İSTANBUL BİLGİ ÜNİVERSİTESİ
INSTITUTE OF SOCIAL SCIENCES
GRADUATE SCHOOL OF MARKETING

FACTORS AFFECTING MOBILE BANKING USAGE INTENTION, USER SATISFACTION AND WORD-OF-MOUTH INTENTION

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Yrd. Doç. Dr. Esra ARIKAN

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Mobil Bankacılık Kullanım Niyetini, Kullanıcı Memnuniyetini ve Kulaktan Kulağa Yayılmayı Etkileyen Faktörler

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ABSTRACT

Considering the developments in digital technology and the rise of mobile applications, the primary purpose of this study is to determine the key factors affecting mobile banking usage intention and mobile banking user satisfaction. The proposed model not only combines the key factors such as quality, performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, habit and trust that are widely discussed in earlier literature, but also includes the effect of gamification. In addition, this study introduces a relationship between user satisfaction, usage intention and word-of-mouth (WOM) intention in the same model.

In order to test the proposed model, participants are asked to answer a survey considering their mostly used mobile banking application. The survey data is collected from a sample of four hundred twenty-two mobile banking users who used mobile banking services in the last month. The findings show that system quality, service quality, performance expectancy and habit are influential on both mobile banking user satisfaction and usage intention. Furthermore, the expected relationship between user satisfaction, usage intention and word-of-mouth intention is supported.

Keywords: Mobile banking, usage intention, user satisfaction, word-of-mouth intention, consumer behavior.

ÖZET

Dijital teknolojideki gelişmeler ve mobil bankacılığın yükselişi göz önünde bulundurulduğunda, bu çalışmanın esas amacı mobil bankacılık kullanımını ve mobil bankacılık kullanıcılarının memnuniyetini etkileyen temel faktörleri belirlemektir. Önerilen model, geçmiş literatürde sıklıkla değinilen kalite, performans beklentisi, efor beklentisi, sosyal etki, kolaylaştırıcı koşullar, hazsal motivasyon, alışkanlık, güven ve oyunlaştırma faktörlerini birleştirmenin yanı sıra, kullanıcı memnuniyeti, kullanım niyeti ve tavsiye niyeti arasındaki etkileşimi de sunmaktadır.

Önerilen modeli test etmek amacıyla, katılımcılardan en sık kullandıkları mobil bankacılık uygulamasını göz önünde bulundurarak bir anket cevaplamaları istenmiştir. Anket aşamasında son bir ayda mobil bankacılık uygulamalarını kullanan dört yüz yirmi iki mobil bankacılık kullanıcısına ait veri toplanmıştır. Sonuçlar sistem kalitesi, servis kalitesi, performans beklentisi ve alışkanlığın hem mobil bankacılık kullanıcılarının memnuniyeti hem de kullanım niyeti üzerinde etkili olduğunu göstermektedir. Bununla birlikte kullanıcı memnuniyeti, kullanım niyeti ve kulaktan kulağa yayılma niyeti arasındaki ilişki desteklenmiştir.

Anahtar Kelimeler: Mobil bankacılık, kullanım niyeti, kullanıcı memnuniyeti, kulaktan kulağa yayılma niyeti, tüketici davranışı.

CHAPTER ONE
INTRODUCTION

Rapidly evolving technology over the past decades has caused great transformations not only in people's life but also in the whole industry. Financial services are among the top sectors in which technological developments are influential. Banks are one of the most important players that can be considered as milestones of financial services. With the development of technology in recent decades, customer habits started to change in every aspect of daily life. The adoption of new technology led companies to invest in new channels in order to serve customers. Especially self-service technologies allow banks to follow a multi-channel strategy mediated in electronic environment (Black et al., 2002).

When the customers turn out to be more mobile, traditional banking services, in other words serving customers via branch, is not enough to meet customers' needs. As a result of that, banks had the opportunity to serve customers outside the branches. Thus, the first local-centric transformation in banking sector is launching automatic teller machines (ATMs) in 1967 (Hoehle et al., 2012). ATMs are simply defined as using computerized monitors that allow customers to access banking system outside the branches (Hoehle et al., 2012). The invention of ATMs basically provides two benefits for customers:

1. an access to banking system during off-hours,
2. shortening queues and waiting times in branch during working hours.

One of the main disadvantages of these machines is that customers are required to go to the ATM locations in order to use the system. In other

words, they are not easily accessible whenever and wherever needed. ATMs are followed by introduction of telephone banking services in 1980s which is called as enabling customers to perform banking activities with the help of voice recognition and keypad response technologies (Hoehle et al., 2012). Meanwhile, technology continued to evolve and with the emergence of the internet, not only financial sector but also the daily life has started to be reshaped. In order to keep pace with this new development, the banking sector offered a place-centric internet banking system to the customers (Tam and Oliveria, 2016). Finally, the development of mobile devices and widespread usage among the public enabled equipment-centric mobile banking services to be introduced (Tam and Oliveria, 2016). The equipment centric approach provides the system with several benefits. In comparison with local-centric banking system, where all the customers are required to go to a physical place, in the place-centric system they are able to access to banking system while using their computers and internet connection, and in the equipment-centric approach they are able to access to banking system whenever and wherever they need as long as mobile equipment is carried with them (Tam and Oliveria, 2016).

Mobile banking is defined as the service in which customers are able to perform banking transactions via using mobile device, namely smart phone or tablet with the help of network connection (Shaikh and Karjaluoto, 2015). It enables customers to transfer money, access accounts, pay bills, sell stocks or perform other financial activities (Lee and Chung, 2009) at anytime and anywhere needed (Kiesnoski, 2000); thus, it may be seen as a breakthrough innovation in the banking sector (Alalwan et al.,2017). The need for banking services is a part of daily life therefore banks are interested in providing the best experience with a high level of quality and stability for customers (Alalwan et. al, 2017). Additionally, the most important motivation of banks in developing online

banking channels and moving customers to e-channels is that it is less costly compared to traditional banking (Hoehle et al., 2012). Furthermore, banks usually employ e-channels while recommending cross-sell products to customers (Hoehle et al., 2012). Considering the fact that banks devote most of their technical and financial resources for development of mobile banking services (Lin, 2013), there is a tough competition in the sector among different companies. Basically, there are three main reasons behind this competition (Alalwan et al., 2016):

1- The worldwide increase in the number of mobile users means that a high percentage of customer base are being converged to the mobile banking services.
2- With the development of technology, people are more able to compare different mobile banking services and easily switch to one another whenever they are not satisfied.
3- People are prone to talk about their experiences about a service or product and these opinions are easily reachable via internet, so that creating a positive word of mouth power is crucial for companies.

The fact that mobile banking is easily accessible makes it an indispensable service for customers, and at the same time it becomes a major competitive tool for banks. In order to keep customers using their mobile banking service, banks focus on making investments on this channel by adding new functions and changing designs that fits to target customers most. Consequently, an increase in mobile banking usage level has benefits for both customers and firms, where customers are interested in an easily accessible system and firms are interested in lowering their operational costs.

1.1. SCOPE AND SIGNIFICANCE OF THE STUDY

Given the importance of mobile banking to both customers and companies, it is important to understand the factors affecting mobile banking usage intention and user satisfaction. For this reason, it is not surprising that in the academic literature there are plenty of studies about identification of the set of these factors. According to Hoehle et al. (2012) fifty-six studies were applied about mobile banking between the years of 2001 and 2010. Shaikh and Karjaluoto (2015) also identified fifty-five studies were applied about mobile banking in the academic literature from the years of 2005 to 2014. In these studies, several constructs have been found to play an important role in explaining mobile banking usage intention and user satisfaction.

On the other hand, researchers also focused on to determine the factors affecting a word-of-mouth intention in mobile banking (e.g. Casaló et al., 2008; Ennew et al., 2000; Kim et al., 2009). Before technological developments, people were sharing their comments and experiences about a product or service with their social environment. However, the development of online channels provided them to access a group of people whom they never met earlier. Considering this fact, creating a positive word of mouth is crucial for companies due to fact that comments and experiences quickly spread among different groups of people via online channels which would lead to a positive or negative image for the company easily.

Even if there are many studies in the literature about mobile banking, Baptista and Oliveria (2017) claim that earlier research about gamification impact on mobile banking is very limited. When the application of financial institutions regarding to gamification effect is analyzed, it is seen

that most of them started to include gaming techniques in banking services. These examples were found to be influential on different sectors to include gaming effects to their processes such as energy, education, health and retail sectors (Baptista and Oliveria, 2017). Baptista and Oliveria claim that when the factors affecting mobile banking usage intention and user satisfaction are being analyzed, gamification construct should not be eliminated. Furthermore, it is also expressed that since mobile banking acceptance rates are still lower than expected, gamification impact is added to their studies with the aim of understanding how game techniques influence customers' behavior towards mobile banking (Baptista and Oliveria, 2017).

Considering this background, the significance of this study is explained as to synthesize earlier research related to determining factors affecting mobile banking usage intention and user satisfaction along with inclusion of gamification construct where there are limited studies about and determining relationship between usage intention, user satisfaction and word-of-mouth intention.

1.2. ORGANIZATION OF THE DISSERTATION

The rest of the dissertation is organized as follows: In the following section, namely Chapter Two, academic literature related to mobile banking is reviewed. In Chapter Three, the proposed model for evaluating factors affecting mobile banking usage intention, user satisfaction and word-of-mouth intention is presented and hypotheses are described. Chapter Four introduces research design and methodology. In Chapter Five, data analyses are explained and results of the study are presented. In Chapter Six, the findings of the study are discussed and managerial implications are reported along with the presentation of limitations and suggestions for future research.

CHAPTER TWO
LITERATURE REVIEW

This chapter reviews the available literature on factors affecting mobile banking usage intention, satisfaction and WOM intention. Besides, it tries to develop a theoretical background for the study. The first section begins with a general overview of the banking sector and mobile banking services. In the second section, earlier theoretical models are discussed. In the final section, some key factors are explained in detail.

2.1. MOBILE BANKING SERVICES

While other banking channels such as ATMs, telephone banking or internet banking offer customers an access to a variety of banking products, it is claimed that mobile banking has a significant impact in the market (Safeena et al., 2012). As the demand for mobile banking increases with the widespread of smart phone users, banks are prompted to offer this new service in order to extent customer base, boost market share, decrease churn level and improve operational efficiency (Shaikh, 2013). Even though mobile banking services provide benefits to both customers and financial institutions, the level of worldwide usage is not as widespread as expected according to Juniper Research's Report (2013). It is claimed that, by the year of 2017 more than one billion people are expected to use mobile banking services, however, this only represents 15% of global mobile base according to International Telecommunication Union (2011) where 96% of the world's population are mobile subscribers. Therefore, there is still a huge potential in the market for the financial institutions.

Throughout the literature, various terms were used for mobile banking services such as m-banking (Liu et al., 2009), branchless banking (Ivatury and Mas, 2008) or m-transfers (Donner and Tellez, 2008). Even if there are different terms for mobile banking in the academic literature, a general definition is provided as the application which enables customers to access banking system to perform transactions such as utility payment, money transfer, investments etc. (Harma and Dubey, 2009; Lee and Chung, 2009). Another definition of mobile banking which is also claimed by several authors is that customers' interaction with bank by using a mobile device (Shih et al., 2010).

2.2. EARLIER THEORETICAL MODELS

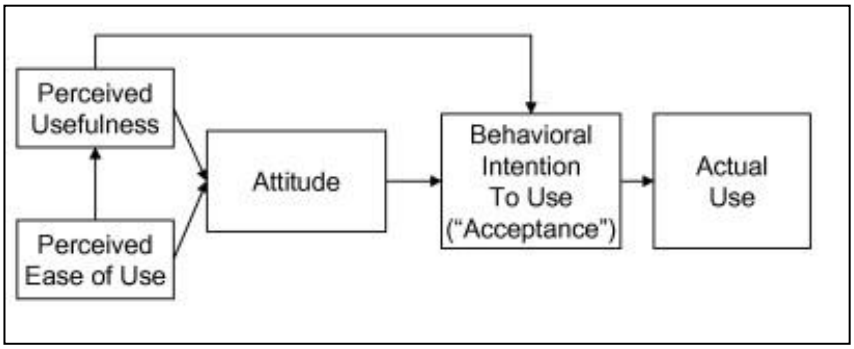
Considering these facts, there are several studies analyzing factors affecting mobile banking adoption and usage intention in the academic literature. While some of these studies apply only one approach such as technology acceptance model (Safeena et al., 2012), the unified theory of acceptance and use of technology (Luo et al., 2010; Yu, 2012) or DeLone and McLean's Model (Velasquez et al., 2009); other studies (e.g., Laukkanen and Cruz, 2012; Zhou, 2011b; Zhou et al. 2010) apply a combination of several approaches at the same time.

2.2.1. Technology of Acceptance Model

Davis et al.'s (1989) Technology of Acceptance Model (TAM) is one of the most popular approaches that have been used in this stream of research to explain factors affecting usage intention of a technology (Mortimer et al., 2015). The background behind the origin of this model is based on in order to increase the usage level of a new technology the first step is to increase the acceptance level which would be achieved by understanding what individuals expect from a technology to use it and inclusion of these expectations to the system (Holden and Karsh, 2009). With this intention,

the simple, or early, form of TAM presented only three factors to explain acceptance of a new technology namely perceived usefulness, perceived ease of use and attitude towards using the technology (Holden and Karsh, 2009). In this model, perceived usefulness has a direct and indirect effect on acceptance where it is influenced by perceived ease of use. Perceived ease of use, on the other hand, is claimed have an indirect impact on behavioral intention through attitude. While the biggest advantage of TAM is having a solid explanatory power of the variance, the biggest disadvantage, on the other hand is that, it does not include any factors related to subjective norms (Mortimer et al., 2015). The early form of TAM is provided in Figure 2.1.

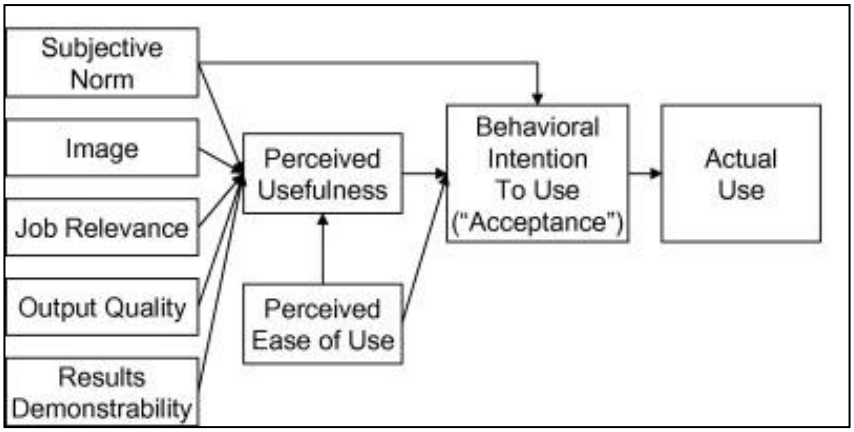
Figure 2.1. Technology Acceptance Model (TAM)



Source: Holden and Karsh (2009)

Original TAM has developed over years where the second form was TAM2 (Holden and Karsh, 2009). In this version, attitude is removed from the model and included five new determinants to explain perceived usefulness namely subjective norm, image, job relevance, output quality and results demonstrability. In the new mode, subjective norm was added to capture the social influence that would affect customers to accept the new technology. TAM2 model is provided in Figure 2.2.

Figure 2.2. Technology Acceptance Model 2 (TAM2)



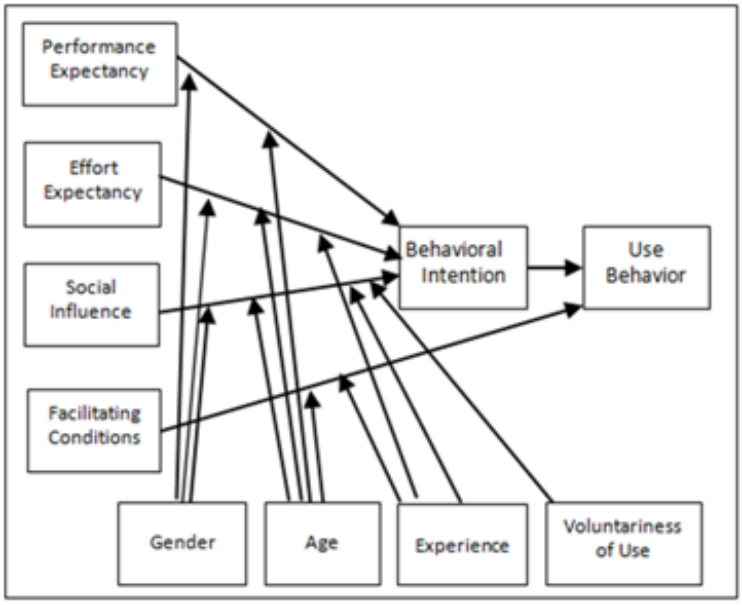
Source: Holden and Karsh (2009)

Finally, the effort to unify the technology acceptance is resulted in the introduction of Venkatesh et al.'s Unified Theory of Acceptance and Use of Technology (UTAUT) model with obvious resemblance to TAM (Mortimer et al., 2015). The details of UTAUT model is provided in the following section.

2.2.2. Unified Theory of Acceptance and Use of Technology (UTAUT) Model

UTAUT model was built on TAM and seven previous theories namely Fishbein and Ajzen's (1975) Theory of Reasoned Action, Ajzen's (1991) Theory of Planned Behavior, Davis et al.'s (1992) Motivational Model, Thompson et al.'s (1991) PC Utilization Model, Rogers's (1995) Innovation Diffusion Theory, Compeau and Higgins' (1995) Social Cognitive Theory and Taylor and Todd's (1995) Integrated Model of Technology Acceptance and Planned Behavior. The first version of UTAUT model which brings together and alternative view on user and innovation acceptance is provided in Figure 2.3.

