It is recommended that further studies should be conducted regarding the factors that affect the intention to use check-in applications. This study is about EMU students` intention to use check-in applications and other members of the population of North Cyprus were not included in the study. Therefore, future studies may consider other members of the population of North Cyprus.

The results of this study are mainly based on different age groups, educational background, income, and marital status and different personalities have not been considered. Hence, future studies may consider various personalities that influence the intention to use check-in applications.

In the Managerial Implications section of this study, it is explained that how managers and businesses can benefit from customers using check-in applications at their business places. Future studies may consider cases that managers and businesses can benefit from using check-in applications by employees within the businesses.

6.5 Conclusion

Based on the analysis and interpretation of this study, empirical evidences have been found that support the following results despite the limitations existed during the process of the research:

i. Performance Expectancy has a significant and positive effect on Behavioral Intention and this effect is moderated by age (Check-in applications);

ii. Effort Expectancy has no effect on Behavioral Intention (Check-in applications);

iii. Social Influence has no effect on Behavioral Intention (Check-in applications);

iv. Facilitating Conditions has a significant and positive effect on Behavioral Intention (Check-in applications).

There is a number of recommendations for the studies that are going to be conducted in future in order to provide profound comprehension and significantly contribute to the literature.

REFERENCES

AbuShanab, E., & Pearson, J. (2007). Internet banking in Jordan: The unified theory of acceptance and use of technology (UTAUT) perspective. *Journal of Systems and Information Technology, 9*(1), 78-97.

Afonso, C., Roldán, J., Sánchez-Franco, M., & Gonzalez, M. (2012). The moderator role of Gender in the Unified Theory of Acceptance and Use of Technology (UTAUT): A study on users of Electronic Document Management Systems. *7th International Conference on Partial Least Squares and Related Methods* . Houston, Texas, USA.

Agarwal, R., & Prasad, J. (1998). The role of innovation characteristics and perceived voluntariness in the acceptance of information technologies. *Decision Sciences, 28*(3), 557-582.

Ainin, S., Lim, C., & Wee, A. (2005). Prospects and Challenges of E-Banking in Malaysia. *The Electronic Journal on Information Systems in Developing Countries, 22*, 1-11.

Ajzen, I. (1985). From Intentions to Actions: A Theory of Planned Behavior. In J. Kuhl , & J. Beckmann , *Action Control: SSSP Springer Series in Social Psychology.* Berlin, Heidelberg: Springer.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211.

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, N.J: Prentice-Hall.

Al Imarah, A., Zwain, A., & Al-Hakim, L. (2013). The Adoption of e-government services in the Iraqi higher education context: An application of the UTAUT model in the University of Kufa. *Journal of Information Engineering and Applications, 3*(10), 77-84.

Alba, J., & Hutchinson, J. (1987). Dimensions of Consumer Expertise. *Journal of Consumer Research, 13*(4), 411-454.

Al-Gahtani, S., Hubona, G., & Wang, J. (2007). Information technology (IT) in Saudi Arabia: Culture and the acceptance and use of IT. *Information and Management, 44*(8), 681-691.

Al-Harby, F., Qahwaji, R., R., & Kamala, M. (2010). Users' acceptance of secure biometrics authentication system: Reliability and validity of an extended UTAUT model. *Networked Digital Technologies, 87*, 254-258.

Altinay, L., & Paraskevas, A. (2009). *Planning Research in Hospitality and Tourism.* New York: Routledge.

Amichai–Hamburger, Y. (2002). Personality and the Internet. *Computers in Human Behavior, 18*(1), 1-10.

Amichai-Hamburger, Y., & Barak, A. (2009). Internet and well-being. In Y. Amichai-Hamburger, *Technology and Psychological Well-being* (pp. 34-76). Cambridge University Press.

Amichai-Hamburger, Y., & Vinitzky, G. (2010). Social network use and personality. *Computers in Human Behavior, 26*(6), 1289-1295.

Amichai-Hamburger, Y., Wainapel, G., & Fox, S. (2004). "On the Internet No One Knows I'm an Introvert": Extroversion, Neuroticism, and Internet Interaction. *Cyber Psychology & Behavior, 5*(2), 125-128.

Anderson, J., & Gerbing, D. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin, 103*(3), 411-423.

Anderson, J., & Schwager, P. (2004). SME Adoption of Wireless LAN Technology: Applying the UTAUT Model. *SAIS 2004 Proceedings. 6*, pp. 39-43. AIS Electronic Library (AISeL).

Annandale, E., & Hunt, K. (1990). Masculinity, femininity and sex: An exploration of their relative contribution to explaining gender differences in health. *Sociology of Health and Illness, 12*(1), 24-46.

Arasli, H., Teimouri, R., Kiliç, H., & Aghaei, I. (2017). Effects of service orientation on job embeddedness in hotel industry. *The Service Industries Journal, 37*(9/10), 607-627.

Awwad, M., & Al-Majali, S. (2015). Electronic library services acceptance and use: An empirical validation of unified theory of acceptance and use of technology. *The Electronic Library, 33*(6), 1100-1120.

Bagozzi, R., & Lee, K. (2002). Multiple routes for social influence: the role of compliance, internalization, and social identity. *Social Psychology Quarterly, 65*(3), 226-247.

Bagozzi, R., Davis, F., & Warshaw, P. (1992). Development and Test of a Theory of Technological Learning and Usage. *Human Relations, 45*(7), 659-686.

Beavers, L., Guyot, W., Meier, R., Ward, J., & Xiao , X. (2010). A Pilot Study of Community College Student New Media Instructional Preferences. *Economics & Business Journal: Inquiries & Perspectives, 6*(1).