Figure 2.3. Original UTAUT Model



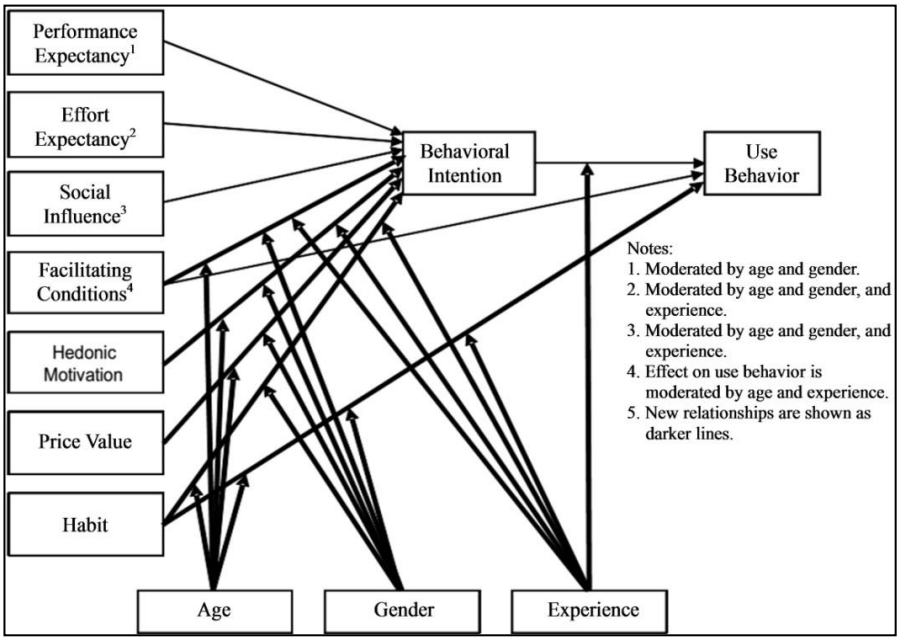
Source: Venkatesh et al. (2003)

The model consists of four constructs having a direct impact on behavioral intention to use and indirect impact on use behavior. These factors are called as performance expectancy, effort expectancy, social influence and facilitating conditions (Venkatesh et al., 2003). It is argued that when the presence of these four factors is examined in real environment, customers' intention to use a technology or system will be assessed (Williams et al., 2015). The earlier theories that UTAUT is based on have been used by several studies to explain the usage intention with the variance between 17% and 53%, it is found out that UTAUT model outperformed all of them with the variance 69% (Venkatesh et al., 2003). This model has been applied to explain usage intention in different sectors such as health, insurance, e-commerce, payment systems or education systems (Williams et al., 2015).

In 2012, UTAUT model was developed to better understand individual's intention toward a new technology. Venkatesh et al. (2012) claimed that, this would be achieved in three different ways: The first one is to include

different moderators such as culture or population, the second option is to add different concepts and the last option is to include new constructs into the model. The last option was chosen and with the addition of three new constructs namely hedonic motivation, price value and habit, UTAUT2 model was introduced (Venkatesh et al., 2012). This model is provided in Figure 2.4.

Figure 2.4. UTAUT2 Model



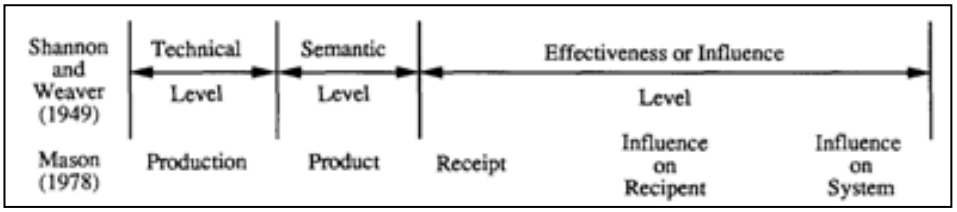
Source: Venkatesh et al. (2012)

The background of including these three constructs is explained by Venkatesh et al. (2012) such that hedonic motivation is an important predictor of usage intention, price value is included since cost and price are influential on usage, and habit is included because it is defined as the degree to which people behave automatically. UTAUT2 model is found to be a significantly enhanced one to explain variance compared to UTAUT model, therefore, it has been used in different sectors to explain usage intention of a technology (Huang and Kao, 2015).

2.2.3. DeLone and McLean's Model

Another popular approach which is used in measuring factors affecting usage intention and user satisfaction belongs to DeLone and McLean's model (1992). The origin of this model was based on Shannon and Weaver's (1949) Communication Theory where three levels of information (technical level, semantic level and effectiveness or influence level) are determined. Afterwards, this model is adapted to information systems by Mason (1978) where technical level is named as "production", semantic level is named as "product" and effectiveness level is divided into three sub-levels namely information receipt, influence on recipient and influence on system. The relationship between these two models is provided in Figure 2.5.

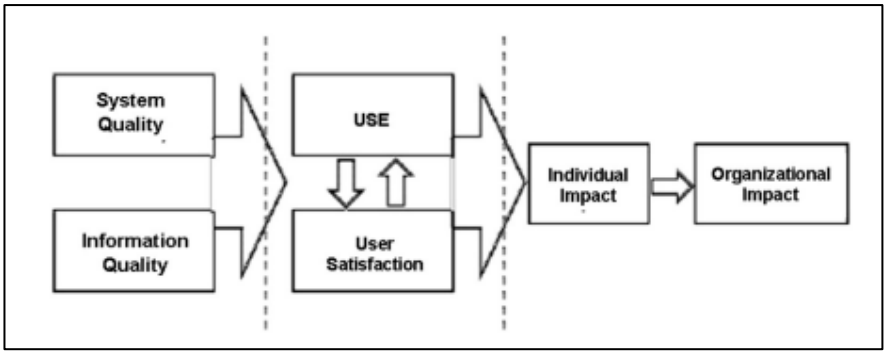
Figure 2.5: Shannon and Weaver's Theory (1949) and Mason's Theory (1978)



Source: DeLone and McLean's (1992)

DeLone and McLean's (1992) original model is based on these two earlier studies and it provides six factors to measure the success of an information system. These factors are system quality, information quality, system use, user satisfaction, individual impact and organizational impact. In comparison with earlier models, system quality represents the "production", information quality represents the "product", use represents the "receipt", user satisfaction and individual impact represent the "influence of recipient" and organizational impact represents the "influence on system). DeLone and McLean's model is provided in Figure 2.6.

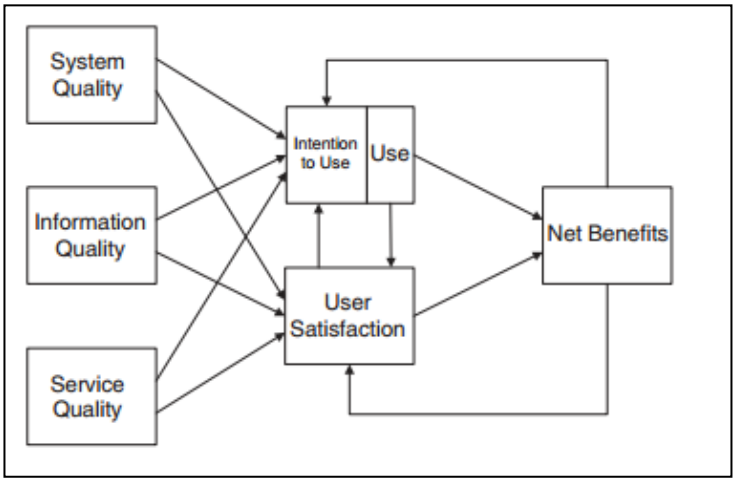
Figure 2.6. Original DeLone and McLean IS Model



Source: DeLone and McLean (1992)

This theory mainly presumes that, system quality and information quality has a positive impact on system performance by affecting both use and user satisfaction positively as well. In 1995, it was observed by Pitt et al. that the original DeLone and McLean's model did not include the effect of information system service quality. Therefore, the model is extended to the updated version with the addition of service quality factor (DeLone and McLean, 2003). This model is provided in Figure 2.7.

Figure 2.7. Updated DeLone and McLean IS Model



Source: DeLone and McLean (2003)

The original and updated versions of DeLone and McLean's model have been used in several studies at different sectors such as knowledge management systems (Velasquez et al., 2009), website success goals (Schaupp et al., 2006) or enterprise resource planning systems (Tsai et al., 2012). Additionally, it has been verified that DeLone and McLean's model can be combined with different approaches in explaining usage or re-purchase intention of online services such as it is combined with trust dimension by Hsu et al. (2014) and Zhou (2013) or combined with Task Technology Fit by Tam and Oliveria (2016) in order to explain mobile banking individual performance.

2.3. TRUST AND GAMIFICATION

Until this section, earlier theoretical models which are the base of the study are explained in detail. In this section, other constructs that are added to the model apart from earlier approaches are presented. This section begins with trust and it is followed by gamification.

2.3.1. Trust

Trust is another factor that has been commonly cited by several researchers in earlier studies related to mobile banking. It is found to be one of the highly crucial factors affecting intention to use a new technology in the academic literature (Alalwan et al., 2015; Hanafizadeh et al., 2014; Luo et al., 2010). There are some reasons behind this finding. Firstly people, by their nature, are individuals who make unique and free decisions so that they are tend to have unpredictable behaviors. Thus, they want to understand why, when and how others behave in order to comprehend social environment surrounding them (Gefen et al., 2003). Since social environments or behaviors are not regulated by strict rules or customers, trust is adopted by people in order to reduce the complexity level of society (Gefen et al., 2003).

Secondly, electronic services are found to be high risky and uncertain products because of the nature of the system. Thus, the interest towards trust in determining mobile banking usage intention has increased as well (Hanafizadeh et al., 2014; Luo et al., 2010; Zhou, 2011b). In other words, trust plays a crucial role when the there is a risk factor in the buyer-seller relationship, for example interacting with an e-vendor or interaction throughout an electronic service (Gefen et al., 2003). Additionally, Alalwan et al. (2015) claim that customer's decision of whether to adopt or reject an electronic banking service is mostly based on the level to which customers find this service trustworthy. For this reason, it has been determined that the dependence on trust leads customers to reduce their worries and approve their decision to use the electronic banking service (Gefen et al., 2003). Thus, through trust people reduce both social complexity and remove the unwanted but possibly future risk of behavior on the part of the trusted party.

Some researchers also express that online customers generally stay away from services or vendors when they are not trustworthy (Gefen et al., 2003). This leads to the combination of trust factor externally with other information system models in prior literature while analyzing the factor affecting a new technology adoption (Alalwan et al., 2017). Gefen et al. (2003), for example, integrated TAM model with trust in order to explain customers' online shopping adoption. Lin (2011) and Zhou (2012) also supported that trust is one of the key drivers of mobile banking usage intention.

2.3.2. Gamification

In the recent years, mobile devices are being used increasingly where they have been used almost anytime and anywhere for a wide range of reasons. The need for banking activities is one of those reasons why people are

using mobile banking services. These services have been considered as totally utilitarian which present functional and practical activities such as money transfers, bill payments, loan applications etc. (Baptista and Oliveria, 2017). Therefore, most of them are lack of any entertaining elements and simply performing transactional activities. However, recently, several banks or financial institutions started to pay attention to involve game mechanics or game techniques into their services (Baptista and Oliveria, 2017).

A good example of using game techniques in the banking system belongs to Banco Bilbao Vizcaya Argentaria (BBVA) and Barclays. While BBVA customers are gaining points after each transaction through e-banking service and being able to use these points for products or services, Barclays customers, on the other hand, develop their money management skills by playing at a virtual environment with other players interactively (Baptista and Oliveria, 2017). Even though games are enjoyable for all people, it is anticipated that gamification is more likely to be influential on younger people or the ones who have been playing games often (Zichermann and Linder, 2013). Venkatesh et al. (2012) claimed that, providing customers with an enjoyable and entertaining environment would be important and effective in increasing customers' perception towards a new technology.

The word gamification refers to the usage of gaming techniques in a nongame environment in order to attract people, to manipulate them towards performing certain actions or just to enjoy (Burke, 2012). Even though technology in a nongaming environment has been used in order to fasten the service, solve the problems or increase the customer experience etc., the idea that people like enjoyment and fun elements triggered companies in involving game techniques into nongaming environments. While gaming techniques were being used in order to engage or motivate

people in the early history, now they are being used in order to drive behaviors to get desired results (Rodrigues et al., 2014), reduce service usage barriers (Yoon, 2009) and transform daily ritual interactions into business purposes (Zichermann and Linder, 2010).

Gaming effects and techniques are found to be applicable in any kind of businesses or applications with the aim of helping customers to visualize and understand the complicated functions, bonding them with the tasks, increasing their interest toward the business or making them feel that they are a part of the system (Baptista and Oliveria, 2017). In the academic literature, there are different opinions about gamification and its effects in different businesses. Bogost (2011), for instance, claimed that scores or levels are simple functions that enable measurement of progress within a game whereas Wilson (2014) claimed that addition of gaming elements into different businesses, such as banking, is a very important decision since it may not be accepted by all the customers and even it may weaken the financial institution's reputation of having a serious image. Hamari (2013), on the other hand, expressed that the effect of gamification in different businesses has a momentary effect which diminishes in the long term.

The common point which all researchers agreed on is that applying gaming techniques has a positive impact with various benefits, however, the level of impact depends on how these techniques are implemented within the business and the way of customers are getting involved (Baptista and Oliveria, 2017). Considering mobile banking services, almost all of them are lack of entertainment or gaming elements and the main focus is to provide customers with a faster and easier platform in performing banking functions. Therefore, Burke (2012), McGonical (2011) and Hung et al. (2015) suggested that implementation of gaming effects within mobile banking services may result in a positive impact,

increased satisfaction, higher enjoyment, better engagement and sense of common purpose. Graham (2014) also added that when customers find banking services enjoyable and fun, satisfaction and engagement increases which leads to an increased profit.

2.4. USER SATISFACTION, USAGE INTENTION AND WOM INTENTION

Independent variables which this study is based on are introduced in the previous sections. In this section, dependent variables that are used in this study will be described in detail. This section begins with user satisfaction and usage intention which is followed by word-of-mouth intention.

2.4.1. User Satisfaction and Usage Intention

When we take a look at the academic literature about mobile banking services, there have been several researches studying the factors affecting usage intention and user satisfaction. Usage intention level is important factor for companies in increasing customer acquisition however, the actual point that should be focused on is to incrementally increase the number of target customers with the help of satisfied and loyal users.

Increasing user satisfaction by meeting customers' needs has been an important issue for a long time in the marketing studies (Susanto et al., 2016). Especially in the field of information systems, user satisfaction plays an important role positively affecting consumers' intention to use the system (Bhattacherjee, 2001). Susanto et al. (2016) claimed that, when the customers are satisfied, they are more likely to use the system in the future, whereas dissatisfied users avoid using the system again. Bhattacherjee (2001) also supported the positive relationship between user satisfaction and usage intention in the mobile banking field. Additionally, it is proven by several studies that higher user satisfaction leads customers

to use the service or product again in the future (Kim et al., 2004; Susanto et al., 2016). Therefore, this significant relationship increases the interest towards applying research with the aim of finding factors affecting user satisfaction in the academic literature since user satisfaction is found to one of the key factors to increase usage intention in mobile financial services.

2.4.2. Word-of-Mouth (WOM) Intention

According to Bhattacherjee (2001), loyal users, in other words the ones who have been using the service regularly for a period of time, perform activities as routine, not consciously. And in that stage, they have more knowledge about both mobile application and service provider therefore their knowledge is crucial in affecting potential users. Considering mobile banking services, switching costs are too low so that customers are very likely to switch to another provider and influence other people around them easily. It has been claimed that, positive and negative comments of mobile users spread quickly and widely creating a significant WOM affecting usage intention of potential customers (Zhou, 2011b).

Considering the importance of WOM intention effect, potential constructs affecting a positive WOM intention should be considered when studying mobile banking users' behavior. According to Chea and Luo (2008), a positive WOM intention is one of the loyalty dimensions that should be put importance on. WOM and helping behaviors are found to be similar to each other considering the fact that they are both resulted in an intention to assist others without any expectations in return (Chea and Luo, 2008). Users have the power of encouraging others to use the service by creating a positive word of mouth. Hearing from those users who have been using the service is an important factor influencing others to use the service (Li and Liu, 2011). Chea and Luo (2008) also added that, WOM intention is

affected by positive or negative experience about the service where the positive experience is expected to be resulted in as usage intention and user satisfaction.

When we take a look at the academic literature Kim and Son (2009), for example, claimed that user satisfaction is one of the most important factors affecting word-of-mouth intention. Li and Liu (2011) also noted that, satisfaction encourages people to share positive information about the service or system to others voluntarily. They also stated that, usage intention also affects users to express positive feelings and experiences to others since they gained benefit from using the system (Li and Liu, 2011).

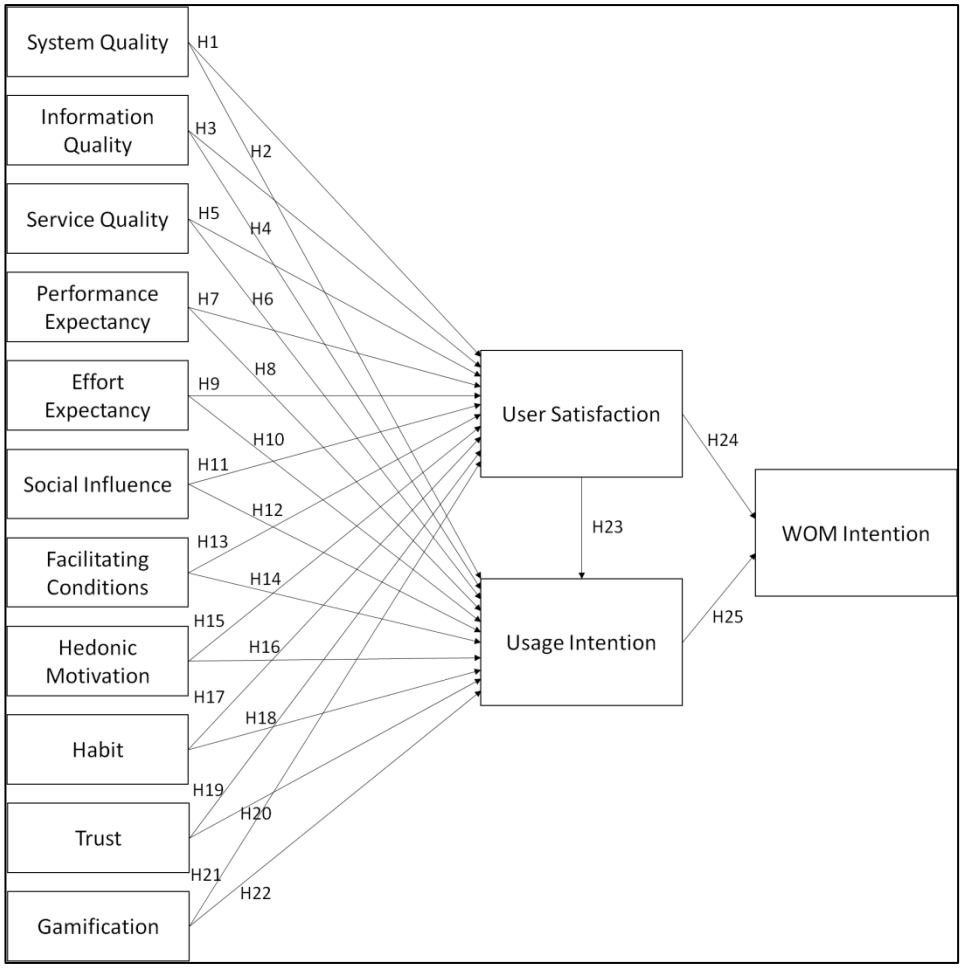
CHAPTER THREE
PROPOSED MODEL AND HYPOTHESES

Based on the theoretical background discussed in the previous chapters, this chapter proposes a model on mobile banking and generates various hypotheses. It begins with the proposed model which is discussed briefly. In the next section, the hypotheses concerning the factors affecting user satisfaction and usage intention are stated. Then, it concludes with the hypotheses concerning potential factors affecting word-of-mouth intention.