Beirut. (2009, August 21). *Why do people really tweet? The psychology behind tweeting!* Retrieved July 14, 2017, from Thoughtpick: http://blog.thoughtpick.com/2009/08/why-do-people-really-tweet-the-psychology-behind-tweeting.html

Berthon, P., Pitt, L., McCarthy, I., & Kates, S. (2007). When customers get clever: Managerial approaches to dealing with creative consumers. *Business Horizons, 50*(1), 39-47.

Bhattacherjee, A. (2001). An empirical analysis of the antecedents of electronic commerce service continuance. *Decision Support Systems, 32*(2), 201-214.

Borg, W., & Gall, M. (1989). *Educational Research: An Introduction.* New York: Longman.

Boyd, D., & Ellison, N. (2007). Social network sites: Definition, history and scholarship. *Journal of Computer-Mediated Communication, 13*(1), 210-230.

Brown, T. A. (2014). *Confirmatory Factor Analysis for Applied Research.* New York: Guilford Publications.

Browne, M., & Cudeck, R. (1993). Alternative ways of assessing model fit. In A. B. Kenneth, & J. S. Long, *Testing Structural Equation Models* (pp. 136-162). Newbury Park, CA: Sage.

Burton-Jones, A., & Hubona, G. (2005). Individual differences and usage behaviour: revisiting a technology acceptance model assumption. *The DATA BASE for Advances in Information Systems, 36*(2), 58-77.

Chang, I., Hwang, H., Hung, W., & Li, Y. (2007). Physicians' Acceptance of Pharmacokinetics-Based Clinical Decision Support Systems. *Expert Systems with Applications, 33*(2), 296-303.

Chiu, T., & Ku, B. (2015). Moderating Effects of Voluntariness on the Actual Use of Electronic Health Records for Allied Health Professionals. *JMIR Med Inform, 3*(1), e7.

Chuttur, M. (2009). Overview of the Technology Acceptance Model: Origins, Developments and Future Directions. *Sprouts: Working Papers on Information Systems, 9*(37).

Cohen, J. (1988). *Statistical power for the behavioral sciences.* New York: Academic Press.

Correa, T., Hinsley, A., & Zúñiga, H. (2010). Who interacts on the Web?: The intersection of users' personality and social media use. *Computers in Human Behavior*, *26*(2), 247-253.

Curtis, L., Edwards, C., Fraser, K., Gudelsky, S., Holmquist, J., Thornton, K., & Sweetser, K. (2010). Adoption of social media for public relations by nonprofit organizations. *Public Relations Review, 36*(1), 90-92.

Davis, F. (1985). *A technology acceptance model for empirically testing new end-user information systems: Theory and results (Doctoral dissertation).* Massachusetts: Massachusetts Institute of Technology.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptanceof information technology. *MIS quarterly, 13,* 319–340.

Davis, F., Bagozzi, R., & Warshaw, P. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science, 35*(8), 982-1003.

Diño, M., & de Guzman, A. (2014). Using Partial Least Squares (PLS) in Predicting Behavioral Intention for Telehealth Use among Filipino Elderly. *Educational Gerontology*, 53-68. Retrieved from https://doi.org/10.1080/03601277.2014.917236

Dwivedi, Y., Alalwan, A., Rana, N., & Williams, M. (2015). Jordanian Customers' Intention Towards and Use of Internet Banking: Exploring Demographic Differences on Their Perception. *UK Academy for Information Systems Conference Proceedings 2015. 9.* UK: AIS Electronic Library (AISeL).

Ellison, N., Steinfield, C., & Lampe, C. (2007). The Benefits of Facebook "Friends:" Social Capital and College Students' Use of Online Social Network Sites. *Journal of Computer-Mediated Communication, 12*(4), 1143–1168.

Engeström, Y. (2005). *Developmental Work Research: Expanding Activity Theory in Practice.* Berlin: International Cultural-Historical Human Sciences.

Escobar-Rodríguez, T., & Carvajal-Trujillo, E. (2014). Online purchasing tickets for low cost carriers: An application of the unified theory of acceptance and use of technology (UTAUT) model. *Tourism Management, 43,* 70-88.

Eze, U., Ling, H., Manyeki, J., & Lee, C. (2011). Factors affecting internet banking adoption among young adults: evidence from Malaysia. *IPEDR, International Conference on Social Science and Humanity. 5.* Singapore: IACSIT Press.

Festinger, L. (1957). *A Theory of Cognitive Dissonance.* Stanford, California: Stanford University Press.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior : an introduction to theory and research.* Mass. : Addison-Wesley: Reading.

Foon, Y., & Fah , B. (2011). Internet Banking Adoption in Kuala Lumpur: An Application of UTAUT Model. International Journal of Business and Management. *International Journal of Business and Management, 6,* 161-167.

Fornell, C., & Larcker, D. (1981). Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics. *Journal of Marketing Research, 18*(3), 382-388.

FOURSQUARE. (2017). *About Us*. Retrieved June 18, 2017, from FOURSQUARE: https://foursquare.com/about

Girard, T. (2010). The role of demographics on the susceptibility to social influence: A pretest study. *Journal of Marketing Development and Competitiveness, 5*(1), 9-22.

Goswami, A., & Dutta, S. (2016). Gender Differences in Technology Usage—A Literature Review. *OJBM, 4*(1), 51-59.

Gu, J.-C., Lee, S.-C., & Suh, Y.-H. (2009). Determinants of behavioral intention to mobile banking. *Expert Systems with Applications, 36*(9), 11605-11616.

Ha, S., & Stoel, L. (2009). Consumer e-shopping acceptance: Antecedents in a technology acceptance model. *Journal of Business Research, 62*(5), 565-571.

Hair, J., Anderson, R., Tatham, R., & Black, W. (1998). *Multivariate data analysis.* New Jersey: Prentice-Hall.

Hamburger, Y., & Ben-Artzi, E. (2000). The relationship between extraversion and neuroticism and the different uses of the Internet. *Computers in Human Behavior*, *16*(4), 441-449.

Hanna, R., Rohm, A., & Crittenden, V. (2011). We're all connected: The power of the social media ecosystem. *Business Horizons, 54*(3), 265-273.

Hansen, D., Shneiderman, B., & Smith, M. (2011). Social media: New technologies of collaboration. In D. Hansen, B. Shneiderman, & M. A. Smith, *Analyzing Social Media Networks with NodeXL: Insights from a Connected World* (pp. 11-39). Burlington: Morgan Kaufmann.

Hartwick, J., & Barki, H. (1994). Explaining the role of user participation in information system use. *Management Science, 40*(4), 440-465.

Hayduk, L. (1987). *Structural equation modeling with LISREL: Essentials and advances*. London: JHU Press.

Henning, M., & Jardim, A. (1977). *The Managerial Woman, Garden City*. New York: Anchor Press.

Hepp, A. (2012). Mediatization and the 'molding force' of the media. *The European Journal of Communication Research, 37*(1), 1–28.

Hong, W., Thong, J., Chasalow, L., & Dhillon, G. (2011). User Acceptance of Agile Information Systems: A Model and Empirical Test. *Journal of Management Information Systems, 28*(1), 235-272.

Hong, W., Thong, J., Wong, W., & Tam, K. (2001). Determinants of user acceptance of digital libraries: An empirical examination of individual differences and system characteristics. *Journal of Management Information Systems, 18*(3), 97-124.

Hwang, Y. (2010). The moderating effects of gender on e-commerce systems adoption factors: An empirical investigation. *Computers in Human Behavior*, *26*(6), 1753-1760.

Im, I., Hong, S., & Kang, M. (2011). An international comparison of technology adoption: Testing the UTAUT model. *Information & Management, 48*, 1–8.

Joshua, A., & Koshy, M. (2011). Usage Patterns of Electronic Banking Services by Urban Educated Customers: Glimpses from India. *Journal of Internet Banking and Commerce, 16*, 1-12.

Kaba, B., & Touré, B. (2014). Understanding information and communication technology behavioral intention to use: Applying the UTAUT model to social networking site adoption by young people in a least developed country. *Journal of the Association for Information Science and Technology, 65*(8), 662-674.

Kaplan, A., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business horizons, 53*(1), 59-68.

Karahanna, E., Straub, D., & Chervany, N. (1999). Information technology adoption across time: A cross-sectional comparison of pre-adoption and post-adoption beliefs. *MIS Quarterly, 23*(2), 183-213.

Kietzmann, J., Hermkens, K., McCarthy, I., & Silvestre, B. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons, 54*(3), 241-251.

Kim, C., Tao, W., Shin, N., & Kim, K.-S. (2010). An empirical study of customers' perceptions of security and trust in e-payment systems. *Electronic Commerce Research and Applications, 9*(1), 84-95.

Kim, Y. (2008). Reviewing and critiquing computer learning and usage among older adults. *Educational Gerontology, 34*(8), 709-735.

Kirchmeyer, C., & Bullin, C. (1997). Gender Roles in a Traditionally Female Occupation: A Study of Emergency, Operating, Intensive Care, and Psychiatric Nurses. *Journal of Vocational Behavior, 50*(1), 78-95.

Kothari, C. (2008). *Research Methodology: Methods and Techniques.* New Delhi: New Age Inter- national (P) Limited.

Krause, N., Liang, J., Jain, A., & Sugisawa, H. (1998). Gender differences in health among the Japanese elderly. *Archives of Gerontology and Geriatrics, 26*(2), 141-159.

Kuo, Y.-F., & Yen, S.-N. (2009). Towards an understanding of the behavioral intention to use 3G mobile value-added services. *Computers in Human Behavior, 25*(1), 103-110.

Lai, P. (2017). The Literature Review of Technology Adoption Models and Theories for the Novelty Technology. *JISTEM - Journal of Information Systems and Technology Management, 14*(1).

Lai, W., & Chen , C. (2011). Behavioral intentions of public transit passengers—The roles of service quality,perceived value, satisfaction and involvement. *Transport Policy, 18*(2), 318-325.

Lakhal, S., Khechine, H., & Pascot, D. (2013). Student behavioural intentions to use desktop video conferencing in a distance course: integration of autonomy to the UTAUT model. *Journal of Computing in Higher Education, 25*(2), 93–121.

Liewrow, L., & Livingstone , S. (2006). Introduction. In L. A. Liewrow, & S. Livingstone, *The Handbook of New Media: Social Shaping* (pp. 1-14). London: SAGE.

Lövheim, M., Jansson , A., Paasonen, S., & Sumiala, J. (2013). Social media: implications for everyday life, politics and human agency. *Approaching Religion, 3*(2), 26-37.

Lovink, G. (2012). What Is the Social in Social Media? *e-flux Journal, 40*.

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

Lynott, P., & McCandless, N. (2000). The Impact of Age vs. Life Experience on the Gender Role Attitudes of Women in Different Cohorts. *Journal of Women & Aging, 12*(1-2), 5-21.

Maduku, D. (2015). An empirical investigation of students' behavioural intention to use e-books. *Management Dynamics : Journal of the Southern African Institute for Management Scientists, 24*(3), 3-20.

Malhotra, N. (2007). *Marketing research: An applied orientation.* Upper Saddle River, NJ: Pearson/Prentice Hall.

Malhotra, Y., & Galletta, D. (1999). Extending the technology acceptance model to account for social influence: theoretical bases and empirical validation. *HICSS-32*, (p. Volume Track8). Maui, HI, USA.

Martins, C., Oliveira, T., & Popovič, A. (2014). Understanding the Internet banking adoptionA unified theory of acceptance and use of technology and perceived risk application. *International Journal of Information Management, 34*(1), 1-13.

Mathieson, K., Peacock, E., & Chin, W. (2001). Extending the technology acceptance model: The influence of perceived user resources. *Database for Advances in Information Systems, 32*(3), 86-112.