3.1. PROPOSED MODEL

In order to understand factors affecting mobile banking usage intention and user satisfaction, combination of different models is needed since acceptance of a new technology is a complicated process (Shen et al., 2010). Along with combining different models, some other constructs were included to the proposed model aiming to further understand their effects on individuals' behavior towards mobile banking. Consequently, the proposed model is proposed in Figure 3.1.

Figure 3.1. Proposed Model



At first, Venkatesh et al.'s (2012) UTAUT2 model is used in order to investigate factors directly affecting mobile banking usage intention. Six factors are taken from UTAUT2 model namely performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation and habit. UTAUT2 model claims that these factors are influential on usage intention and this model is applied by several studies which are discussed in earlier chapters. On the other hand, these factors are also found to be effective on user satisfaction by several studies (Lee et al., 2007b; Tseng, 2015; Lu et al., 2005; Smith and Effken, 2013; Kesari and Atulkar, 2016; Luarn and Lin, 2015; Lin and Lekhawipat, 2014).

Therefore, the effect of these factors on mobile banking usage intention and user satisfaction is tried to be explained in this study.

DeLone and McLean's updated information system model presented system quality, information quality and service quality to be effective on both usage intention and user satisfaction. Even if this model is frequently used in earlier studies, several authors, on the other hand, claimed that DeLone and McLean model can be combined with UTAUT2 approach in order to explain intention to use online services (Hsu et al., 2014), continuance intention to use mobile payment services (Zhou, 2013) and user satisfaction (DeLone and McLean, 2003). Besides, Tam and Oliveria (2016) also studied on a model including both DeLone and McLean's updated information system model and UTAUT2 approaches together. In compatible with the earlier literature, system quality, information quality and service quality are integrated into the proposed model in this study.

Trust, on the other hand, is found to be a significant factor determining customer's intention to use a new technology throughout the literature (Alalwan et al. 2015; Hanafizadeh et al., 2014; Luo et al., 2010; Zhou, 2011b, 2012). Similarly, the impact of trust on mobile banking usage intention is studied by Alalwan et al. (2017). The interest towards adding trust into this model is based on the fact that digital banking is seen as a risky environment by its nature. Therefore, trust is added as another construct to broaden the Venkatesh et al.'s (2012) UTAUT2 approach as it is recommended in their study as well. Additionally, from a marketing perspective, user satisfaction may be seen dependent on performance and quality of the system; however, these are not the only factors determining user satisfaction according to Anderson and Sullivan (1993). In the literature, trust development is defined as the process of assessing someone else's behavioral expectations and verifying whether these expectations have been confirmed or not (Garbarino and Johnson, 1999).

When the sense of confidence is built then people are more likely to have expectations for satisfaction. Similarly, when mobile banking is considered as trustworthy, then users are believed to be satisfied by the service (Lee and Chung, 2009).

Finally, another construct gamification, is added to the model in order to understand the effect of gaming environment on mobile banking usage intention and user satisfaction. Throughout the literature, there is limited research about gamification impact on mobile banking acceptance, however, Baptista and Oliveria (2017) studied the impact of gamification factor on mobile banking acceptance for the first time. Similarly, gamification effect on user satisfaction at different sectors has been studied by several researchers as well (Alnawas and Aburub, 2016). Consequently, the factor gamification is added to the proposed model aiming to understand its effect on mobile banking usage intention and user satisfaction in order to provide new insights for further research.

Furthermore, WOM intention is added to the model to evaluate the success of mobile banking service (Miltgen et al., 2013). WOM intention, another factor taken from the study of Li and Liu (2011), is defined as one of the important loyalty dimensions of using a system (Chea and Luo, 2008). Sharing experiences and comments can be seen as a motivational factor affecting consumers to promote the service to others (Baptista et al., 2016). Considering the fact that people are increasingly sharing their experiences or opinions about a service or product via online channels, creating a positive word of mouth has become a critical issue for companies and service providers. Therefore, WOM intention is added to the proposed model as well.

Consequently, the proposed model is the combination of UTAUT2 and DeLone and McLean approaches with addition of trust and gamification

factors and all of their direct effects on mobile banking usage intention and user satisfaction and indirect effects on WOM intention. This significance of this study, as it is discussed earlier, is to synthesize the potential factors affecting mobile banking usage intention and user satisfaction along with their impact on word-of-mouth intention.

3.2. SYSTEM QUALITY

The term “system quality” was first introduced in 1992 which is defined as the user’s perception on performance of an information system itself (DeLone and McLean, 1992). In other words, it is defined the degree of the user’s perception about how well the system performs so that measurement of system quality is based on individual perception. According to Urbach and Müller (2012), the fact that system quality depends on users’ perception, in order to measure system quality, one should focus on different aspects at the same time such as easiness, accessibility, flexibility, usability, response time and reliability.

Along with the measurement items expressed by Urbach and Müller (2012), there may be other aspects which could also affect system quality. For example, physical attributes of the device used for mobile banking services may be influential on service quality. Some of these attributes may be screen size and keyboard size or functionality. Moreover, internet connection quality is another important aspect which could affect the mobile banking system quality. Therefore, in order to measure system quality, one should focus on both hardware and software quality.

Throughout the literature, the effect of system quality on usage intention has been argued by several studies (e.g. Chang 2013; Budiardjo et al., 2017; Kim et al., 2011). DeLone and McLean’s original (1992) and updated (2003) models claim that a higher system quality leads to an

increase in usage intention. This model, either by itself or with the combination of other models, has been applied by different authors and the positive relationship between system quality and usage intention proven empirically (Tam and Oliveria, 2016; Hollmann et al., 2013).

On the other hand, throughout the literature, some marketing researchers found out that, system quality is one of the most important factors which affects user satisfaction (Kim et al., 2008). It has been claimed quality has an important and positive impact on user satisfaction (Tseng, 2015). De Lone and Mc Lean's success model has been re-studied in several articles, where results showed that system quality increases user satisfaction (Seddon and Kiew, 1996). Tam and Oliveria (2016) also claimed that, a higher system quality leads to a greater user satisfaction. The significance of this impact is empirically proved by Pitt et al. (1995) and Rai et al. (2002) as well. As a result, it can be hypothesized that:

H1: System quality has a positive impact on mobile banking user satisfaction.

H2: System quality has a positive impact on mobile banking usage intention.

3.3. INFORMATION QUALITY

Information quality can be defined as customers' perception about accuracy, relevance, accessibility, timeliness and completeness of the information (Lee and Kim et al., 2007a). At the same time, it also expresses the measure of the value which the information provides to the customers (Chang, 2013). In the context of mobile banking, the word "information" refers to the content in which users receive while using mobile banking services.

It is claimed that, information quality has an important role in understanding benefits of a technology (Akter et al., 2013). Wixom and Todd (2005), on the other hand, claimed that information quality has a significant impact on mobile banking usage intention. Additionally, the literature contains several studies (e.g. Ranganathan and Ganapathy, 2002; Tam and Oliveria, 2016; Kim et al., 2011) including the effect of information quality on usage and continued usage intention.

Aside from influencing usage intention, it is also expressed that information quality can be seen as a prior factor affecting user satisfaction (e.g. Urbach and Müller, 2012; Tam and Oliveria, 2016; Chang, 2016). As Tseng (2015) suggested that, quality has a significant and positive impact on user satisfaction, Moreover, Ranganathan and Ganapathy (2002) also added that, the effect of information quality on user satisfaction may also lead to intention to re-visit the system again. A good information quality is found to be effective on building user satisfaction (Budiardjo et al., 2017). Additional studies (e.g. Bharati and Caudhury, 2004) also held on this relationship between information quality and user satisfaction.

Thus, this study proposes the following hypotheses:

H3: Information quality has a positive impact on mobile banking user satisfaction.

H4: Information quality has a positive impact on mobile banking usage intention.

3.4. SERVICE QUALITY

Service quality can be defined as the quality of support that customers deliver from customer care staff such as rapid return, problem solving skills, reliability, accessibility, technical capacity etc. (DeLone and

McLean, 2003). Service quality is also defined as how good customer's expectation matches with real service delivered to them (Tam and Oliveria, 2016). It is also added that, service quality is a popular factor in measurement of overall quality where the exclusion of service quality may even lead to incorrect measurement of system effectiveness (Pitt et al., 1995).

Mobile banking users may face several problems while they are using the system. These problems may be related to mobile device itself, mobile banking application, internet connection or software etc. Since mobile banking service offers customers an access to the banking system independently of location and time, problems they face should be solved quickly in order to keep the promise. Therefore, it is claimed that service quality is an important factor that affects users to keep them using the mobile banking service (Tam and Oliveria, 2016). Masrek et al. (2009) also indicated that, customers are more likely to stop using the system when service quality is low. Additionally, it is assumed that service quality individually has an impact on usage intention (DeLone and McLean, 1992; Kim et al., 2011; Tam and Oliveria, 2016).

On the other hand, throughout the literature, researchers added the service quality factor in measurement of user satisfaction. It has been claimed that when customers are served with a higher service quality, then it is resulted in a greater user satisfaction (Lee et al., 2007b). The positive impact of service quality on user satisfaction is also supported by Susarla et al. (2003). Similarly, Liu et al. (2010) and Tam (2000) indicated that, service quality has a significant effect on user satisfaction. Hence, following hypotheses are proposed:

H5: Service quality has a positive impact on mobile banking user satisfaction.

H6: Service quality has a positive impact on mobile banking usage intention.

3.5. PERFORMANCE EXPECTANCY

Performance expectancy, in other words perceived usefulness, refers to the situation in which using a technology will help customers to achieve positive outcomes when performing certain activities (Venkatesh et al., 2012). In other words, it is defined as the degree to which the customers expect that using the system will to attain gains (Venkatesh et al., 2003). Considering mobile banking services, it provides customers a more convenient channel to accomplish their tasks along with the ability to access whenever and wherever they need (Alalwan et al., 2017; Luarn and Lin, 2005).

In the case of mobile banking usage intention, Compeau and Higgins (1995) argued that customers are more likely to use the mobile banking services when they think that it will have positive results. Furthermore, literature contains several studies showing that customers are prone to accept and use a technology if they believe that it is useful (Alawan et al., 2017; Venkatesh et al., 2003). Since performance expectancy leads to achievement of positive outcomes, it can be claimed that the higher performance expectancy resulted in the higher usage intention. Zhou et al. (2010) asserted that, mobile banking usage intention is significantly affected by performance expectancy which is found to be the most influential factor on behavioral intention. Additionally, Baptista and Oliveria (2017) and Tseng (2015) indicated that performance expectancy plays an important role on usage intention.

When it comes to user satisfaction, on the other hand, perceived usefulness is found to be one of the strongest factors affecting customer satisfaction (Mahmood et al., 2000). It is expected that, customers are more satisfied with a new technology when it is useful. Also, it has been empirically proven that performance expectancy has a positive impact on user satisfaction (Devaraj et al., 2002; Chiu et al., 2005, Hsu et al., 2013). Throughout the literature, there are also several studies showed that performance expectancy positively influences the user satisfaction (Lee and Kwon, 2011; Li and Liu, 2011). Additionally, Lee et al. (2007b) and Shin et al. (2010) revealed that, performance expectancy significantly effects satisfaction of mobile users as well. Consequently, based on earlier studies it can be hypothesized that:

H7: Performance expectancy has a positive impact on mobile banking user satisfaction.

H8: Performance expectancy has a positive impact on mobile banking usage intention.

3.6. EFFORT EXPECTANCY

Effort expectancy, in other words ease of use, is defined as the easiness of using a technology (Venkatesh et al., 2003). Additionally, Davis et al. (1989) claimed that, it refers to using a new technology without putting too much effort. In the context of mobile banking, learning and using these services may require some level of skills and knowledge so that effort expectancy has an important role affecting usage intention (Alalwan et al., 2017). Lin (2011) claimed that, customers are more likely to use mobile banking services if they think that it is easy to use. In other words, when customers believe that using mobile banking services doesn’t require too much effort, then they tend to use the technology (Venkatesh et al., 2003).

It has also been proved by several studies that, effort expectancy has an influence on customers' intention to use mobile banking services (Luarn and Lin 2005; Gu et al., 2009; Hanafizadeh et al., 2014).

It is also indicated that, when the expectation of using mobile banking services without too much effort is fulfilled, then users become more satisfied (Zhou, 2011b). In other words, when the effort expectancy is low then users are more likely to be satisfied (Al-Maskari and Sanderson, 2010). Additionally, the effect of effort expectancy on user satisfaction has been pointed out by several studies as well (Tseng, 2015; Thong et al., 2006). Based on earlier research, therefore, the following hypotheses can be suggested:

H9: Effort expectancy has a positive impact on mobile banking user satisfaction.

H10: Effort expectancy has a positive impact on mobile banking usage intention.

3.7. SOCIAL INFLUENCE

Social influence refers to the situation when customers' behavior is influenced by significant others (such as family or friends) who value the usage of specific technology (Venkatesh et al., 2012) In other words, it shows the effect of social environmental factors on behavior (Venkatesh et al., 2003). These factors may be the opinion of a friend, family member, colleagues or someone important to the customer so that it influences customer's decision.

As for mobile banking, in can be referred as the effect of customer's social environment on usage of mobile banking services (Zhou et al., 2010)

where a positive opinion or encouragement is resulted in a positive contribution towards adoption of mobile banking services (Tam and Oliveria, 2016; Alalwan et al., 2017; Zhou et al., 2010). Also, it is concluded that the second most effective factor on customers' behavior is social influence (Dwivedi et al., 2011).

Social influence, on the other hand, is also found out to be one of the critical factors influencing user satisfaction (Lu et al., 2005). Burkhardt and Brass (1990) suggested that, customers are prone to ask for advice from their social environment when they meet a new technology in order to be sure about their decision. It is claimed by several researchers that social influence has a significant impact on customer satisfaction (Chiu et al., 2006). Consequently, this study proposes the following:

H11: Social influence has a positive impact on mobile banking user satisfaction.

H12: Social influence has a positive impact on mobile banking usage intention.

3.8. FACILITATING CONDITIONS

In order to use mobile banking, customers are required to have some kind of skills and resources which are called as facilitating conditions (Alalwan, 2017). Facilitating conditions are defined as users' belief in which there is enough technical infrastructure and resources to support the system usage (Ventakesh et al., 2003).

It is claimed that, users would be more likely to use mobile banking as long as they have an access to support and infrastructure any time they need. For instance, online support, tutorials and trainings are found to be

effective on mobile banking usage intention (Venkatesh, 2012). Additionally, customers' appropriate access to internet connection and mobile device, in other words, a good set of conditions creates a higher level of mobile banking usage (Baptista and Oliveria, 2017). Furthermore, Joshua and Koshy (2011) claim that facilitating conditions are positively influential on mobile banking usage intention.

Considering user satisfaction, it is claimed that facilitating conditions have a significant impact on user satisfaction by Smith and Effken (2013). In another study held by Sebetci and Çetin (2016), the positive impact of facilitating conditions on user satisfaction is empirically proven. As a result, the following hypotheses are proposed:

H13: Facilitating conditions have a positive impact on mobile banking user satisfaction.

H14: Facilitating conditions have a positive impact on mobile banking usage intention.

3.9. HEDONIC MOTIVATION

According to Venkatesh et al. (2012) hedonic motivation is an important factor in technology adoption where there is a direct link between each other. In the context of mobile banking, hedonic motivation is defined as the pleasure or fun arose from using mobile banking services (Venkatesh et al., 2012). This factor was also linked Higgins' Motivation Principles (2006), in which people would look for pleasure and prevent pain instead. Some basic utilities such as fun, entertainment and joy can be counted under hedonic motivation. Many mobile applications serve entertainment

factors to customers in order to make them feel the pleasure (Childers et al., 2001).

In the literature, hedonic motivation has been studied as a determinant factor in mobile banking usage intention (Baptista and Oliveria, 2017; Alalwan et al., 2014; Püschel et al., 2010). Additionally, it is found out that customers are more engaged with a mobile service when they experience pleasure or excitement (Lee and Jun, 2005). On the other hand, a recent study shows that customers are 1.6 times more likely to purchase via mobile app compared to web browser (Criteo, 2015).

Considering user satisfaction, it is believed that mobile services provide customers an environment with a higher level of pleasure so that it results in an increased level of user satisfaction and higher purchase rate via mobile (Alnawas and Aburub, 2016). Furhermore, Kesari and Atulkar (2016) claimed that, hedonic value is considered as one of the most important factors influencing user satisfaction. Pura (2005) also suggests that, users' satisfaction while using a mobile technology increases when contexts are fun and enjoyable. Accordingly, hedonic motivation is added as a factor influencing mobile banking usage intention and user satisfaction:

H15: Hedonic motivation has a positive impact on mobile banking user satisfaction.

H16: Hedonic motivation has a positive impact on mobile banking usage intention.

3.10. HABIT

Frequency of past experiences is found to be the significant determinant that has an impact on people's future behavior (Venkatesh et al., 2012; Ajzen, 2002; Limayem et al., 2007). Habit has been an important factor in studies related to customer behavior (Ajzen and Fishbein, 2000). This perspective has taken its place by evolving into mobile banking in the study of Baptista and Oliveria (2017) where they claimed that habit has a positive impact on mobile banking adoption and usage intention. Similarly, Chiu et al. (2012) also proved that habit plays a significant role in usage intention. It is also claimed that the more the customers believe that mobile devices are beneficial, the more they are prone to using them frequently as a routine (Negahban and Chung, 2014).

On the other hand, Chen and Cheng stated that (2012), when an action turns into habit, people are prone to do it automatically regardless of there is another way of doing it or there is a need. Considering this belief, Lin and Lekhawipat (2014) claimed that habit has an important impact on user satisfaction. Furhermore, Anderson and Srinivasan (2003) indicated that when customers do not develop the habit of using a product or service, then the user satisfaction is expected to be weak. Additionally, Yi and La (2004) expressed that customer satisfaction is affected when the actions are turned into habit. Consequently, the following hypotheses are proposed:

H17: Habit has a positive impact on mobile banking user satisfaction.