Mazman, S., Usluel, Y., & C¸evik, V. (2009). Social influence in the adoption process and usage of innovation: Gender differences. *International Journal of Behavioral, Cognitive, Educational and Psychological Sciences,, 1*(4), 229-232.

Mazman, S., Usluel, Y., & Çevik, V. (2009). Social Influence in the Adoption Process and Usage of Innovation: Gender Differences. *World Academy of Science, Engineering and Technology, 49*, 409-412.

McKenna, K., Green, A., & Gleason, M. (2002). Relationship Formation on the Internet: What's the Big Attraction? *Journal of Social Issues, 58*(1), 9–31.

Meuter, M., Bitner, M., Ostrom, A., & Brown, S. (2005). Choosing Among Alternative Service Delivery Modes: An Investigation of Customer Trial of Self-Service Technologies. *Journal of Marketing, 69*(2), 61-83.

Meuter, M., Ostrom, A., Roundtree, R., & Bitner, M. (2000). Self-Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters. *Journal of Marketing, 64*(3), 50-64.

Miltgen, C., Popovič, A., & Oliveira, T. (2013). Determinants of end-user acceptance of biometrics: Integrating the "Big 3" of technology acceptance with privacy context. *Decision Support Systems, 56*, 103-114.

Minton, H., Schneider, F., & Wrightsman, L. (1980). *Differential psychology*. Brooks: Cole Publishing Company.

Moore, G., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information Systems Research, 2*(3), 192-222.

Morris, M., & Venkatesh, V. (2000). Age differences in technology adoption decisions: implications for a changing workforce. *Personnel Psychology, 53*(2), 375-403.

Morris, M., Venkatesh, V., & Ackerman, P. (2005). Gender and age differences in employee decisions about new technology: an extension to the theory of planned behaviour. *IEEE Transactions on Engineering Management, 52*(1), 69-84.

Nasri, W., & Charfeddine, L. (2012). Factors affecting the adoption of Internet banking in Tunisia: An integration theory of acceptance model and theory of planned behavior. *The Journal of High Technology Management Research, 23*(1), 1-14.

Notani, A. (1998). Moderators of Perceived Behavioral Control's Predictiveness in the Theory of Planned Behavior: A Meta-Analysis. *Journal of Consumer Psychology, 7*(3), 247-271.

O'Keeffe, G., & Clarke-Pearson, K. (2011). The Impact of Social Media on Children, Adolescents, and Families. *Pediatrics, 127*(4).

Oliveira, T., Faria, M., Thomas, M., & Popovič, A. (2014). Extending the understanding of mobile banking adoption: When UTAUT meets TTF and ITM. *International Journal of Information Management, 34*(5), 689-703.

Orfila, F., Ferrer, M., Lamarca, R., Tebe, C., Domingo-Salvany, A., & Alonso, J. (2006). Gender differences in healthrelated quality of life among the elderly: The role of objective functional capacity and chronic conditions. *Social Science & Medicine, 63*(9), 2367–2380.

Orji, R., Cetin, Y., Ozkan, S., White, B., & Andone, D. (2010). Critical factors in electronic library acceptance: empirical validation of nationality based UTAUT using SEM. *IADIS International Conference WWW/Internet, 1*(2), 81-88.

Pallant, J. (2005). *SPSS Survival Manual.* Crow's Nest, NSW: Allen & Unwin.

Pallant, J. (2010). *SPSS survival manual : a step by step guide to data analysis using SPSS.* Maidenhead: Open University Press/McGraw-Hill.

Park, N., Kee, K., & Valenzuela, S. (2009). Being Immersed in Social Networking Environment: Facebook Groups, Uses and Gratifications, and Social Outcomes. *CyberPsychology & Behavior, 12*(6), 729-733.

Park, S. (2009). An Analysis of the Technology Acceptance Model in Understanding University Students' Behavioral Intention to Use e-Learning. *Journal of Educational Technology & Society, 12*(3), 150-162.

Plude, D., & Hoyer, W. (1985). Attention and Performance: Identifying and Localizing Age Deficits. In N. Charness, *Aging and Human Performance* (pp. 47-99). London: Wiley.

Raman, A., & Don, Y. (2013). Preservice Teachers' Acceptance of Learning Management Software: An Application of the UTAUT2 Model. *International Education Studies, 6*(7), 157-164.

Redsell, M., & Nycyk, M. (2010). Skilling seniors in computers: Community training responses to the digital divide. *Working with Older People, 14*(2), 38-42.

Riedl, R., Hubert, M., & Kenning, P. (2010). Are there neural gender differences in online trust? An fMRI study on the perceived trustworthiness of eBay offers. *MIS Quarterly, 34*(2), 397-428.

Riquelme, H., & Rios, R. (2010). The moderating effect of gender in the adoption of mobile banking. *International Journal of Bank Marketing, 3*(2), 328-341.

Rogers, E. (1995). *Diffusion of Innovations.* New York: Simon and Schuster.

Roscoe, J. (1975). *Fundamental research statistics for the behavioral sciences.* New York: Holt, Rinehart and Winston.

Ross, C., Orr, E., Sisic, M., Arseneault, J., Simmering, M., & Orr, R. (2009). Personality and motivations associated with Facebook use. *Computers in Human Behavior, 25*(2), 578-586.

Rotter, G., & Portugal, S. (1969). Group and Individual Effects in Problem Solving. *Journal of Applied Psychology, 53*(4), 338-341.

Ryan, R. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology, 43*(3), 450-461.

Schepers, J., & Wetzels, M. (2007). A meta-analysis of the technology acceptance model: Investigating subjective norm and moderation effect. *Information & Management, 44*(1), 90-103.

Sedgwick, P. (2012). Pearson's correlation coefficient. *BMJ: British Medical Journal (Online), 345*.

Sekaran, U. (2003). *Research methods for business.* NJ: John Wiley & Sons.

Shaikh, A., & Karjaluoto, H. (2015). Mobile banking adoption: A literature review. *Telematics and Informatics, 32*(1), 129-142.

Shin, D. (2010). Modelling the interaction of users and mobile payment system: Conceptual framework. *International Journal of Human-Computer Interaction, 26*, 917-940.

Spiers, N., Jagger, C., Clarke, M., & Arthur, A. (2003). Are gender differences in the relationship between selfrated health and mortality enduring? Results from three birth cohorts in Melton Mowbray, United Kingdom. *The Gerontologist, 43*(3), 406-411.

Suri, G., & Sharma, S. (2013). The Impact of Gender on Attitude towards Computer Technology and E-Learning: An Exploratory Study of Punjab University, India. *International Journal of Engineering Research, 2*, 132-136.

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

Tan, G., Ooi, K., Chong, S., & Hew, S. (2014). NFC mobile credit card: The next frontier of mobile payment? *Telematics and Informatics, 31*, 292-307.

Tan, P. (2013). Applying the UTAUT to understand factors affecting the use of English e-learning websites in Taiwan. *Sage Open, 3*(4), 1-12.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53-55.

Taylor, S., & Todd, P. (1995). Understanding information technology usage: a test of ompeting models. *Information Systems Research, 6*(4), 144-176.

Thakur, R. (2013). Customer adoption of mobile payment services by professionals across two cities in India: An empirical study using modified technology acceptance model. *Business Perspectives and Research, 1*, 17-29.

Triandis, H. (2010). Values attitudes, and interpersonal behavior. *Nebraska Symposium on Motivation, Beliefs, Attitudes, and Values* (pp. 195–259). Lincoln, NE: University of Nebraska Press.

Vallacher, R., & Kaufman, J. (1996). Dynamics of action identification: Volatility and structure in the mental representation of behavior. In P. Gollwitzer, & J. Bargh, *The psychology of action: Linking cognition and motivation to behavior* (pp. 260-282). New York: Guilford Press.

Venkatesh, V. (2000). Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model. *Information Systems Research, 11*(4), 342-365.

Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a Research Agenda on Interventions. *Decision Sciences, 39*(2), 273–315.

Venkatesh, V., & Davis, F. (1996). A Model of the Antecedents of Perceived Ease of Use: Development and Test. *Decision Sciences, 27*(3), 451–481.

Venkatesh, V., & Davis, F. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science, 46*(2), 186-204.

Venkatesh, V., & Morris, M. G. (2000). Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *MIS Quarterly, 24*(1), 115-139.

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

Venkatesh, V., Thong, J., & Xu, X. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *Management Information Systems Quarterly, 36*(1), 157-178.

Wang, H., & Wang, S. (2010). User acceptance of mobile internet based on the unified theory of acceptance and use of technology: Investigating the determinants and gender differences. *Social Behavior and Personality: An International Journal, 38*(3), 415-426.

Wang, L., & Yi, Y. (2012). The impact of use context on mobile payment acceptance: An empirical study in China. In A. Xie, & X. Huang, *Advances in computer science and education* (pp. 293-300). Berlin: Springer.

Wang, Y.-S., Lin, H.-H., & Luarn, P. (2006). Predicting consumer intention to use mobile service. *Information Systems Journal, 16*(2), 157–179.

Williams, L., Vandenberg, R., & Edwards, J. (2009). 12 structural equation modeling in management research: A guide for improved analysis. *The Academy of Management Annals,, 3*(1), 543-604.

Wu , Y., Tao, Y., & Yang, P. (2008). The use of unified theory of acceptance and use of technology to confer the behavioral model of 3G mobile telecommunication users. *Journal of Statistics and Management Systems, 11*(5), 919-949.

Yang, K. (2012). Consumer technology traits in determining mobile shopping adoption: An application of the extended theory of planned behavior. *Journal of Retailing & Consumer Services, 19,, 19*, 484-491.

Yang, S., Lu, Y., Gupta, S., Cao, Y., & Zhang, R. (2012). Mobile payment services adoption across time: An empirical study of the effects of behavioral beliefs, social influences, and personal traits. *Computers in Human Behavior, 28*(1), 129-142.

Yi , Y., Wu, Z., & Tung, L. (2005). How individual differences influence technology usage? Towards an integrated framework. *Journal of Computer Information Systems, 46*(2), 52-63.

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

Zhou, T. (2011). Understanding mobile Internet continuance usage from the perspectives of UTAUT and flow. *Information Development, 27*(3), 207-218.

Zhou, T., Lu, Y., & Wang, B. (2010). Integrating TTF and UTAUT to explain mobile banking user adoption. *Computers in Human Behavior, 26*(4), 760-767.

Zúñiga, H., Puig-I-Abril, E., & Rojas, H. (2009). Weblogs, traditional sources online and political participation: an assessment of how the internet is changing the political environment. *SAGE, 11*(4), 553-574.

Zúñiga, H., Veenstra, A., Vraga, E., & Shah, D. (2010). Digital Democracy: Reimagining Pathways to Political Participation. *Journal of Information Technology & Politics, 7*(1), 36-51.

APPENDICES

Appendix A: Questionnaire

QUESTIONNAIRE

This academic project is concerned with the factors influencing the intention(s) to use check-in applications based on empirical evidences from UTAUT Model (Unified Theory of Acceptance and Use of Technology). Taking the time to complete the questionnaire is vitally important and your contribution is highly appreciated. Your responses will remain anonymous and be treated in the strictest of confidence. There are no right or wrong answers; what really matters is your honest opinion. Thank you very much for your help.

Q1: Please indicate the extent to which you agree or disagree with each of the following statements.