H18: Habit has a positive impact on mobile banking usage intention.

3.11. TRUST

Trust has several definitions in the academic literature, for example, confidence that the other party will behave in the interest of customer (Crosby et al., 1990), expectation of regular, honest and cooperative behavior (Fukuyama, 1995), confidence about the behavior of another (Hart and Saunders, 1997) or honesty and benevolence (Kumar et al., 1995). In the context of mobile banking, it refers to the level of confidence that a customer has in the ability of service provider (Gefen et al., 2003).

The relationship between trust and mobile banking usage intention has been studied by many different researchers (Hanafizadeh et al., 2014; Zhou, 2012). It has empirically proven that, trust has a significant impact on mobile banking usage (Luo et al., 2010; Hanafizadeh et al., 2014; Zhou, 2011a). In addition, Kim et al. (2009) indicated that, since mobile banking is considered as riskier compared to ordinary banking, trust plays an important role in usage intention.

On the other hand, Garbarino and Johnson (1999) claimed that, trust may have an impact on user satisfaction. There are several studies indicating that, user satisfaction is found to be positively affected by trust (Venkatesh et al., 2011; Liebana Cabanillas et al., 2013). The impact of trust on mobile banking user satisfaction is also studied by Lee and Chung (2009). Consequently, it can be proposed that:

H19: Trust has a positive impact on mobile banking user satisfaction.

H20: Trust has a positive impact on mobile banking usage intention.

3.12.GAMIFICATION

Gamification is defined as the usage of gaming effects in a nongaming environment in order to increase engagement level of customers (Burke, 2012). Gamification uses self-esteem and fun elements to provide rewards or motivators to customers for an improved performance (Burke, 2012). It is believed that, the first aim of mobile applications or services is the entertainment (Kargin and Basoglu, 2006) so that when a mobile service brings about a high level of entertainment, then acceptance intention of customers would be stronger (Zhang et al., 2012). According to Hamari (2013), gamification is an important factor to convert utilitarian services into hedonically oriented ones.

Under this context, Baptista and Oliveria (2017) believed that applying gamification perspective in mobile banking services would have a powerful impact that affects adoption and usage intention. Additionally, Van der Heijden (2004) indicated that gamification plays a pivotal role in increasing usage intention. Burke (2012) also asserted that, inclusion of gamification elements into a nongame environment leads to a transformational impact on level of usage.

On the other hand, several application producers started to use gaming features and effects in mobile applications (Mettler et al.,2014). Another study also claims that, customers are aware of the enjoyment feeling while using those apps and they define this gamification factor with emotional satisfaction (Childs, 2015). Hung et al. (2015) suggests that gamification can produce user satisfaction. Furthermore, Financialbrand.com (2014) asserted that gamification helps to make banking activities more

interesting and enjoyable so that user satisfaction increases. Therefore, gamification factor is added to the proposed model:

H21: Gamification has a positive impact on mobile banking user satisfaction.

H22: Gamification has a positive impact on mobile banking usage intention.

3.13. USER SATISFACTION

Satisfaction can be defined as one's evaluation about a product or service considering overall experience (Oliver, 1980). In other words, it refers to a situation when an experience evokes a positive impact (Rust and Oliver, 1994). According to Kim et al. (2011), it can be defined as the evaluation of a product or service experience compared to expectations. Satisfaction is found to be an important factor influencing customer usage and repurchase intention (Chea and Luo, 2008). It is also claimed that, when customer are satisfied with a product or service, they are less likely to switch to another one (Szymanskli and Henard, 2001). This idea was empirically supported by Lee and Know (2011) that, satisfied customers are prone to using the service frequently compared to unsatisfied ones. Au et al. (2008) and Bokhari (2015) suggested that there is a significant positive relationship between usage intention and user satisfaction. Thus, it is claimed that a greater user satisfaction will lead to a higher level of usage intention (Tam and Oliveria, 2016)

Aside from influencing usage intention, user satisfaction also positively affects customers to voluntarily recommend the service or product to other people (Li and Liu, 2011). Throughout the literature, several studies claimed that satisfaction leads to a higher probability that customers will be effective promoters of the service or product (Dolen et al., 2007;

Bettencourt, 1997). In other words, satisfied customers are more likely to have a positive word of mouth intention about the service to others (Mooradian and Oliver, 1997). The effect of user satisfaction on usage intention and WOM intention is also noted by Kim and Son (2009). Based on these findings, it can be hypothesized that:

H23: User satisfaction has a positive impact on mobile banking usage intention.

H24: User satisfaction has a positive impact on WOM intention.

3.14.USAGE INTENTION

The effect of usage intention on WOM intention has been stated by several authors throughout the literature. Miltgen et al. (2013) stated that, customers are more likely to have a positive WOM intention about a new technology when their usage intention level is higher. Similarly, Li and Liu (2011) claimed that, customers with a high level of usage intention are motivated to keep using the technology and offer it to others. In other words, usage intention is found to be a significant factor that has an influence on customers' willingness to offer a positive WOM intention (Li and Liu, 2011; Choi, 2009). Therefore, it can be hypothesized that:

H25: Usage intention has a positive impact on WOM intention.

CHAPTER FOUR
RESEARCH DESIGN AND METHODOLOGY

This chapter includes the research design and methodology applied in this study. At first, research objective is explained followed by research design. Then operationalization of variables is presented. Questionnaire development and design is discussed in detailed followed by questionnaire administration and data collection. In the final section sampling and data analysis method are introduced.

4.1. RESEARCH OBJECTIVE

The main objective of this study is to investigate empirically the potential key factors affecting mobile banking usage intention and mobile banking user satisfaction. Then, the effect of mobile banking user satisfaction on mobile banking usage intention is investigated, followed by both of their effects on WOM intention. Determining the factors affecting the use of mobile banking will benefit both the cost reduction and digitization of the banks in the environment where the financial sector digitalizes. The increase in the satisfaction of mobile banking customers, on the other hand, will increase the chance of offering a positive WOM about the service to their social environment and it will result in an increase in the number of mobile banking users. In the proposed model, the effect of each potential key driver on user satisfaction and usage intention are separately hypothesized. As previously explained, another important objective of this study is to synthesize the factors affecting usage intention and user satisfaction along with their indirect effect on WOM intention.

4.2. RESEARCH DESIGN

This study is called as descriptive since the relationship between key drivers and usage intention and user satisfaction is tried to be determined along with their effects on WOM intention. In order to provide a snapshot of this relationship at a single point in time, a cross-sectional design is applied. Furthermore, a survey research is chosen because of the advantages of providing data from high number of participants easily, ability to apply collected data to structural equation modeling and opportunity to use measures from earlier literature (Kerlinger and Lee, 2000). Another advantage of using a survey technique is being able to enhance the results of the study from managerial perspectives (Swaminathan et al., 2001).

4.3. OPERATIONALIZATION OF VARIABLES

When the literature is reviewed, it is seen that single-item scales are criticized because of their low reliability (Churchill, 1979). Additionally, Cook et al. (1981) recommends that for a statistical approach minimum as few as three items per construct should be used. Thus, in this study, a multi-item scale is preferred. The variables of proposed model are measured according to participants' self-perception. All of the variables are measured through five-point Likert type scale (strongly disagree, disagree, neither agree nor disagree, disagree and strongly disagree), excluding demographic questions in the survey. Thus, the respondents are asked to rate how strongly they agree or disagree with each statement.

All the variables and measurement items are taken from previous studies in related fields in order to build on prior literature. In order to select the measurement items, several criteria are employed. At first, in order to have

a proper measurement, scales that may have a problem with unidimensionality are eliminated (Hattie, 1985). Secondly, short and simple scales are preferred for a better understanding and reliability (Churchill, 1979).

In this section, each of the variables and measures will be covered in detail along the previous works on which each scale is based.

4.3.1. System Quality

In order to measure the effect of system quality, respondents are asked to rate how strongly they agree or disagree with each item considering the mobile banking service that they have been using most frequently. A five-item scale and a five-point Likert scale by Tam and Oliveria (2016) have been applied where 1="strongly disagree" and 5="strongly agree". These items are provided in Table 4.1.

Table 4.1. Operationalization of System Quality

Statement	Source
M-banking is easy to navigate.	Tam and Oliveria (2016)
M-banking allows me to easily find the information I am looking for.	Tam and Oliveria (2016)
M-banking is well structured.	Tam and Oliveria (2016)
M-banking is easy to use.	Tam and Oliveria (2016)
M-banking offers appropriate functionality.	Tam and Oliveria (2016)

4.3.2. Information Quality

In order to measure the effect of information quality, respondents are asked to rate how strongly they agree or disagree with each item considering the mobile banking service that they have been using most frequently. A six-item scale and a five-point Likert scale by Tam and

Oliveria (2016) have been applied where 1="strongly disagree" and 5="strongly agree". These items are provided in Table 4.2.

Table 4.2. Operationalization of Information Quality

Statement	Source
The information provided by m-banking is useful.	Tam and Oliveria (2016)
The information provided by m-banking is understandable.	Tam and Oliveria (2016)
The information provided by m-banking is interesting.	Tam and Oliveria (2016)
The information provided by m-banking is reliable.	Tam and Oliveria (2016)
The information provided by m-banking is complete.	Tam and Oliveria (2016)
The information provided by m-banking is up-to-date.	Tam and Oliveria (2016)

4.3.3. Service Quality

In order to measure the effect of service quality, respondents are asked to rate how strongly they agree or disagree with each item considering the mobile banking service that they have been using most frequently. A four-item scale and a five-point Likert scale by Tam and Oliveria (2016) have been applied where 1="strongly disagree" and 5="strongly agree". These items are provided in Table 4.3.

Table 4.3. Operationalization of Service Quality

Statement	Source
The responsible service personnel are always highly willing to help whenever I need support with the m-banking.	Tam and Oliveria (2016)
The responsible service personnel provide personal attention when I experience problems with the m-banking.	Tam and Oliveria (2016)
The responsible service personnel provide services related to the m-banking at the promised time.	Tam and Oliveria (2016)
The responsible service personnel have sufficient knowledge to answer my questions with respect to the m-banking.	Tam and Oliveria (2016)

4.3.4. Performance Expectancy

In order to measure the effect of performance expectancy, respondents are asked to rate how strongly they agree or disagree with each item considering the mobile banking service that they have been using most frequently. A four-item scale and a five-point Likert scale by Baptista and Oliveria (2017) have been applied where 1="strongly disagree" and 5="strongly agree". These items are provided in Table 4.4.

Table 4.4. Operationalization of Performance Expectancy

Statement	Source
I find mobile banking services useful in my daily life.	Baptista and Oliveria (2017)
Using mobile banking services increases my productivity.	Baptista and Oliveria (2017)
Using mobile banking services helps me accomplish things more quickly.	Baptista and Oliveria (2017)
Using mobile banking services increases my chances of achieving things that are important to me.	Baptista and Oliveria (2017)

4.3.5. Effort Expectancy

In order to measure the effect of effort expectancy, respondents are asked to rate how strongly they agree or disagree with each item considering the mobile banking service that they have been using most frequently. A four-item scale and a five-point Likert scale by Baptista and Oliveria (2017) have been applied where 1="strongly disagree" and 5="strongly agree". These items are provided in Table 4.5.

Table 4.5. Operationalization of Effort Expectancy

Statement	Source
Learning how to use mobile banking services is easy for me.	Baptista and Oliveria (2017)
My interaction with mobile banking services is clear and understandable.	Baptista and Oliveria (2017)
I find mobile banking services easy to use.	Baptista and Oliveria (2017)
It is easy for me to become skillful at using mobile banking services.	Baptista and Oliveria (2017)

4.3.6. Social Influence

In order to measure the effect of social influence, respondents are asked to rate how strongly they agree or disagree with each item considering the mobile banking service that they have been using most frequently. A three-item scale and a five-point Likert scale by Baptista and Oliveria (2017) have been applied where 1="strongly disagree" and 5="strongly agree". These items are provided in Table 4.6.

Table 4.6. Operationalization of Social Influence

Statement	Source
People who are important to me think that I should use mobile banking services.	Baptista and Oliveria (2017)
People who influence my behavior think that I should use mobile banking services.	Baptista and Oliveria (2017)
Mobile banking services use is a status symbol in my environment.	Baptista and Oliveria (2017)

4.3.7. Facilitating Conditions

In order to measure the effect of facilitating conditions, respondents are asked to rate how strongly they agree or disagree with each item considering the mobile banking service that they have been using most frequently. A four-item scale and a five-point Likert scale by Baptista and Oliveria (2017) have been applied where 1="strongly disagree" and 5="strongly agree". These items are provided in Table 4.7.

Table 4.7. Operationalization of Facilitating Conditions

Statement	Source
I have the resources necessary to use mobile banking services.	Baptista and Oliveria (2017)
I have the knowledge necessary to use mobile banking services.	Baptista and Oliveria (2017)
Mobile banking is compatible with other technologies I use.	Baptista and Oliveria (2017)
I can get help from others when I have difficulties using mobile banking services.	Baptista and Oliveria (2017)

4.3.8. Hedonic Motivation

In order to measure the effect of hedonic motivation, respondents are asked to rate how strongly they agree or disagree with each item considering the mobile banking service that they have been using most frequently. A three-item scale and a five-point Likert scale by Baptista and Oliveria (2017) have been applied where 1="strongly disagree" and 5="strongly agree". These items are provided in Table 4.8.

Table 4.8. Operationalization of Hedonic Motivation

Statement	Source
Using mobile banking services is fun.	Baptista and Oliveria (2017)
Using mobile banking services is enjoyable.	Baptista and Oliveria (2017)
Using mobile banking services is entertaining.	Baptista and Oliveria (2017)

4.3.9. Habit

In order to measure the effect of habit, respondents are asked to rate how strongly they agree or disagree with each item considering the mobile banking service that they have been using most frequently. A four-item scale and a five-point Likert scale by Baptista and Oliveria (2017) have been applied where 1="strongly disagree" and 5="strongly agree". These items are provided in Table 4.9.

Table 4.9. Operationalization of Habit

Statement	Source
The use of mobile banking services has become a habit for me.	Baptista and Oliveria (2017)
I am addicted to using mobile banking services.	Baptista and Oliveria (2017)
I must use mobile banking services.	Baptista and Oliveria (2017)
Using mobile banking has become natural to me.	Baptista and Oliveria (2017)

4.3.10. Trust

In order to measure the effect of trust, respondents are asked to rate how strongly they agree or disagree with each item considering the mobile banking service that they have been using most frequently. A six-item scale and a five-point Likert scale by Alalwan et al. (2017) have been applied where 1="strongly disagree" and 5="strongly agree". These items are provided in Table 4.10.

Table 4.10. Operationalization of Trust

Statement	Source
I believe that Mobile banking is trustworthy.	Alalwan et al. (2017)
I trust in mobile banking.	Alalwan et al. (2017)
I do not doubt the honesty of Mobile banking.	Alalwan et al. (2017)
I feel assured that legal and technological structures adequately protect me from problems on Mobile banking.	Alalwan et al. (2017)
Even if not monitored, I would trust Mobile banking to do the job right.	Alalwan et al. (2017)
Mobile banking has the ability to fulfill its task.	Alalwan et al. (2017)

4.3.11. Gamification

In order to measure the effect of gamification, respondents are asked to rate how strongly they agree or disagree with each item considering the mobile banking service that they have been using most frequently. A three-item scale and a five-point Likert scale by Baptista and Oliveria (2017) have been applied where 1="strongly disagree" and 5="strongly agree". These items are provided in Table 4.11.

Table 4.11. Operationalization of Gamification

Statement	Source
If mobile banking was more fun/enjoyable I probably use it more often.	Baptista and Oliveria (2017)
If using mobile banking would give me points, rewards and prizes (better interest rates, lower transactional rates […]), I probably use it more often.	Baptista and Oliveria (2017)
If mobile banking were more fun/enjoyable I probably advise others to use it.	Baptista and Oliveria (2017)

4.3.12. User Satisfaction

In order to measure the effect of user satisfaction, respondents are asked to rate how strongly they agree or disagree with each item considering the mobile banking service that they have been using most frequently. A four-item scale and a five-point Likert scale by Susanto et al. (2016) have been applied where 1="strongly disagree" and 5="strongly agree". These items are provided in Table 4.12.

Table 4.12. Operationalization of User Satisfaction

Statement	Source
My choice to use smart phone banking was a wise one.	Susanto et al. (2016)
My experience with using smart phone banking was satisfactory.	Susanto et al. (2016)
I think I did the right thing by deciding to use smart phone banking.	Susanto et al. (2016)
Overall, I was satisfied with the use of smart phone banking.	Susanto et al. (2016)

4.3.13. Usage Intention

In order to measure the effect of usage intention, respondents are asked to rate how strongly they agree or disagree with each item considering the mobile banking service that they have been using most frequently. A four-item scale and a five-point Likert scale by Alalwan et al. (2017) have been applied where 1="strongly disagree" and 5="strongly agree". These items are provided in Table 4.13.

Table 4.13. Operationalization of Usage Intention

Statement	Source
I intend to continue using mobile banking in the future.	Alalwan et al. (2017)
I will always try to use mobile banking in my daily life.	Alalwan et al. (2017)
I plan to use mobile banking in future.	Alalwan et al. (2017)
I predict I would use Mobile banking in the future.	Alalwan et al. (2017)

4.3.14. Word-of-Mouth (WOM) Intention

In order to measure WOM intention, respondents are asked to rate how strongly they agree or disagree with each item considering the mobile banking service that they have been using most frequently. A three-item

scale and a five-point Likert scale by Zhou (2011b) have been applied where 1="strongly disagree" and 5="strongly agree". These items are provided in Table 4.14.

Table 4.14. Operationalization of WOM Intention

Statement	Source
I intend to recommend this mobile service to other users.	Zhou (2011b)
I have positive comments on this mobile service.	Zhou (2011b)
I plan to inspire my friends to use this mobile service.	Zhou (2011b)

4.4.QUESTIONNAIRE DEVELOPMENT AND DESIGN

For this study, firstly the literature was searched, the necessary information was tried to be obtained and a questionnaire form was formed. The questionnaire used in this study is a structured one, meaning that a standard form of questions is applied to all participants which consists of close-ended and fixed-alternative questions, with the exception of some open-ended questions when the participants do not choose one of the fixed alternatives.

The questionnaire involves three sections and sixty nine questions in total, where, six introduction questions to understand the respondent's perception about mobile banking services (usage in the last month, frequency of use per month, monthly duration of use per month, purpose of usage, name of the banks whose mobile banking services are being used, name of the banks whose mobile banking services are preferred most), sixty one questions related to key drivers affecting mobile banking usage intention, user satisfaction and WOM, lastly six demographic questions (gender, marital status, age, education level, working status,

income level) to understand the demographic profile of the respondents. Respondents are not allowed to skip a question or leave it unanswered in order to prevent missing data throughout the questionnaire.

Since the study is carried out in Turkey, the questionnaire was first formed in English and then translated into Turkish by two people. These two translations were compared in order to ensure equivalence. The final version of the questionnaire in English is provided in Appendix B and the Turkish version is provided in Appendix C.

4.5. QUESTIONNAIRE ADMINISTRATION AND DATA COLLECTION

This study is carried out on the basis of the results obtained from the answers given to the questionnaire prepared. The questionnaire form is prepared on a famous survey website and the link is shared via social media accounts, e-mail and other texting applications.

At the beginning of the questionnaire, it is indicated that the answers they provide will only be used within the scope of this academic study and will not be shared with any other person, institution or organization. Participants are provided with an e-mail address to ask their possible questions or clarify anything about the questionnaire. Other general instructions are introduced in the beginning and they are repeated though out the questionnaire several times. The completion of questionnaire took approximately 10 minutes and when all the questions are answered, respondents are thanked for their participation. The data were collected in three weeks.

4.6. SAMPLING

For the correct and healthy answers to the questions on the questionnaire it is noted in the beginning that respondents should have used mobile banking services at least once in the past month. Additionally, in this study respondents from real customers are covered. A convenience sampling method is employed thus, questionnaire is prepared on online platforms where respondents with an eligible access to internet are targeted.

When the literature is reviewed for the proper sample size, several approaches and various recommendations are found. For instance, Maxwell (2000) claims that sample size should be larger to achieve a useful prediction. Cook et al. (1981) suggests that larger sample sizes are more appropriate in the case of non-normality. Furthermore, McQuitty (2004) indicates that larger sample sizes lead to a better power in the analyses. Additionally, Jackson (2003) recommends a twenty to one ratio of sample size for estimation of parameters. Considering these recommendations, a sample size of at least four hundred is considered as appropriate in this study.

Out of the 476 participants who started to answer the survey, 422 of them completed the questionnaire by answering all the questions whereas 54 of them responded that they have not used mobile banking services in the last month. Out of the 422 successful responses, there are no questionnaires with missing values so all are retained for data analyses.

4.7.DATA ANALYSIS METHOD

The statistical analysis methods used in this study are descriptive analyses, factor analyses, reliability analyses, correlation analyses and regression analyses. Descriptive analyses are applied in order to describe the demographic profile of respondents along with their mobile banking usage preference. Factor analyses and reliability analyses were used to find the factors and to understand whether the data is reliable or not. Furthermore, correlation analyses are applied to reveal the correlations between dependent and independent variables. Finally, regression analyses are used to find out the explanatory power of independent variables on dependent variables. The data is analyzed using 20.0 version of SPSS (Statistical Package for Social Sciences) computer program. At first, questionnaire responds are exported to Excel, then transferred to SPSS 20.0 to be analyzed.

CHAPTER FIVE
DATA ANALYSES AND RESULTS

In this chapter, data collected via the survey is analyzed and results are explained in detail. It begins with the mobile banking usage intention of respondents, and then followed by demographic profile of them. Then the results of factor analyses of each item are presented. In the final section, the results of correlation analyses and regression analyses are explained.

5.1. MOBILE BANKING USAGE

Data related to mobile banking usage of respondents can be seen in Table 5.1.

Table 5.1. Mobile Banking Usage of the Respondents

Mobile Banking Usage	**Frequency**	**Sample %**
Have you ever used mobile banking services in the last month?		
Yes	422	88.7%
No	54	11.3%
How many times have you used mobile banking services in the last month?		
1	80	19.0%
2	114	27.0%
3	90	21.3%
4	74	17.5%
5	32	7.6%
6	32	7.6%
How many hours did you use mobile banking services in the last month?		
1	310	73.5%
2	94	22.3%
3	11	2.6%

4	3	0.7%
5	4	0.9%
For what purposes have you been using mobile banking services at most? (You may choose more than one)		
Money transfer	374	88.6%
Monitoring current situation (account balance, credit card limit etc)	324	76.8%
Payments (utility bills, tax, credit card, loan etc)	317	75.1%
Investment	105	24.9%
Loan application	44	10.4%
Credit card application	22	5.2%
Tracking campaigns	83	19.7%
Other	9	2.1%
Which banks' mobile banking services have you been using? (You may choose more than one)		
Akbank	81	19.2%
Denizbank	17	4.0%
Finansbank	99	23.5%
Garanti Bankası	315	74.6%
Halkbank	8	1.9%
HSBC	13	3.1%
ING	19	4.5%
İş Bankası	92	21.8%
Odebank	4	0.9%
Şekerbank	4	0.9%
TEB	40	9.5%
Vakıfbank	14	3.3%
Yapı Kredi	82	19.4%
Ziraat Bankası	45	10.7%
Other	14	3.3%
Which bank do you prefer for mobile banking services at most? (Please choose only one)		
Akbank	20	4.7%
Denizbank	5	1.2%
Finansbank	24	5.7%
Garanti Bankası	250	59.2%

Halkbank	6	1.4%
HSBC	2	0.5%
ING	4	0.9%
İş Bankası	33	7.8%
Odebank	0	0.0%
Şekerbank	2	0.5%
TEB	13	3.1%
Vakıfbank	0	0.0%
Yapı Kredi	35	8.3%
Ziraat Bankası	20	4.7%
Other	8	1.9%

476 respondents participated in the survey and 54 of them claimed that they didn't use mobile banking service in the last month. Therefore 54 people are eliminated from the data set and continued with remaining 422 people who has been used mobile banking services at least once in the last month.

Of the 422 survey respondents, 19% of them have used mobile banking service only once in the last month, 27% have used twice, 21.3% have used three times, 17.5% have used four times, 7.6% have used five times and 7.6% have used six times.

In terms of duration of use, 73.5% of respondents have used mobile banking service for one hour, 22.3% for two hours, 2.6% for three hours, 0.7% for four hours and 0.9% for five hours.

When it comes to the determination of mobile banking usage purpose, participants are allowed to select more than one purpose. Moreover, respondents are also presented an open-ended answer when they select the "other purpose" option. Whenever the "other" option is chosen, answering the open-ended question was compulsory. Out of purpose selections, money transfer is found to be the first purpose of the respondents with

88.6%, and then it is followed by monitoring current situation with 76.8%, and the third purpose was payments with 75.1%, then investment with 24.9%, it is followed by campaign tracking with 19.7%, then loan application with 10.4%, seventh purpose was credit card application with 5.2% and the final purpose was “other” with 2.1%. 9 respondents chose the “other option” and 2 of them answered as opening an account, 1 of them answered as changing accounts visibility on internet environment, 2 of them answered as money withdrawal, 2 of them answered as taking screenshots for my job and 2 of them answered invalid.

Afterwards, participants are asked to answer which banks’ mobile banking services they have been using and allowed to select more than one bank. Additionally, respondents are allowed to choose the “other” option and whenever this option is chosen, the open ended was compulsory. Since the questionnaire was held in Turkey, only Turkish Banks were provided in the list, however, respondents were able to choose “other” option. Garanti Bank’s mobile banking service took the first place with 74.6%, then it is followed by Finansbank with 21.8%, then İş Bankası with 21.8%, then Yapı Kredi with 19.4%, then Akbank with 19.2%, then Ziraat Bankası with 10.7%, then TEB with 9.5%, then ING with 4.5%, then Denizbank with 4.0%, then Vakıfbank with 3.3%, then other with 3.3%, then HSBC with 3.1%, then Halbank with 1.9%, then Odeabank and Şekerbank with 0.9% each. Out of 14 “other” answers, 9 of them was Enpara (the digital banking service of Finansbank), 3 of them was Kuveyt Türk and 2 of them was Bank of America.

Respondents are then asked to choose the bank whose mobile banking service they have been using at most. Out of 422 respondents, 59.2% of them choose Garanti Bank’s mobile banking service, it is followed by Yapı Kredi with 8.3%, then İş Bankası with 7.8%, then Finansbank with 5.7%, then Akbank and Ziraat Bankası by 4.7% each, then TEB with

3.1%, then other with 1.9%, then Halkbank with 1.4%, then Denizbank with 1.2% then ING with 0.9%, then HSBC and Şekerbank with 0.5% each. Odeabank and Vakıfbank were not chosen by any of respondents. Out of 8 other options, 6 of them chose Enpara and 2 of them chose Kuveyt Türk.

5.2. DEMOGRAPHIC PROFILE

Demographic profile of consumers participating in the study can be seen in Table 5.2.

Table 5.2. Demographic Profile of the Respondents

Characteristics	**Frequency**	**Sample %**
Gender		
Female	214	50.7%
Male	208	49.3%
Age (in years)		
Less than 18	0	0.0%
18-25	67	15.9%
26-33	201	47.6%
34-41	98	23.2%
42-49	36	8.5%
50 and over	20	4.7%
Marital Status		
Married	182	43.1%
Single	240	56.9%
Education Level		
Literate	0	0.0%
Primary School	2	0.5%
Secondary School	10	2.4%
High school	34	8.1%
University	225	53.3%
Master	138	32.7%
Doctorate	13	3.1%
Working Status		
Public sector	43	10.2%

Private sector	287	68.0%
Own business	35	8.3%
Unemployed / looking for job	9	2.1%
Housewife	8	1.9%
Retired	16	3.8%
Student	24	5.7%
Not working for old aged or disability	0	0.0%
Other	0	0.0%
Personal Monthly Income		
less than 2000 TRY	48	11.4%
2000-3999 TRY	96	22.7%
4000-5999 TRY	83	19.7%
6000-7999 TRY	93	22.0%
8000-9999 TRY	59	14.0%
More than 10000 TRY	43	10.2%

Out of 422 mobile banking users, 50.7% of them are females and 49.3% are males. The age of respondents varies from eighteen years to more than fifty years, where 15.9% were between eighteen and twenty five years old, 47.6% were between twenty six and thirty three years old, 23.2% were between thirty four and forty one years old, 8.5% were between forty two and forty nine years old and 4.7% were fifty years old and above.

In terms of marital status, 43.1% of respondents were married whereas 56.9% of them were single. Education level differs from primary school to doctorate degree where 0.5% were primary school, 2.4% were secondary school, 8.1% were high school, 53.3% were university, 32.7% were master's degree and 3.1% were doctorate degree.

Respondents were also asked about their working status and whenever they cannot find a proper answer on the list, they are allowed to choose the "other" option and answer and open-ended question. Out of 422 respondents, 10.2% were working at public sector, 68.0% of them were at private sector, 8.3% were running their own business, 2.1% were

unemployed or looking for a job, 1.9% were housewives, 3.8% were retired, 5.7% were student. None of the participants choose the answers “not working for old aged or disability” and “other”.

When it comes to respondents’ personal monthly income, it varies from less than 2000 TRY and more than 10000 TRY where 11.4% has less than 2000 TRY, 22.7% between 2000 TRY and 3999 TRY, 19.7% between 4000 TRY and 5999 TRY, 22.0% between 6000 TRY and 7999 TRY, 14.0% between 8000 TRY and 9999 TRY and 10.2% 10000 TRY and above.

5.3. FACTOR ANALYSES

The factor analyses are applied in order to find out the variable sets which are highly interrelated which in other words are called as factors (Hair et al., 2010). In general, factor analyses are conducted to find out whether the same constructs derived in the earlier studies can be derived with different data set or to examine the relationship between content categories and empirically derived constructs (Hair et al., 2010). Before beginning to factor analyses, sampling adequacy is measured to see whether the data is appropriate for applying factor analysis or not (Durmuş et al., 2011).

The results of Keiser- Meyer-Olkin (KMO) and Bartlett’s test are used in order to understand whether the data is appropriate or not. KMO result shows that the data used in the analysis is a homogenous collection of variables. The lower limit of KMO is claimed to be 0.50 in general (Hair et al., 2010). The upper limit for Bartlett’s test is generally agreed to be 0.05 and shows the statistical significance of the inter-correlation between variables (Hair et al., 2010).

According to Hair et al. (2010) unidimensionality is defined as the existence of a single construct explaining a set of items. It is claimed that unidimensionality is important when the proposed model consists of more than two constructs (Hair et al., 2010). To ensure unidimensionality, Hattie (1985) recommends that items with factor loadings should be at least 0.50. When the unidimensionality is ensured, reliability analyses are examined. According to Netemeyer et al. (2003), the most widely used measure for reliability is Cronbach's alpha. Even though there is not a universal standard about the limits of Cronbach's alpha, Nunnally and Bernstein (1994) recommends that it should be at least 0.70.

In this study, the results of KMO and Bartlett's tests are found to be satisfactory and results of factor analyses and reliability analyses are provided in the following sections.

5.3.1. Factor and Reliability Analyses for System Quality

KMO and Bartlett tests results were satisfactory with KMO = 0.891, χ^2 Bartlett test = 2081.391 and p = 0.000.

Table 5.3. KMO and Bartlett's Test Results for System Quality

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.891
Bartlett's Test of Sphericity	Approx. Chi-Square	2081.391
	df	10
	Sig.	0.000

The diagonals of the anti-image correlation matrix were all over 0.50 supporting the inclusion of each item in the factor analysis. Then principal component analysis and varimax rotation to the data sets were employed. In order to test the internal consistency, reliability analysis is applied and Cronbach's alpha is estimated as 0.948. Consequently, the factor analyses

results for system quality is provided in Table 5.4 where total variance explained is found to be 82.921%.

Table 5.4. Factor Analyses Results for System Quality

Factor Item	Factor Loading	% Variance	Reliability (Cronbach's alpha)
SYSQ5	0.931		
SYSQ4	0.920		
SYSQ2	0.908	82.921	0.948
SYSQ1	0.906		
SYSQ3	0.888		

5.3.2. Factor and Reliability Analyses for Information Quality

KMO and Bartlett tests results were satisfactory with KMO = 0.792, χ^2 Bartlett test = 1775.762 and p = 0.000.

Table 5.5. KMO and Bartlett's Test Results for Information Quality

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.792
Bartlett's Test of Sphericity	Approx. Chi-Square	1775.762
	df	15
	Sig.	0.000

The diagonals of the anti-image correlation matrix were all over 0.50 however, fourth item could not pass component analysis and varimax rotation tests, so it is removed. The rotated component matrix in which INFQ4 removed in provided in Table 5.6.

Table 5.6. Rotated Component Matrix for Information Quality

	Component	
	1	2
INFQ1	0.943	0.137
INFQ2	0.924	0.198
INFQ3	0.706	0.32
INFQ4	0.643	0.639
INFQ6	0.065	0.919
INFQ5	0.375	0.767

Afterwards, in order to test the internal consistency, reliability analysis is applied and Cronbach's alpha is estimated. As a result of that INFQ6 is removed since Cronbach's alpha was 0.830 and when INFQ6 is deleted it would be 0.849. The results of item total statistics are provided in Table 5.7.

Table 5.7. Item Total Statistics for Information Quality

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha If Item Deleted
INFQ1	15.5521	5.835	0.720	0.769
INFQ2	15.5498	5.743	0.750	0.760
INFQ3	16.0711	5.539	0.650	0.793
INFQ5	15.5687	6.336	0.628	0.797
INFQ6	15.1445	7.217	0.411	0.849

Consequently, the factor analyses results for information quality is provided in Table 5.8 where total variance explained is found to be 69.563% and Cronbach's alpha is estimated as 0.849.

Table 5.8. Factor Analyses Results for Information Quality

Factor Item	Factor Loading	% Variance	Reliability (Cronbach's alpha)
INFQ2	0.910	69.563	0.849
INFQ1	0.899		
INFQ3	0.812		
INFQ5	0.699		

5.3.3. Factor and Reliability Analyses for Service Quality

KMO and Bartlett tests results were satisfactory with KMO = 0.779, χ^2 Bartlett test = 1019.151 and p = 0.000.

Table 5.9. KMO and Bartlett's Test Results for Service Quality

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.779
Bartlett's Test of Sphericity	Approx. Chi-Square	1019.151
	df	6
	Sig.	0.000

The diagonals of the anti-image correlation matrix were all over 0.50 supporting the inclusion of each item in the factor analysis. Then principal component analysis and varimax rotation to the data sets were employed. In order to test the internal consistency, reliability analysis is applied and Cronbach's alpha is estimated as 0.872. Consequently, the factor analyses results for service quality is provided in Table 5.10 where total variance explained is found to be 72.767%.

Table 5.10. Factor Analyses Results for Service Quality

Factor Item	Factor Loading	% Variance	Reliability (Cronbach's alpha)
SERQ2	0.937	72.767	0.872
SERQ1	0.901		
SERQ3	0.844		
SERQ4	0.714		

5.3.4. Factor and Reliability Analyses for Performance Expectancy

KMO and Bartlett tests results were satisfactory with KMO = 0.776, χ^2 Bartlett test = 905.490 and p = 0.000.

Table 5.11. KMO and Bartlett's Test Results for Performance Expectancy

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.776
Bartlett's Test of Sphericity	Approx. Chi-Square	905.490
	df	6
	Sig.	0.000

The diagonals of the anti-image correlation matrix were all over 0.50 supporting the inclusion of each item in the factor analysis. Then principal component analysis and varimax rotation to the data sets were employed. In order to test the internal consistency, reliability analysis is applied and Cronbach's alpha is estimated as 0.855. Consequently, the factor analyses results for performance expectancy is provided in Table 5.12 where total variance explained is found to be 71.367%.

Table 5.12. Factor Analyses Results for Performance Expectancy

Factor Item	Factor Loading	% Variance	Reliability (Cronbach's alpha)
PEQ3	0.903	71.367	0.855
PEQ2	0.898		
PEQ1	0.832		
PEQ4	0.735		

5.3.5. Factor and Reliability Analyses for Effort Expectancy

KMO and Bartlett tests results were satisfactory with KMO = 0.861, χ^2 Bartlett test = 1658.870 and p = 0.000.

Table 5.13. KMO and Bartlett's Test Results for Effort Expectancy

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.861
absBartlett's Test of Sphericity	Approx. Chi-Square	1658.870
	df	6
	Sig.	0.000

The diagonals of the anti-image correlation matrix were all over 0.50 supporting the inclusion of each item in the factor analysis. Then principal component analysis and varimax rotation to the data sets were employed. In order to test the internal consistency, reliability analysis is applied and Cronbach's alpha is estimated as 0.948. Consequently, the factor analyses results for effort expectancy is provided in Table 5.14 where total variance explained is found to be 86.416%.