(Please tick /circle only one box per line)

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
a) I would find the check-in apps useful in my life.	1	2	3	4	5	6	7
b) Using the check-in apps increases my effectiveness.	1	2	3	4	5	6	7
c) Using the check-in apps (makes/would make) it easier for me to obtain location information.	1	2	3	4	5	6	7
d) Using the check-in apps (makes/would make) it convenient for me to share my location at any time.	1	2	3	4	5	6	7

Q2: Please indicate the extent to which you agree or disagree with each of the following statements.

(Please tick /circle only one box per line)

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
a) My interaction with the check-in apps would be clear and understandable.	1	2	3	4	5	6	7
b) It would be easy for me to become skillful at using the check-in apps.	1	2	3	4	5	6	7
c) I would find the check-in apps easy to use.	1	2	3	4	5	6	7
d) Learning to operate the check-in apps is easy for me.	1	2	3	4	5	6	7

Q3: Please indicate the extent to which you agree or disagree with each of the following statements.

(Please tick /circle only one box per line)

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
a) People who influence my behavior (influence/would influence) me to use the check-in apps.	1	2	3	4	5	6	7
b) People who are important to me (influence/would influence) me to use the check-in apps.	1	2	3	4	5	6	7
c) People who are in my social circle (influence/would influence) me to use the check-in apps.	1	2	3	4	5	6	7

Q4: Please indicate the extent to which you agree or disagree with each of the following statements.

(Please tick /circle only one box per line)

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
a) I have the necessary resources to enable me to use the check-in apps.	1	2	3	4	5	6	7
b) My social environment supports me to use the check-in apps.	1	2	3	4	5	6	7
c) Assistance is available when I experience problems with using the check-in apps.	1	2	3	4	5	6	7
d) Using the check-in apps (is/would be) compatible with my life.	1	2	3	4	5	6	7

Q5: Please indicate the extent to which you agree or disagree with each of the following statements

(Please tick /circle only one box per line)

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
a) I intend to use the check-in apps in future.	1	2	3	4	5	6	7
b) I predict I will use the check-in apps in future.	1	2	3	4	5	6	7
c) I plan to use the check-in apps in future.	1	2	3	4	5	6	7

Q6. Please specify below your:

(Tick only one box per question)

Q6a) Gender: Male ☐

Female ☐

Q6b) Age _____

Q6c) Marital Status:

Single ☐

Married ☐

Divorced ☐

Other (Please specify): _____

Q6d) Experience: When did you first start to use check-in applications in social media?

0 – 2 Years ago ☐

3 – 5 Years ago ☐

6 – 8 Years ago ☐

9 + Years ago ☐

Q6e) Highest Education Level:

- ☐ Primary School
- ☐ Secondary School
- ☐ High National Diploma (HND)
- ☐ First Degree
- ☐ Masters Degree
- ☐ PhD
- Other (Please specify): _____

Q6 f) Annual Income (optional):

- ☐ Up to 20,000 TL
- ☐ 20,001 - 40,000 TL
- ☐ 40,001 - 60,000 TL
- ☐ More than 60,001 TL

Q6 g) What is your most preferred check-in application?

.....

Thank you very much for your participation

Appendix B: Software Outputs/ Structural Equation Modeling

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	46	169.639	107	.000	1.585
Saturated model	153	.000	0		
Independence model	17	2908.440	136	.000	21.386

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.123	.927	.896	.648
Saturated model	.000	1.000		
Independence model	1.163	.239	.144	.213

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.942	.926	.978	.971	.977
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.049	.034	.062	.552
Independence model	.287	.278	.296	.000

SEM Analysis

Regression Weights: (Default - Default model)

			Estimate	S.E.	C.R.	P	Label
BI	<---	PE	.389	.154	2.523	.012	
BI	<---	EE	-.040	.134	-.296	.767	
BI	<---	SI	.089	.097	.918	.359	
BI	<---	FC	.575	.143	4.030	***	
PE4	<---	PE	1.000				
PE3	<---	PE	.958	.066	14.507	***	
PE2	<---	PE	1.160	.098	11.798	***	
PE1	<---	PE	1.229	.103	11.949	***	
EE4	<---	EE	1.000				
EE3	<---	EE	1.216	.098	12.363	***	
EE2	<---	EE	1.378	.157	8.790	***	
EE1	<---	EE	1.558	.167	9.349	***	
SI3	<---	SI	1.049	.065	16.195	***	
SI1	<---	SI	.871	.061	14.352	***	
FC4	<---	FC	1.000				
FC3	<---	FC	.575	.075	7.667	***	
FC2	<---	FC	.758	.077	9.818	***	
BI3	<---	BI	1.021	.037	27.717	***	
BI2	<---	BI	1.000				
BI1	<---	BI	.983	.038	26.059	***	
SI2	<---	SI	1.000				

Gender

			Male		Female		
			Estimate	P	Estimate	P	z-score
BI	<---	PE	0.222	0.244	0.540	0.014	1.091
BI	<---	EE	0.026	0.901	0.006	0.969	-0.074
BI	<---	SI	0.211	0.196	-0.028	0.821	-1.171
BI	<---	FC	0.623	0.004	0.510	0.004	-0.405
PE3	<---	PE	0.893	0.000	1.028	0.000	0.976
PE2	<---	PE	0.942	0.000	1.607	0.000	2.669***
PE1	<---	PE	1.105	0.000	1.514	0.000	1.669*
EE3	<---	EE	1.145	0.000	1.238	0.000	0.465
EE2	<---	EE	1.440	0.000	1.336	0.000	-0.322
EE1	<---	EE	1.568	0.000	1.499	0.000	-0.205
SI3	<---	SI	1.054	0.000	1.029	0.000	-0.196
SI1	<---	SI	0.827	0.000	0.956	0.000	1.076
FC3	<---	FC	0.452	0.000	0.691	0.000	1.585
FC2	<---	FC	0.842	0.000	0.622	0.000	-1.447
BI3	<---	BI	0.991	0.000	1.057	0.000	0.887
BI1	<---	BI	0.960	0.000	1.012	0.000	0.686

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Age

			Younger		Middle		
			Estimate	P	Estimate	P	z-score
BI	<---	PE	1.057	0.009	0.185	0.376	-1.923*
BI	<---	EE	0.229	0.328	0.047	0.799	-0.611
BI	<---	SI	-0.180	0.295	0.160	0.467	1.217
BI	<---	FC	0.328	0.146	0.579	0.002	0.861
PE3	<---	PE	0.964	0.000	0.957	0.000	-0.046
PE2	<---	PE	1.362	0.000	1.010	0.000	-1.248
PE1	<---	PE	1.555	0.000	1.063	0.000	-1.609
EE3	<---	EE	1.357	0.000	1.080	0.000	-1.171
EE2	<---	EE	1.472	0.000	1.253	0.000	-0.617
EE1	<---	EE	2.028	0.000	1.365	0.000	-1.535
SI3	<---	SI	1.142	0.000	0.972	0.000	-1.108
SI1	<---	SI	0.901	0.000	0.911	0.000	0.072
FC3	<---	FC	0.622	0.000	0.680	0.000	0.329
FC2	<---	FC	0.874	0.000	0.738	0.000	-0.771
BI3	<---	BI	1.045	0.000	1.023	0.000	-0.250
BI1	<---	BI	0.989	0.000	0.967	0.000	-0.251

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

			Younger		Older		
			Estimate	P	Estimate	P	z-score
BI	<---	PE	1.057	0.009	1.122	0.434	0.044
BI	<---	EE	0.229	0.328	2.029	0.552	0.526
BI	<---	SI	-0.180	0.295	0.961	0.380	1.029
BI	<---	FC	0.328	0.146	-0.710	0.729	-0.504
PE3	<---	PE	0.964	0.000	0.813	0.000	-0.641
PE2	<---	PE	1.362	0.000	1.232	0.000	-0.344
PE1	<---	PE	1.555	0.000	1.088	0.000	-1.200
EE3	<---	EE	1.357	0.000	1.697	0.016	0.463
EE2	<---	EE	1.472	0.000	3.388	0.023	1.260
EE1	<---	EE	2.028	0.000	1.433	0.082	-0.649
SI3	<---	SI	1.142	0.000	1.022	0.000	-0.998
SI1	<---	SI	0.901	0.000	0.724	0.000	-1.197
FC3	<---	FC	0.622	0.000	0.091	0.575	-2.51**
FC2	<---	FC	0.874	0.000	0.479	0.021	-1.567
BI3	<---	BI	1.045	0.000	1.019	0.000	-0.307
BI1	<---	BI	0.989	0.000	1.002	0.000	0.151

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

			Middle		Older		
			Estimate	P	Estimate	P	z-score
BI	<---	PE	0.185	0.376	1.122	0.434	0.647
BI	<---	EE	0.047	0.799	2.029	0.552	0.580
BI	<---	SI	0.160	0.467	0.961	0.380	0.717
BI	<---	FC	0.579	0.002	-0.710	0.729	-0.627
PE3	<---	PE	0.957	0.000	0.813	0.000	-0.714
PE2	<---	PE	1.010	0.000	1.232	0.000	0.778
PE1	<---	PE	1.063	0.000	1.088	0.000	0.092
EE3	<---	EE	1.080	0.000	1.697	0.016	0.870
EE2	<---	EE	1.253	0.000	3.388	0.023	1.427
EE1	<---	EE	1.365	0.000	1.433	0.082	0.081
SI3	<---	SI	0.972	0.000	1.022	0.000	0.369
SI1	<---	SI	0.911	0.000	0.724	0.000	-1.212
FC3	<---	FC	0.680	0.000	0.091	0.575	-3.002***
FC2	<---	FC	0.738	0.000	0.479	0.021	-1.107
BI3	<---	BI	1.023	0.000	1.019	0.000	-0.045
BI1	<---	BI	0.967	0.000	1.002	0.000	0.407

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Experience

			0-2 years		3-5 years		
			Estimate	P	Estimate	P	z-score
BI	<---	PE	0.141	0.668	0.564	0.035	0.999
BI	<---	EE	0.056	0.820	0.080	0.761	0.068
BI	<---	SI	0.164	0.433	0.086	0.644	-0.279
BI	<---	FC	0.765	0.004	0.244	0.378	-1.349
PE3	<---	PE	0.950	0.000	1.037	0.000	0.485
PE2	<---	PE	0.982	0.000	1.153	0.000	0.657
PE1	<---	PE	1.046	0.000	1.259	0.000	0.772
EE3	<---	EE	1.047	0.000	1.147	0.000	0.478
EE2	<---	EE	1.283	0.000	1.168	0.000	-0.351
EE1	<---	EE	1.365	0.000	1.058	0.000	-0.970
SI3	<---	SI	1.102	0.000	1.070	0.000	-0.185
SI1	<---	SI	0.925	0.000	0.872	0.000	-0.324
FC3	<---	FC	0.533	0.000	0.596	0.000	0.288
FC2	<---	FC	0.861	0.000	0.770	0.000	-0.424
BI3	<---	BI	0.976	0.000	1.078	0.000	1.114
BI1	<---	BI	0.927	0.000	0.967	0.000	0.383