Table 5.14. Factor Analyses Results for Effort Expectancy

Factor Item	Factor Loading	% Variance	Reliability (Cronbach's alpha)
EEQ1	0.946	86.416	0.948
EEQ4	0.929		
EEQ2	0.924		
EEQ3	0.919		

5.3.6. Factor and Reliability Analyses for Social Influence

KMO and Bartlett tests results were satisfactory with KMO = 0.578, χ^2 Bartlett test = 720.983 and p = 0.000.

Table 5.15. KMO and Bartlett's Test Results for Social Influence

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.578
Bartlett's Test of Sphericity	Approx. Chi-Square	720.983
	df	3
	Sig.	0.000

The diagonals of the anti-image correlation matrix were all over 0.50 supporting the inclusion of each item in the factor analysis. Then principal component analysis and varimax rotation to the data sets were employed. Afterwards, in order to test the internal consistency, reliability analysis is applied and Cronbach's alpha is estimated. As a result of that SIQ3 is removed since Cronbach's alpha was 0.7714 and when SIQ3 is deleted it would be 0.939. The results of item total statistics are provided in Table 5.16.

Table 5.16. Item Total Statistics for Social Influence

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha If Item Deleted
SIQ1	6.3578	3.138	0.712	0.580
SIQ2	6.4502	3.032	0.759	0.528
SIQ3	7.1114	3.406	0.403	0.939

Consequently, the factor analyses results for social influence is provided in Table 5.17 where total variance explained is found to be 94.255% and Cronbach's alpha is estimated as 0.939.

Table 5.17. Factor Analyses Results for Social Influence

Factor Item	Factor Loading	% Variance	Reliability (Cronbach's alpha)
SIQ2	0.971	94.255	0.939
SIQ1	0.971		

5.3.7. Factor and Reliability Analyses for Facilitating Conditions

KMO and Bartlett tests results were satisfactory with KMO = 0.749, χ^2 Bartlett test = 921.279 and p = 0.000.

Table 5.18. KMO and Bartlett's Test Results for Facilitating Conditions

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.749
Bartlett's Test of Sphericity	Approx. Chi-Square	921.279
	df	6
	Sig.	0.000

The diagonals of the anti-image correlation matrix were all over 0.50 however FCQ4 item could not pass component analysis and varimax

rotation tests, so it is removed. The component matrix in which FCQ4 removed in provided in Table 5.19.

Table 5.19. Component Matrix for Facilitating Conditions

	Component
	1
FCQ2	0.925
FCQ3	0.907
FCQ1	0.900
FCQ4	0.425

In order to test the internal consistency, reliability analysis is applied and Cronbach's alpha is estimated as 0.911. Consequently, the factor analyses results for facilitating conditions is provided in Table 5.20 where total variance explained is found to be 84.917%.

Table 5.20. Factor Analyses Results for Facilitating Conditions

Factor Item	Factor Loading	% Variance	Reliability (Cronbach's alpha)
FCQ2	0.942	84.917	0.911
FCQ1	0.912		
FCQ3	0.910		

5.3.8. Factor and Reliability Analyses for Hedonic Motivation

KMO and Bartlett tests results were satisfactory with KMO = 0.740, χ^2 Bartlett test = 1306.606 and p = 0.000.

Table 5.21. KMO and Bartlett's Test Results for Hedonic Motivation

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.740
Bartlett's Test of Sphericity	Approx. Chi-Square	1306.606
	df	3
	Sig.	0.000

The diagonals of the anti-image correlation matrix were all over 0.50 supporting the inclusion of each item in the factor analysis. Then principal component analysis and varimax rotation to the data sets were employed. Afterwards, in order to test the internal consistency, reliability analysis is applied and Cronbach's alpha is estimated as 0.948. Consequently, the factor analyses results for hedonic motivation is provided in Table 5.22 where total variance explained is found to be 90.707%.

Table 5.22. Factor Analyses Results for Hedonic Motivation

Factor Item	Factor Loading	% Variance	Reliability (Cronbach's alpha)
HMQ2	0.970	90.707	0.948
HMQ1	0.952		
HMQ3	0.935		

5.3.9. Factor and Reliability Analyses for Habit

KMO and Bartlett tests results were satisfactory with KMO = 0.676, χ^2 Bartlett test = 548.322 and p = 0.000.

Table 5.23. KMO and Bartlett's Test Results for Habit

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.676
Bartlett's Test of Sphericity	Approx. Chi-Square	548.322
	df	6
	Sig.	0.000

The diagonals of the anti-image correlation matrix were all over 0.50 supporting the inclusion of each item in the factor analysis. Then principal component analysis and varimax rotation to the data sets were employed. Afterwards, in order to test the internal consistency, reliability analysis is applied and Cronbach's alpha is estimated as 0.764. Consequently, the factor analyses results for habit is provided in Table 5.24 where total variance explained is found to be 60.680%.

Table 5.24. Factor Analyses Results for Habit

Factor Item	Factor Loading	% Variance	Reliability (Cronbach's alpha)
HBTQ2	0.841	60.680	0.764
HBTQ4	0.810		
HBTQ1	0.789		
HBTQ3	0.666		

5.3.10. Factor and Reliability Analyses for Trust

KMO and Bartlett tests results were satisfactory with KMO = 0.874, χ^2 Bartlett test = 1891.525 and p = 0.000.

Table 5.25. KMO and Bartlett's Test Results for Trust

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.874
Bartlett's Test of Sphericity	Approx. Chi-Square	1891.525
	df	15
	Sig.	0.000

The diagonals of the anti-image correlation matrix were all over 0.50 supporting the inclusion of each item in the factor analysis. Then principal component analysis and varimax rotation to the data sets were employed. Afterwards, in order to test the internal consistency, reliability analysis is applied and Cronbach's alpha is estimated as 0.892. Consequently, the factor analyses results for trust is provided in Table 5.26 where total variance explained is found to be 68.823%.

Table 5.26. Factor Analyses Results for Trust

Factor Item	Factor Loading	% Variance	Reliability (Cronbach's alpha)
TRQ2	0.913	68.823	0.892
TRQ3	0.894		
TRQ1	0.892		
TRQ6	0.826		
TRQ4	0.811		
TRQ5	0.601		

5.3.11. Factor and Reliability Analyses for Gamification

KMO and Bartlett tests results were satisfactory with KMO = 0.609, χ^2 Bartlett test = 316.824 and p = 0.000.

Table 5.27. KMO and Bartlett's Test Results for Gamification

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.609
Bartlett's Test of Sphericity	Approx. Chi-Square	316.824
	df	3
	Sig.	0.000

The diagonals of the anti-image correlation matrix were all over 0.50 supporting the inclusion of each item in the factor analysis. Then principal component analysis and varimax rotation to the data sets were employed. Afterwards, in order to test the internal consistency, reliability analysis is applied and Cronbach's alpha is estimated as 0.736. Consequently, the factor analyses results for gamification is provided in Table 5.28 where total variance explained is found to be 65.690%.

Table 5.28. Factor Analyses Results for Gamification

Factor Item	Factor Loading	% Variance	Reliability (Cronbach's alpha)
GMQ1	0.888	65.690	0.736
GMQ3	0.773		
GMQ2	0.764		

5.3.12. Factor and Reliability Analyses for User Satisfaction

KMO and Bartlett tests results were satisfactory with KMO = 0.689, χ^2 Bartlett test = 1314.869 and p = 0.000.

Table 5.29. KMO and Bartlett's Test Results for User Satisfaction

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.689
Bartlett's Test of Sphericity	Approx. Chi-Square	1314.869
	df	6
	Sig.	0.000

The diagonals of the anti-image correlation matrix were all over 0.50 supporting the inclusion of each item in the factor analysis. Then principal component analysis and varimax rotation to the data sets were employed. Afterwards, in order to test the internal consistency, reliability analysis is applied and Cronbach's alpha is estimated as 0.885. Consequently, the factor analyses results for user satisfaction is provided in Table 5.30 where total variance explained is found to be 74.773%.

Table 5.30. Factor Analyses Results for User Satisfaction

Factor Item	Factor Loading	% Variance	Reliability (Cronbach's alpha)
SATQ4	0.893	74.773	0.885
SATQ3	0.887		
SATQ2	0.856		
SATQ1	0.822		

5.3.13. Factor and Reliability Analyses for Usage Intention

KMO and Bartlett tests results were satisfactory with KMO = 0.770, χ^2 Bartlett test = 1386.612 and p = 0.000.

Table 5.31. KMO and Bartlett's Test Results for Usage Intention

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.770
Bartlett's Test of Sphericity	Approx. Chi-Square	1386.612
	df	6
	Sig.	0.000

The diagonals of the anti-image correlation matrix were all over 0.50 supporting the inclusion of each item in the factor analysis. Then principal component analysis and varimax rotation to the data sets were employed. Afterwards, in order to test the internal consistency, reliability analysis is applied and Cronbach's alpha is estimated as 0.894. Consequently, the factor analyses results for usage intention is provided in Table 5.32 where total variance explained is found to be 78.114%.

Table 5.32. Factor Analyses Results for Usage Intention

Factor Item	Factor Loading	% Variance	Reliability (Cronbach's alpha)
USEQ3	0.944	78.114	0.894
USEQ4	0.919		
USEQ1	0.917		
USEQ2	0.740		

5.3.14. Factor and Reliability Analyses for WOM Intention

KMO and Bartlett tests results were satisfactory with KMO = 0.583, χ^2 Bartlett test = 293.671 and p = 0.000.

Table 5.33. KMO and Bartlett's Test Results for WOM Intention

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.583
Bartlett's Test of Sphericity	Approx. Chi-Square	293.671
	Df	3
	Sig.	0.000

The diagonals of the anti-image correlation matrix were all over 0.50 supporting the inclusion of each item in the factor analysis. Then principal component analysis and varimax rotation to the data sets were employed. Afterwards, in order to test the internal consistency, reliability analysis is applied and Cronbach's alpha is estimated as 0.665.

When the literature is reviewed, it is seen that to ensure the reliability, Cronbach's alpha should be minimum 0.70 (Hair et al., 2010). However, it is also claimed that the threshold value of Cronbach's alpha is dependent on the number of items (Loewenthal, 2004) and the values near 0.60 can be accepted when the factor has only few items (Hair et al., 2010). Furthermore Bacon (2004) indicates that as long as the sample size is large, Cronbach's alpha below 0.70 can be accepted. Thus, in this study the value of Cronbach's alpha for WOM intention which is 0.665 is accepted.

Consequently, the factor analyses results for WOM intention is provided in Table 5.34 where total variance explained is found to be 63.903%.

Table 5.34. Factor Analyses Results for WOM Intention

Factor Item	Factor Loading	% Variance	Reliability (Cronbach's alpha)
WOMQ2	0.889	63.903	0.665
WOMQ1	0.771		
WOMQ3	0.730		

5.4. CORRELATION ANALYSES

Correlation test is performed on the independent constructs in order to ensure whether there is a relationship between them or not. In the academic literature, it has been accepted that correlation between constructs should not exceed 0.85 when the constructs have discriminant validity (Kline, 2005). However, according to Hair et al. (2010), correlations higher than 0.85 can be accepted when their distinction is supported by different analysis or theories. Pearson correlation results can be seen in the Table 5.35.

Table 5.35. Correlation Analysis Results

	SAT	PE	EE	SI	FC	HM	HBT	GM	TR	SYS	INF	SER
SAT	1											
PE	.536**	1										
EE	.529**	.789**	1									
SI	.295**	.336**	.273**	1								
FC	.546**	.647**	.692**	.313**	1							
HM	.534**	.531**	.502**	.346**	.474**	1						
HBT	.541**	.408**	.431**	.328**	.396**	.454**	1					
GM	.251**	.161**	.115*	.190**	.189**	.214**	.318**	1				
TR	.629**	.444**	.516**	.282**	.534**	.533**	.541**	.147**	1			
SYS	.684**	.538**	.632**	.271**	.628**	.576**	.537**	.235**	.743**	1		
INF	.627**	.460**	.504**	.335**	.460**	.514**	.557**	.229**	.660**	.702**	1	
SER	.460**	.364**	.292**	.417**	.285**	.469**	.392**	.190**	.531**	.402**	.482**	1

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

*. Correlation is significant at the 0.05 level (2-tailed).

As seen on Table 5.35, the relationship between performance expectancy and effort expectancy with r = 0.789 found statistically significant. Additionally, there was also a significant relationship between system quality and information quality with r = 0.702. The relationship between system quality and trust, on the other hand, was positive with r = 0.743.

A strong correlation between independent variables, in other words multicollinearity, is something to be eliminated for the success of analysis. According to Kalaycı (2010) when the correlation between independent variables is below 0.80 then the multicollinearity can be avoided. However, r values which are close to 0.80 need further consideration in order to ensure the discriminant validity of constructs. Therefore, before elimination of constructs, variance inflation factor (VIF) results are checked to assess multicollinearity. According to Mason and Perreault (1991) when the VIF value of a variable is above 10, then a multicollinearity problem is expected.

5.5. REGRESSION ANALYSES

Regression analyses are performed with the aim of finding the effect of independent variables on dependent variables. In this study linear regression analyses with stepwise method are performed in order to test hypotheses proposed in the conceptual model. The results of these analyses are explained in the following sections.

5.5.1. Multiple Regression Analysis for Key Drivers and User Satisfaction

Using satisfaction of mobile banking users as the dependent variable and all the other key factors as the independent variables, a multiple regression analysis is run and both VIF and tolerance values are examined.

Coefficient of determination, in other words R squared, value can be found under model summary results in Table 5.36. R squared is used to show to what extent dependent variable is explained by independent variables. R squared increases with the high number of independent variables, therefore in that case Kalaycı (2010) advises to consider adjusted R squared. In this model 56.6% of the user satisfaction, in other words dependent variables, is explained by independent variables.

In order to test whether there is an autocorrelation. Durbin Watson coefficient is used. Durbin Watson value can be between 0 and 4 where "0" representing positive autocorrelation and "4" representing no autocorrelation among the variables. In general, Durbin Watson value is expected to be between 1.5 and 2.5 (Kalaycı, 2010). In this model DW coefficient is found to be 1.811 meaning there is no autocorrelation. The last row of Table 5.36 should be examined, since stepwise regression method is applied.

Table 5.36. Model Summary of Regression Analysis Between Key Drivers and User Satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
1	.684[a]	.468	.466	.40027	
2	.714[b]	.510	.508	.38443	
3	.735[c]	.540	.537	.37298	
4	.746[d]	.557	.552	.36661	
5	.753[e]	.567	.562	.36257	
6	.757[f]	.572	.566	.36082	1.811

a. Predictors: (Constant). SYS

b. Predictors: (Constant). SYS. INF

c. Predictors: (Constant). SYS. INF. PE

d. Predictors: (Constant). SYS. INF. PE. HBT

e. Predictors: (Constant). SYS. INF. PE. HBT. SER

f. Predictors: (Constant). SYS. INF. PE. HBT. SER. FC

Analysis of variance, in other words ANOVA, results can be found in Table 5.37. ANOVA is applied in order to test whether the model is significant or not (Kalaycı, 2010). The overall explanatory power of model is found to be 56.6% (R=0.757, R^2=0.566, F=92.620, p=0.000)

Table 5.37. Anova Results of Regression Analysis Between Key Drivers and User Satisfaction

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.087	1	59.087	368.786	.000[b]
	Residual	67.292	420	.160		
	Total	126.379	421			
2	Regression	64.457	2	32.228	218.074	.000[c]
	Residual	61.922	419	.148		
	Total	126.379	421			
3	Regression	68.228	3	22.743	163.478	.000[d]
	Residual	58.151	418	.139		
	Total	126.379	421			
4	Regression	70.333	4	17.583	130.824	.000[e]
	Residual	56.046	417	.134		
	Total	126.379	421			
5	Regression	71.694	5	14.339	109.076	.000[f]
	Residual	54.686	416	.131		
	Total	126.379	421			
6	Regression	72.350	6	12.058	92.620	.000[g]
	Residual	54.029	415	.130		
	Total	126.379	421			

a. Dependent Variable: SAT

b. Predictors: (Constant). SYS

c. Predictors: (Constant). SYS. INF

d. Predictors: (Constant). SYS. INF. PE

e. Predictors: (Constant). SYS. INF. PE. HBT

f. Predictors: (Constant). SYS. INF. PE. HBT. SER

g. Predictors: (Constant). SYS. INF. PE. HBT. SER. FC

Coefficents can be found in the Table 5.38. In this table, B value shows the tendency of variables whereas Beta value is used to show the importance of each independent variable on dependent variable (Kalaycı, 2010). Impact of independent variable on dependent variable is expected to be higher when the beta value is higher (Kalaycı, 2010). T value, on the other hand, shows the significance of each variable where a significance level below 0.05 is found to be statistically significant (Kalaycı, 2010). As explained earlier. VIF values are used in order to ensure about multicollinearity problem.

The VIF values for this regression model range between 1.377 and 2.677 and the tolerance values range between 0.374 and 0.726. Since there is no VIF value exceeding 10 and the tolerance values are greater than 0.10. it can be concluded that collinearity among variables are within considerable range.

In this model system quality with β = 0.309, information quality with β = 0.166, habit with β = 0.142, service quality with β = 0.126, performance expectancy with β = 0.122 and facilitating conditions with β = 0.105 are found to be statistically significant (sig values below 0.05) on user satisfaction.

Table 5.38. Coefficients of Regression Analysis Between Key Drivers and User Satisfaction

Model		Unstandardized Coefficients		Std. Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.826	.138		13.222	.000		
	SYS	.638	.033	.684	19.204	.000	1.000	1.000
2	(Constant)	1.712	.134		12.782	.000		

	SYS	.448	.045	.480	10.003	.000	.507	1.973
	INF	.236	.039	.290	6.028	.000	.507	1.973
	(Constant)	1.364	.146		9.337	.000		
3	SYS	.367	.046	.393	7.927	.000	.448	2.230
	INF	.209	.038	.256	5.441	.000	.497	2.011
	PE	.176	.034	.207	5.207	.000	.697	1.434
	(Constant)	1.300	.145		8.992	.000		
	SYS	.331	.046	.355	7.153	.000	.432	2.316
4	INF	.165	.039	.202	4.189	.000	.458	2.186
	PE	.158	.033	.186	4.717	.000	.685	1.460
	HBT	.119	.030	.162	3.957	.000	.636	1.573
	(Constant)	1.216	.145		8.371	.000		
	SYS	.329	.046	.352	7.177	.000	.432	2.317
	INF	.133	.040	.163	3.313	.001	.430	2.327
5	PE	.143	.033	.168	4.270	.000	.671	1.490
	HBT	.106	.030	.145	3.544	.000	.625	1.600
	SER	.090	.028	.122	3.217	.001	.728	1.374
	(Constant)	1.175	.146		8.059	.000		
	SYS	.288	.049	.309	5.885	.000	.374	2.677
	INF	.135	.040	.166	3.389	.001	.429	2.328
6	PE	.103	.038	.122	2.745	.006	.525	1.905
	HBT	.104	.030	.142	3.495	.001	.624	1.602
	SER	.093	.028	.126	3.334	.001	.726	1.377
	FC	.083	.037	.105	2.245	.025	.470	2.128

Considering the proposed hypotheses, it can be expressed that H1, H3, H5, H7, H13 and H17 are supported according to these results. System quality, for example, is found to be the most important factor with a positive effect on mobile banking user satisfaction. The second most positively influential factor on user satisfaction is information quality which is followed by habit as the third most important factor. According to the regression analyses, the fourth most important factor affecting user satisfaction is service quality followed by performance expectancy. Finally, the last influential factor is facilitating conditions. All these factors are found to be positively influential on mobile banking user satisfaction.

5.5.2. Multiple Regression Analysis for Key Drivers and Usage Intention

Taking usage intention of mobile banking users as the dependent variable and all the other key factors as the independent variables, a multiple regression analysis is run and both VIF and tolerance values are examined.

Coefficient of determination, in other words R squared, value can be found under model summary results in Table 5.38. In this model 45.0% of the usage intention, in other words dependent variables, is explained by independent variables. In this model DW coefficient is found to be 1.918 meaning there is no autocorrelation. The last row of Table 5.39 should be examined, since stepwise regression method is applied.

Table 5.39. Model Summary of Regression Analysis Between Key Drivers and Usage Intention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
1	.585[a]	.342	.340	.46538	
2	.643[b]	.414	.411	.43971	
3	.667[c]	.444	.440	.42867	
4	.675[d]	.455	.450	.42492	1.918

a. Predictors: (Constant). SYS

b. Predictors: (Constant). SYS. HBT

c. Predictors: (Constant). SYS. HBT. PE

d. Predictors: (Constant). SYS. HBT. PE. SER

Analysis of variance, in other words ANOVA, results can be found in Table 5.39. The overall explanatory power of model is found to be 45.0% ($R=0.675$, $R^2=0.450$, $F=87.168$, $p=0.000$)

Table 5.40. Anova Results of Regression Analysis Between Key Drivers and Usage Intention

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47.284	1	47.284	218.325	.000[b]
	Residual	90.961	420	.217		
	Total	138.245	421			
2	Regression	57.234	2	28.617	148.010	.000[c]
	Residual	81.011	419	.193		
	Total	138.245	421			
3	Regression	61.435	3	20.478	111.445	.000[d]
	Residual	76.809	418	.184		
	Total	138.245	421			
4	Regression	62.954	4	15.739	87.168	.000[e]
	Residual	75.291	417	.181		
	Total	138.245	421			

a. Dependent Variable: USE

b. Predictors: (Constant). SYS

c. Predictors: (Constant). SYS. HBT

d. Predictors: (Constant). SYS. HBT. PE

e. Predictors: (Constant). SYS. HBT. PE. SER

The VIF values for this regression model range between 1.291 and 1.744 and the tolerance values range between 0.573 and 0.775. Since there is no VIF value exceeding 10 and the tolerance values are greater than 0.10, it can be concluded that collinearity among variables are within considerable range.

In this model system quality with β = 0.297, habit with β = 0.257, performance expectancy with β = 0.189 and service quality with β = 0.119 are found to be statistically significant (sig values below 0.05) on usage intention.

Table 5.41. Coefficients of Regression Analysis Between Key Drivers and Usage Intention

Model		Unstandardized Coefficients		Std. Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.155	.161		13.421	.000		
	SYS	.571	.039	.585	14.776	.000	1.000	1.000
2	(Constant)	1.904	.156		12.226	.000		
	SYS	.404	.043	.414	9.335	.000	.711	1.406
	HBT	.244	.034	.318	7.174	.000	.711	1.406
3	(Constant)	1.548	.169		9.164	.000		
	SYS	.312	.046	.320	6.741	.000	.590	1.696
	HBT	.217	.034	.283	6.450	.000	.691	1.447
	PE	.186	.039	.210	4.782	.000	.691	1.448
4	(Constant)	1.460	.170		8.573	.000		
	SYS	.290	.047	.297	6.225	.000	.573	1.744
	HBT	.197	.034	.257	5.785	.000	.663	1.508
	PE	.168	.039	.189	4.302	.000	.673	1.485
	SER	.092	.032	.119	2.900	.004	.775	1.291

a. Dependent Variable: USE

Considering the proposed hypotheses, it can be expressed that H2, H6, H8 and H18 are supported according to these results. System quality, for example, is found to be the most important factor with a positive effect on mobile banking usage intention. The second most positively influential factor on usage intention is habit which is followed by performance expectancy. According to the regression analyses the last factor affecting usage intention is service quality. All these factors are found to be positively influential on mobile banking usage intention.

5.5.3. Simple Regression Analysis for User Satisfaction and Usage Intention

Taking usage intention of mobile banking users as the dependent variable and user satisfaction as the independent variable, a simple regression analysis is run and both VIF and tolerance values are examined.

Coefficient of determination, in other words R squared, value can be found under model summary results in Table 5.42. In this model 69.0% of the usage intention, in other words dependent variable, is explained by user satisfaction. In this model DW coefficient is found to be 1.876 meaning there is no autocorrelation.

Table 5.42. Model Summary of Regression Analysis Between User Satisfaction and Usage Intention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
1	.831[a]	.690	.690	.31926	1.876

a. Predictors: (Constant). SAT

Analysis of variance, in other words ANOVA, results can be found in Table 5.43. The overall explanatory power of model is found to be 69.0% ($R=0.831$, $R^2=0.690$, $F=936.317$, $p=0.000$)

Table 5.43. Anova Results of Regression Analysis Between User Satisfaction and Usage Intention

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	95.436	1	95.436	936.317	.000[b]
	Residual	42.809	420	.102		
	Total	138.245	421			

a. Dependent Variable: USE

b. Predictors: (Constant). SAT

The VIF value and tolerance value are equal to 1.00. Since VIF is below 10 and tolerance is above 0.10 it can be concluded that collinearity among variables are within considerable range.

In this model user satisfaction with $\beta = 0.831$ is found to be statistically significant (sig value below 0.05) on usage intention.

Table 5.44. Coefficients of Regression Analysis Between User Satisfaction and Usage Intention

Model		Unstandardized Coefficients		Std. Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.635	.127		4.988	.000		
	SAT	.869	.028	.831	30.599	.000	1.000	1.000

a. Dependent Variable: USE

Considering the proposed hypothesis, it can be expressed that H23 is supported according to these results. User satisfaction is found to be the most important factor with a positive effect on mobile banking usage intention.

5.5.4. Multiple Regression Analysis for User Satisfaction, Usage Intention and WOM Intention

Taking WOM intention as the dependent variable and user satisfaction and usage intention as the independent variables, a multiple regression analysis is run and both VIF and tolerance values are examined.

Coefficient of determination, in other words R squared value, is provided under model summary results in Table 5.45. In this model 44.0% of the WOM intention, in other words dependent variable, is explained by only user satisfaction. In this model, DW coefficient is found to be 1.783 meaning there is no autocorrelation.

Table 5.45. Model Summary of Regression Analysis Between User Satisfaction, Usage Intention and WOM Intention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
1	.665[a]	.442	.440	.51647	1.783

a. Predictors: (Constant). SAT

b. Dependent Variable: REC

Analysis of variance, in other words ANOVA, results can be found in Table 5.46. The overall explanatory power of model is found to be 44.0% ($R=0.665$, $R^2=0.440$, $F=332.191$, $p=0.000$)

Table 5.46. Anova Results of Regression Analysis Between User Satisfaction, Usage Intention and WOM Intention

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	88.609	1	88.609	332.191	.000[b]
	Residual	112.031	420	.267		
	Total	200.641	421			

a. Dependent Variable: REC

b. Predictors: (Constant). SAT

The VIF value and tolerance value are equal to 1.00. Since VIF is below 10 and tolerance is above 0.10 it can be concluded that collinearity among variables are within considerable range.

In this model user satisfaction with $\beta = 0.665$ is found to be statistically significant (sig value below 0.05) on WOM intention.

Table 5.47. Coefficients of Regression Analysis Between User Satisfaction, Usage Intention and WOM Intention

Model		Unstandardized Coefficients		Std. Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.236	.206		1.143	.254		
	SAT	.837	.046	.665	18.226	.000	1.000	1.000

a. Dependent Variable: REC

Considering the proposed hypotheses, it can be expressed that H24 is supported according to these results. User satisfaction is found to be the positively influential on WOM intention with $\beta = 0.665$. On the other hand, the effect of usage intention on WOM intention is not supported. Consequently, all the proposed hypotheses and data analyses results are provided in Table 5.48.

Table 5.48. Test Results of the Hypotheses

Hypotheses	Results
H1: System quality has a positive impact on mobile banking user satisfaction.	Supported
H2: System quality has a positive impact on mobile banking usage intention.	Supported
H3: Information quality has a positive impact on mobile banking user satisfaction.	Supported
H4: Information quality has a positive impact on mobile banking usage intention.	Not Supported

H5: Service quality has a positive impact on mobile banking user satisfaction.	Supported
H6: Service quality has a positive impact on mobile banking usage intention.	Supported
H7: Performance expectancy has a positive impact on mobile banking user satisfaction.	Supported
H8: Performance expectancy has a positive impact on mobile banking usage intention.	Supported
H9: Effort expectancy has a positive impact on mobile banking user satisfaction.	Not Supported
H10: Effort expectancy has a positive impact on mobile banking usage intention.	Not Supported
H11: Social influence has a positive impact on mobile banking user satisfaction.	Not Supported
H12: Social influence has a positive impact on mobile banking usage intention.	Not Supported
H13: Facilitating conditions have a positive impact on mobile banking user satisfaction.	Supported
H14: Facilitating conditions have a positive impact on mobile banking usage intention.	Not Supported
H15: Hedonic motivation has a positive impact on mobile banking user satisfaction.	Not Supported
H16: Hedonic motivation has a positive impact on mobile banking usage intention.	Not Supported
H17: Habit has a positive impact on mobile banking user satisfaction.	Supported
H18: Habit has a positive impact on mobile banking usage intention.	Supported
H19: Trust has a positive impact on mobile banking user satisfaction.	Not Supported
H20: Trust has a positive impact on mobile banking usage intention.	Not Supported
H21: Gamification has a positive impact on mobile banking user satisfaction.	Not Supported
H22: Gamification has a positive impact on mobile banking usage intention.	Not Supported
H23: User satisfaction has a positive impact on mobile banking usage intention.	Supported
H24: User satisfaction has a positive impact on WOM intention.	Supported
H25: Usage intention has a positive impact on WOM intention.	Not Supported

CHAPTER SIX
DISCUSSION AND CONCLUSION

In the last chapter, the findings and managerial implications are presented in detail. It begins with the discussion of the findings and followed by theoretical implications and managerial implications. Finally, the limitations of this study as well as suggestions for future research areas are provided.

6.1. DISCUSSION

The main purpose of this study is to determine factors affecting mobile banking usage intention and user satisfaction along with the investigating the effect of user satisfaction and usage intention on WOM intention. The significance of this study is to synthesize different approaches and including other significant determinants to the proposed model to evaluate their effects together. The findings of this study show that some factors are found to be influential on mobile banking usage intention whereas some other factors are found to be influential on mobile banking user satisfaction. Furthermore, factors affecting WOM intention also discussed in the study.

The results support that, system quality is the most significant factor that has a positive impact on mobile banking user satisfaction. In line with earlier research (Hollmann et al., 2013; Tam and Oliveria, 2016; Tseng, 2015) the significant effect of system quality on user satisfaction is empirically proven. Information quality, on the other hand, is found to be second most important influential factor on mobile banking user satisfaction. When the earlier studies are (Tam and Oliveria, 2016; Lin,

2007; Lin and Lee, 2006) reviewed, information quality is found to be significant on user satisfaction. According to the findings, the third most important factor on satisfaction is discovered as habit which supports the study of Lin and Lekhawipat (2014).

Service quality is found to be the fourth significant factor. In line with the earlier studies (Hollmann et al., 2013; Tam and Oliveria, 2016; Tseng, 2015) the impact of service quality on user satisfaction is positive. On the contrary of Tseng's findings (2015) but in line with others (Chea and Luo, 2008; Budiardjo et al., 2017; (Bhattacherjee, 2001), performance expectancy is found to be influential on user satisfaction. Finally, facilitating conditions is the last most important factor in line with Sebetci and Çetin (2016). The effect of other potential constructs on user satisfaction, namely effort expectancy, social influence, hedonic motivation, trust, and gamification are not supported. The model explains 56.6% of the variation in mobile banking user satisfaction.

When it comes to mobile banking usage intention, the effect of system quality is found to be the most significant supporting earlier research (Urbach et al., 2010; Tam and Oliveria, 2016; Tseng, 2015). The second important influential factor is habit according to the findings which is in line with other studies (Baptista and Oliveria, 2017; Luo et al., 2010; Zhou et al., 2010). Furthermore, performance expectancy impact on usage intention is confirmed being the third important factor where the same result is empirically proven by earlier research (Oliveira et al., 2014; Zhou et al., 2010; Baptista and Oliveria, 2017). Service quality, on the other hand, also found to be significant on mobile banking usage intention supporting previous studies (Urbach et. al., 2010; Tam and Oliveria, 2016). The effect of other potential constructs on usage intention, namely information quality, effort expectancy, social influence, facilitating

conditions, hedonic motivation, trust, and gamification are not supported. The overall explanatory power of the model is found to be 45.0%.

Considering the relationship between user satisfaction and usage intention, usage intention is explained by user satisfaction with the explanatory power of 69.0% supporting earlier studies (Tam and Oliveria, 2016; Chang, 2013; Tseng, 2015). Lastly, WOM intention is only explained by user satisfaction with explanatory power of 44.0% in line with other research (Tam and Oliveria, 2016; Chea and Luo, 2008; Budiardjo et al., 2017). The effect of usage intention on WOM is not supported in this study on the contrary of several studies (Budiardjo et al., 2017; Oliveria et al., 2016) but in line with others (Shaikh and Karjaluoto, 2016).

6.2. THEORETICAL IMPLICATIONS

The findings of this study introduce some theoretical implications to the existing academic literature. Firstly, it enriches to the mobile banking research by providing a synthesized perspective on mobile banking usage intention, user satisfaction and WOM intention. This synthesis is obtained by combining different approaches along with other individual constructs. The results show that user satisfaction and usage intention are mostly affected by same factors, namely system quality, habit, service quality and performance expectancy. User satisfaction is also found to be affected by facilitating conditions and information quality whereas usage intention is affected by user satisfaction.

Secondly, gamification impact is also included into the scope of this study to provide further insights to academic literature. However, gamification effect on both user satisfaction and usage intention are not supported according to the findings. Thus, this study contributes to the mobile banking literature that the effect of gamification may be lower when the

other potential factors are included, thus further research should be focused on combining gamification effect with different constructs.

Finally, along with the factors affecting user satisfaction and usage intention, this study also synthesized the relationship between user satisfaction, usage intention and WOM intention. The findings reveal that when these two factors measured together, it is seen that only user satisfaction is found to be positively influential on WOM intention, whereas the effect of usage intention is not supported.

6.3. MANAGERIAL IMPLICATIONS

This study includes important implications for managers at financial sector. First, it provides managers with a general picture of the mobile banking users belong with their demographic profile. Considering the profile of the respondents, it will be useful for companies to focus on the similar profile of their customers based on the results of this study. Thus, the results of this study will provide a reference for banks to review their mobile banking applications.

From a managerial perspective, it is useful to know the influence of each success factor on users' perception about mobile banking applications. The results show that, the most important factor affecting satisfaction level of mobile banking users is the system quality of mobile banking application. By system quality, it is meant that easiness of use and offering appropriate functionality in a well-structured application. Focusing on these attributes leads to an increase in user satisfaction. Therefore, companies are suggested to allocate their resources to increase system quality. Another important aspect which has a positive impact on user satisfaction is found to be the quality of information provided in the mobile banking application. Information quality refers to the understandability,

completeness, usefulness and interestingness of the information provided in the app. Managers are recommended to invest in increasing information quality. Furthermore, customers who think that using the mobile baking application is a habit and they must keep using it are found to be more satisfied. Thus, companies should focus on finding the possible actions that would turn the usage of mobile banking application into habit.

Service quality, on the other hand, is another significant factor affecting user satisfaction positively. In order to increase service quality, attitudes of the service personnel should be educated such that being highly willingness, keeping promises, providing personal attention and having sufficient knowledge is important for customers. Another important factor positively affecting user satisfaction is found to be performance expectancy which refers to the degree of customers' belief about mobile banking is useful, increases productivity, helps them to accomplish things more quickly and increases the chance of achieving tasks. The last significant factor influential on user satisfaction is facilitating conditions in which customers need necessary resources, knowledge and compatibility about the service. All these factors positively affect mobile banking user satisfaction. Therefore, it is suggested to companies to focus on these attributes for an increased level of user satisfaction.

Considering the factor positively affecting usage intention, the most significant one is found to be system quality. Similar to the influential factors affecting user satisfaction, when using mobile banking services become habit for customers, usage intention is expected to increase. According to data analyses the third important factor is performance expectancy, and it is followed by service quality. Thus, from a managerial point of view, it is recommended to concentrate on these factors to increase mobile banking usage intention. Additionally, it is also proven

that the increase in user satisfaction has a significant positive impact on usage intention so that companies should also focus on this aspect.

Finally, as it is stated in the beginning of this study, creating a positive word-of-mouth is crucial for companies to maintain their existence. Thus, factors affecting WOM intention is also important to be focused on. The results of this study show that, user satisfaction is found to be important on creating positive WOM intention. From a managerial perspective, increasing user satisfaction is a critical issue since it has an impact on both usage intention and WOM intention.

6.4. LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

While this study presents some managerial implications, the results should be evaluated considering several limitations. Firstly, this study is based on cross-sectional data therefore a longitudinal study may provide further information related to the subject and whether the proposed factors can be stabilized over time. Secondly, all the respondents are from Turkey where mobile banking penetration is quite high, therefore the results may vary when this study is applied in different countries or with different group of participants. Thus, for a future research suggestion, this study may be expanded focusing on different areas and populations. Another limitation is that participants are asked to answer questions considering their mostly used mobile banking application however each mobile banking application has its own unique features so that it may affect users' general perception about mobile banking services. It is advised to focus on each mobile banking application one by one in order to eliminate the effect of different applications.