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

			0-2 years		6-8 years		
			Estimate	P	Estimate	P	z-score
BI	<---	PE	0.141	0.668	-5.162	0.885	-0.148
BI	<---	EE	0.056	0.820	2.420	0.877	0.152
BI	<---	SI	0.164	0.433	-8.643	0.881	-0.153
BI	<---	FC	0.765	0.004	14.220	0.875	0.149
PE3	<---	PE	0.950	0.000	0.973	0.000	0.137
PE2	<---	PE	0.982	0.000	1.006	0.000	0.136
PE1	<---	PE	1.046	0.000	1.177	0.000	0.803
EE3	<---	EE	1.047	0.000	1.287	0.000	0.895
EE2	<---	EE	1.283	0.000	1.667	0.000	0.784
EE1	<---	EE	1.365	0.000	1.725	0.000	0.727
SI3	<---	SI	1.102	0.000	1.027	0.000	-0.307
SI1	<---	SI	0.925	0.000	1.107	0.000	0.767
FC3	<---	FC	0.533	0.000	0.081	0.616	-2.16**
FC2	<---	FC	0.861	0.000	0.872	0.000	0.041
BI3	<---	BI	0.976	0.000	0.987	0.000	0.089
BI1	<---	BI	0.927	0.000	1.002	0.000	0.671

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

			0-2 years		9+ years		
			Estimate	P	Estimate	P	z-score
BI	<---	PE	0.141	0.668	0.763	0.081	1.137
BI	<---	EE	0.056	0.820	0.182	0.505	0.345
BI	<---	SI	0.164	0.433	0.079	0.607	-0.330
BI	<---	FC	0.765	0.004	0.318	0.153	-1.280
PE3	<---	PE	0.950	0.000	0.788	0.000	-0.864
PE2	<---	PE	0.982	0.000	1.464	0.000	1.410
PE1	<---	PE	1.046	0.000	1.456	0.000	1.189
EE3	<---	EE	1.047	0.000	1.538	0.000	1.709*
EE2	<---	EE	1.283	0.000	1.440	0.000	0.355
EE1	<---	EE	1.365	0.000	2.588	0.000	1.843*
SI3	<---	SI	1.102	0.000	0.946	0.000	-0.864
SI1	<---	SI	0.925	0.000	0.721	0.000	-1.261
FC3	<---	FC	0.533	0.000	0.578	0.000	0.239
FC2	<---	FC	0.861	0.000	0.559	0.000	-1.570
BI3	<---	BI	0.976	0.000	1.069	0.000	1.012
BI1	<---	BI	0.927	0.000	1.025	0.000	1.030

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

			3-5 years		6-8 years		
			Estimate	P	Estimate	P	z-score
BI	<---	PE	0.564	0.035	-5.162	0.885	-0.160
BI	<---	EE	0.080	0.761	2.420	0.877	0.150
BI	<---	SI	0.086	0.644	-8.643	0.881	-0.151
BI	<---	FC	0.244	0.378	14.220	0.875	0.154
PE3	<---	PE	1.037	0.000	0.973	0.000	-0.331
PE2	<---	PE	1.153	0.000	1.006	0.000	-0.567
PE1	<---	PE	1.259	0.000	1.177	0.000	-0.309
EE3	<---	EE	1.147	0.000	1.287	0.000	0.492
EE2	<---	EE	1.168	0.000	1.667	0.000	1.031
EE1	<---	EE	1.058	0.000	1.725	0.000	1.401
SI3	<---	SI	1.070	0.000	1.027	0.000	-0.182
SI1	<---	SI	0.872	0.000	1.107	0.000	1.014
FC3	<---	FC	0.596	0.000	0.081	0.616	-2.181**
FC2	<---	FC	0.770	0.000	0.872	0.000	0.369
BI3	<---	BI	1.078	0.000	0.987	0.000	-0.626
BI1	<---	BI	0.967	0.000	1.002	0.000	0.285

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

			3-5 years		9+ years		
			Estimate	P	Estimate	P	z-score
BI	<---	PE	0.564	0.035	0.763	0.081	0.389
BI	<---	EE	0.080	0.761	0.182	0.505	0.269
BI	<---	SI	0.086	0.644	0.079	0.607	-0.031
BI	<---	FC	0.244	0.378	0.318	0.153	0.208
PE3	<---	PE	1.037	0.000	0.788	0.000	-1.170
PE2	<---	PE	1.153	0.000	1.464	0.000	0.795
PE1	<---	PE	1.259	0.000	1.456	0.000	0.488
EE3	<---	EE	1.147	0.000	1.538	0.000	1.288
EE2	<---	EE	1.168	0.000	1.440	0.000	0.626
EE1	<---	EE	1.058	0.000	2.588	0.000	2.355**
SI3	<---	SI	1.070	0.000	0.946	0.000	-0.741
SI1	<---	SI	0.872	0.000	0.721	0.000	-0.981
FC3	<---	FC	0.596	0.000	0.578	0.000	-0.084
FC2	<---	FC	0.770	0.000	0.559	0.000	-0.978
BI3	<---	BI	1.078	0.000	1.069	0.000	-0.085
BI1	<---	BI	0.967	0.000	1.025	0.000	0.538

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

			6-8 years		9+ years		
			Estimate	P	Estimate	P	z-score
BI	<---	PE	-5.162	0.885	0.763	0.081	0.166
BI	<---	EE	2.420	0.877	0.182	0.505	-0.144
BI	<---	SI	-8.643	0.881	0.079	0.607	0.151
BI	<---	FC	14.220	0.875	0.318	0.153	-0.154
PE3	<---	PE	0.973	0.000	0.788	0.000	-0.917
PE2	<---	PE	1.006	0.000	1.464	0.000	1.343
PE1	<---	PE	1.177	0.000	1.456	0.000	0.829
EE3	<---	EE	1.287	0.000	1.538	0.000	0.722
EE2	<---	EE	1.667	0.000	1.440	0.000	-0.400
EE1	<---	EE	1.725	0.000	2.588	0.000	1.148
SI3	<---	SI	1.027	0.000	0.946	0.000	-0.342
SI1	<---	SI	1.107	0.000	0.721	0.000	-1.676*
FC3	<---	FC	0.081	0.616	0.578	0.000	2.389**
FC2	<---	FC	0.872	0.000	0.559	0.000	-1.209
BI3	<---	BI	0.987	0.000	1.069	0.000	0.562
BI1	<---	BI	1.002	0.000	1.025	0.000	0.201

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10