In this study, possible factors affecting mobile banking usage intention and user satisfaction are mostly taken from some specific approaches such as D&M or UTAUT model so that all the potential factors are not included. Therefore, a future research may include different factors into the model which would lead to a different result. Due to limited time, the sample size consists of only 422 respondents, so that before generalizing the findings to the entire banking industry, repetition of this study with a larger group of people is advised. Consumers' perception towards mobile applications is easily influenced by the mobile device or internet connection being used which would manipulate the results related to mobile banking services. Thus, repetition of this study with a specific mobile device and stabilized internet connection would create different results.

In this study, the effect of respondents' perception about physical banking or other online banking channels (except mobile) is eliminated. However, there is a possibility that experiences at different banking channels may be influencing on mobile banking usage and user satisfaction. Therefore, in a future study this effect may be deeply understood. Another limitation is that this study does not include the thoughts of non-mobile banking users so that in order to generalize the effects influencing mobile banking usage, this group of people may be included into the research model as well. The demographic profile of the sample also shows that the largest segment of the respondents are young (47.6% aged between 26 and 33), well educated (89.1% had a bachelor degree and above) and working at private sector (68.0%). Therefore, generalization of the results to a different group of people with different demographic profile may not be applicable. It is also advised to include different moderators such as culture, residence area, gaming habit etc. to explore different results.

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APPENDICES

APPENDIX A: ABBREVIATIONS AND RESULTS

Constructs &Items	Statements	Results
System Quality (SYS)		
SYSQ1	M-banking is easy to navigate.	Retained
SYSQ2	M-banking allows me to easily find the information I am looking for.	Retained
SYSQ3	M-banking is well structured.	Retained
SYSQ4	M-banking is easy to use.	Retained
SYSQ5	M-banking offers appropriate functionality.	Retained
Information Quality (INF)		
INFQ1	The information provided by m-banking is useful.	Retained
INFQ2	The information provided by m-banking is understandable.	Eliminated
INFQ3	The information provided by m-banking is interesting.	Retained
INFQ4	The information provided by m-banking is reliable.	Retained
INFQ5	The information provided by m-banking is complete.	Retained
INFQ6	The information provided by m-banking is up-to-date.	Eliminated
Service Quality (SER)		
SERQ1	The responsible service personnel are always highly willing to help whenever I need support with the m-banking.	Retained
SERQ2	The responsible service personnel provide personal attention when I experience problems with the m-banking.	Retained

SERQ3	The responsible service personnel provide services related to the m-banking at the promised time.	Retained
SERQ4	The responsible service personnel have sufficient knowledge to answer my questions with respect to the m-banking.	Retained
Performance Expectancy (PE)		
PEQ1	I find mobile banking services useful in my daily life.	Retained
PEQ2	Using mobile banking services increases my productivity.	Retained
PEQ3	Using mobile banking services helps me accomplish things more quickly.	Retained
PEQ4	Using mobile banking services increases my chances of achieving things that are important to me.	Retained
Effort Expectancy (EE)		
EEQ1	Learning how to use mobile banking services is easy for me.	Retained
EEQ2	My interaction with mobile banking services is clear and understandable.	Retained
EEQ3	I find mobile banking services easy to use.	Retained
EEQ4	It is easy for me to become skillful at using mobile banking services.	Retained
Social Influence (SI)		
SIQ1	People who are important to me think that I should use mobile banking services.	Retained
SIQ2	People who influence my behavior think that I should use mobile banking services.	Retained
SIQ3	Mobile banking services use is a status symbol in my environment.	Eliminated
Facilitating Conditions (FC)		
FCQ1	I have the resources necessary to use mobile banking services.	Retained

FCQ2	I have the knowledge necessary to use mobile banking services.	Retained
FCQ3	Mobile banking is compatible with other technologies I use.	Retained
FCQ4	I can get help from others when I have difficulties using mobile banking services.	Eliminated
Hedonic Motivation (HM)		
HMQ1	Using mobile banking services is fun.	Retained
HMQ2	Using mobile banking services is enjoyable.	Retained
HMQ3	Using mobile banking services is entertaining.	Retained
Habit (HBT)		
HBTQ1	The use of mobile banking services has become a habit for me.	Retained
HBTQ2	I am addicted to using mobile banking services.	Retained
HBTQ3	I must use mobile banking services.	Retained
HBTQ4	Using mobile banking has become natural to me.	Retained
Trust (TR)		
TRQ1	I believe that Mobile banking is trustworthy.	Retained
TRQ2	I trust in mobile banking.	Retained
TRQ3	I do not doubt the honesty of Mobile banking.	Retained
TRQ4	I feel assured that legal and technological structures adequately protect me from problems on Mobile banking.	Retained
TRQ5	Even if not monitored, I would trust Mobile banking to do the job right.	Retained
TRQ6	Mobile banking has the ability to fulfill its task.	Retained
Gamification (GM)		
GMQ1	If mobile banking was more fun/enjoyable I probably use it more often.	Retained

GMQ2	If using mobile banking would give me points, rewards and prizes (better interest rates, lower transactional rates […]), I probably use it more often.	Retained
GMQ3	If mobile banking were more fun/enjoyable I probably advise others to use it.	Retained
User Satisfaction (SAT)		
SATQ1	My choice to use smart phone banking was a wise one.	Retained
SATQ2	My experience with using smart phone banking was satisfactory.	Retained
SATQ3	I think I did the right thing by deciding to use smart phone banking.	Retained
SATQ4	Overall, I was satisfied with the use of smart phone banking.	Retained
Usage Intention (USE)		
USEQ1	I intend to continue using mobile banking in the future.	Retained
USEQ2	I will always try to use mobile banking in my daily life.	Retained
USEQ3	I plan to use mobile banking in future.	Retained
USEQ4	I predict I would use Mobile banking in the future.	Retained
Word-of-Mouth Intention (WOM)		
WOMQ1	I intend to recommend this mobile service to other users.	Retained
WOMQ2	I have positive comments on this mobile service.	Retained
WOMQ3	I plan to inspire my friends to use this mobile service.	Retained

APPENDIX B: QUESTIONNARIE IN ENGLISH

MOBILE BANKING SURVEY – OCTOBER 2017

İstanbul Bilgi Üniversitesi LAUREATE INTERNATIONAL UNIVERSITIES	**Survey no**	
	Interviewer	
	Date	

Dear participant,

This questionnaire is a part of research conducted at Department of Management of İstanbul Bilgi University. You are asked to respond to the questions about mobile banking in this survey in order to contribute to a better outcome.

The answers that you will provide in this survey will be very important, therefore it is important that answer all of the questions. The information you provide will only be used within the scope of this academic study and will not be shared with any other person, institution or organization.

You can always contact to us about all of your questions related to survey and the points you want to clarify.

Thank you for your participation and contribution.

Merve Özecan

E-mail: merveozecan@gmail.com

Q1. Have you ever used mobile banking services in the last month?

1>Yes 2>No

Q2. How many times have you used mobile banking services in the last month?

1> 1-5 2> 6-10 3> 11-15

4> 16-20 5> 21-25 6> 26+

Q3. How many hours did you use mobile banking services in the last month?

1> 0-2 2> 3-5 3>6-8

4> 9-11 5> 12+

Q4. For what purposes have you been using mobile banking services at most? (You may choose more than one)

1> Money transfer
2> Monitoring current situation (account balance, credit card limit etc)
3> Payments (utility bills, tax, credit card, loan etc)
4> Investment
5> Loan application
6> Credit card application
7> Tracking campaigns
8> Other

Q5. Which banks' mobile banking services have you been using? (You may choose more than one)

1> Akbank
2> Denizbank
3> Finansbank
4> Garanti
5> Halkbank
6> HSBC
7> ING

8> İş Bankası
9> Odebank
10> Şekerbank
11> TEB
12> Vakıfbank
13> Yapı Kredi
14> Ziraat
15> Diğer

Q6. Which bank do you prefer for mobile banking services at most? (Please choose only one)

1> Akbank
2> Denizbank
3> Finansbank
4> Garanti
5> Halkbank
6> HSBC
7> ING
8> İş Bankası
9> Odebank
10> Şekerbank
11> TEB
12> Vakıfbank
13> Yapı Kredi
14> Ziraat
15> Diğer

Please answer the following questions, taking into account the application of the bank you are using most mobile banking services.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Q7. I find mobile banking services useful in my daily life.	1	2	3	4	5
Q8. Using mobile banking services increases my productivity.	1	2	3	4	5
Q9. Using mobile banking services helps me accomplish things more quickly.	1	2	3	4	5
Q10. Using mobile banking services increases my chances of achieving things that are important to me.	1	2	3	4	5
Q11. Learning how to use mobile banking services is easy for me.	1	2	3	4	5
Q12. My interaction with mobile banking services is clear and understandable.	1	2	3	4	5
Q13. I find mobile banking services easy to use.	1	2	3	4	5
Q14. It is easy for me to become skillful at using mobile banking services.	1	2	3	4	5
Q15. People who are important to me think that I should use mobile banking services.	1	2	3	4	5
Q16. People who influence my behavior think that I should use mobile banking services.	1	2	3	4	5
Q17. Mobile banking services use is a status symbol in my environment.	1	2	3	4	5
Q18. I have the resources necessary to use mobile banking services.	1	2	3	4	5

Q19. I have the knowledge necessary to use mobile banking services.	1	2	3	4	5
Q20. Mobile banking is compatible with other technologies I use.	1	2	3	4	5
Q21. I can get help from others when I have difficulties using mobile banking services.	1	2	3	4	5
Q22. Using mobile banking services is fun.	1	2	3	4	5
Q23. Using mobile banking services is enjoyable.	1	2	3	4	5
Q24. Using mobile banking services is entertaining.	1	2	3	4	5
Q25. The use of mobile banking services has become a habit for me.	1	2	3	4	5
Q26. I am addicted to using mobile banking services.	1	2	3	4	5
Q27. I must use mobile banking services.	1	2	3	4	5
Q28. Using mobile banking has become natural to me.	1	2	3	4	5
Q29. If mobile banking was more fun/enjoyable I probably use it more often.	1	2	3	4	5
Q30. If using mobile banking would give me points, rewards and prizes (better interest rates, lower transactional rates […]), I probably use it more often.	1	2	3	4	5
Q31. If mobile banking were more fun/ enjoyable I probably advise others to use it.	1	2	3	4	5
Q32. I believe that Mobile banking is trustworthy.	1	2	3	4	5
Q33. I trust in mobile banking.	1	2	3	4	5
Q34. I do not doubt the honesty of Mobile	1	2	3	4	5

banking.

Q35. I feel assured that legal and technological structures adequately protect me from problems on Mobile banking.	1	2	3	4	5
Q36. Even if not monitored, I would trust mobile banking to do the job right.	1	2	3	4	5
Q37. Mobile banking has the ability to fulfill its task.	1	2	3	4	5
Q38. M-banking is easy to navigate.	1	2	3	4	5
Q39. M- banking allows me to easily find the information I am looking for.	1	2	3	4	5
Q40. M-banking is well structured.	1	2	3	4	5
Q41. M-banking is easy to use.	1	2	3	4	5
Q42. M-banking offers appropriate functionality.	1	2	3	4	5
Q43. The information provided by m-banking is useful.	1	2	3	4	5
Q44. The information provided by m-banking is understandable.	1	2	3	4	5
Q45. The information provided by m-banking is interesting.	1	2	3	4	5
Q46. The information provided by m-banking is reliable.	1	2	3	4	5
Q47. The information provided by m-banking is complete.	1	2	3	4	5
Q48. The information provided by m-banking is up-to-date.	1	2	3	4	5
Q49. The responsible service personnel are always highly willing to help whenever I need support with the m-banking.	1	2	3	4	5
Q50. The responsible service personnel					

provide personal attention when I experience problems with the m-banking.	1	2	3	4	5
Q51. The responsible service personnel provide services related to the m-banking at the promised time.	1	2	3	4	5
Q52. The responsible service personnel have sufficient knowledge to answer my questions with respect to the m-banking.	1	2	3	4	5
Q53. My choice to use smartphone banking was a wise one.	1	2	3	4	5
Q54. My experience with using smartphone banking was satisfactory.	1	2	3	4	5
Q55. I think I did the right thing by deciding to use smartphone banking.	1	2	3	4	5
Q56. Overall, I was satisfied with the use of smartphone banking.	1	2	3	4	5
Q57. I intend to continue using mobile banking in the future.	1	2	3	4	5
Q58. I will always try to use mobile banking in my daily life.	1	2	3	4	5
Q59. I plan to use mobile banking in future.	1	2	3	4	5
Q60. I predict I would use Mobile banking in the future.	1	2	3	4	5
Q61. I intend to recommend this mobile service to other users.	1	2	3	4	5
Q62. I have positive comments on this mobile service.	1	2	3	4	5
Q63. I plan to inspire my friends to use this mobile service.	1	2	3	4	5

DEMOGRAPHIC INFORMATION

Q64. Gender	1> Female	2> Male	
Q65. Marital status	1> Married	2> Single	
Q66. Age	1> Less than 18	3> 26-33	5> 42-49
	2> 18-25	4> 34-41	6> 50 and above
Q67. Education level	1> Literate	5> University	
	2> Primary	6> Master	
	3> Secondary	7> Doctorate / Phd	
	4> High school		
Q68. Working status	1> Public sector		
	2> Private sector		
	3> Own business		
	4> Unemployed / looking for job		
	5> Housewife		
	6> Retired		
	7> Student		
	8> Not working for old aged or disability		
	9> Other		
Q69. Personal monthly income	1> Less than 2000 TRY	4> 6000-7999 TRY	
	2> 2000-3999 TRY	5> 8000-9999 TRY	
	3> 4000-5999 TRY	6> 10000 TRY and above	

APPENDIX C: QUESTIONNARIE IN TURKISH

MOBİL BANKACILIK ARAŞTIRMASI – EKİM 2017

İstanbul Bilgi Üniversitesi LAUREATE INTERNATIONAL UNIVERSITIES	**Anket no**	
	Anketör	
	Tarih	

Değerli katılımcı,

Bu anket çalışması İstanbul Bilgi Üniversitesi Pazarlama Departmanı için yapılan bir araştırma kapsamında gerçekleştirilmektedir. Sizden, mobil bankacılık ile ilgili olan bu anketteki sorulara cevap vererek araştırmadan daha sağlıklı sonuçlar elde edilmesine katkıda bulunmanız rica edilmektedir.

Bu ankete vereceğiniz cevaplar bilimsel açıdan çok değerli olacağı için tüm soruları eksiksiz yanıtlamanız çok önemlidir. Paylaşacağınız bilgiler sadece bu akademik çalışma kapsamında kullanılacak ve başka kişi, kurum veya kuruluşlarla hiçbir şekilde paylaşılmayacaktır.

Anket ile ilgili tüm sorularınız ve netleştirilmesini istediğiniz noktalar için her zaman iletişime geçebilirsiniz.

Katılımınız ve katkılarınız için teşekkür ederiz.

Merve Özecan
E-posta: merveozecan@gmail.com

Q1. Son 1 ay içerisinde hiç mobil bankacılık kullandınız mı?

1>Evet 2>Hayır

Q2. Son 1 ay içerisinde kaç kez mobil bankacılık kullandınız?

1> 1-5 2> 6-10 3> 11-15

4> 16-20 5> 21-25 6> 26+

Q3. Son 1 ay içerisinde kaç saat mobil bankacılık kullandınız?

1> 0-2 2> 3-5 3>6-8

4> 9-11 5> 12+

Q4. Mobil bankacılığı en çok hangi işlemler için kullanıyorsunuz? (Birden çok seçim yapabilirsiniz)

1> Para Transferi
2> Güncel durum takip (hesap bakiyesi, kart limiti vs)
3> Ödemeler (fatura, vergi, kart, kredi vs)
4> Yatırım işlemleri
5> Kredi başvurusu
6> Kredi kartı başvurusu
7> Kampanya takip, kampanya katılım
8> Diğer

Q5. Hangi bankaların mobil uygulamalarını kullanarak işlem yapıyorsunuz? (Birden çok seçim yapabilirsiniz)

1> Akbank
2> Denizbank
3> Finansbank
4> Garanti
5> Halkbank
6> HSBC

7> ING
8> İş Bankası
9> Odebank
10> Şekerbank
11> TEB
12> Vakıfbank
13> Yapı Kredi
14> Ziraat
15> Diğer

Q6. En çok mobil bankacılık işlemi yaptığınız banka aşağıdakilerden hangisi? (Lütfen tek seçim yapınız)

1> Akbank
2> Denizbank
3> Finansbank
4> Garanti
5> Halkbank
6> HSBC
7> ING
8> İş Bankası
9> Odebank
10> Şekerbank
11> TEB
12> Vakıfbank
13> Yapı Kredi
14> Ziraat
15> Diğer

Aşağıdaki soruları, en çok mobil bankacılık hizmeterini kullandığınız bankanın uygulamasını göz önünde bulundurarak cevaplayınız.

	Kesinlikle Katılm	Katılmıyorum	Ne Katılıyorum Ne Katılmıyorum	Katılıyorum	Kesinlikle Katılıy
Q7. Günlük hayatımda mobil bankacılık hizmetlerini faydalı buluyorum.	1	2	3	4	5
Q8. Mobil bankacılık hizmetlerini kullanmak verimliliğimi arttırıyor.	1	2	3	4	5
Q9. Mobil bankacılığı hizmetlerini kullanmak, işlerimi daha çabuk gerçekleştirmeme yardımcı oluyor.	1	2	3	4	5
Q10. Mobil bankacılık hizmetlerini kullanmak, benim için önemli olan şeyleri gerçekleştirme şansımı arttırıyor.	1	2	3	4	5
Q11. Mobil bankacılık hizmetlerini nasıl kullanacağımı öğrenmek benim için kolaydır.	1	2	3	4	5
Q12. Mobil bankacılık hizmetleri ile etkileşimim açık ve anlaşılırdır.	1	2	3	4	5
Q13. Mobil bankacılık hizmetlerinin kullanımını kolay buluyorum.	1	2	3	4	5
Q14. Mobil bankacılık hizmetlerini kullanmada yetenekli hale gelmek benim için kolaydır.	1	2	3	4	5
Q15. Önem verdiğim insanlar, mobil bankacılık hizmetlerini kullanmam gerektiğini düşünüyor.	1	2	3	4	5
Q16. Davranışlarımda etkili olan insanlar, mobil bankacılık hizmetlerini kullanmam	1	2	3	4	5

gerektiğini düşünüyor.

Q17. Mobil bankacılık hizmetlerini kullanmak, bulunduğum çevrede bir statü göstergesidir.	1	2	3	4	5
Q18. Mobil bankacılık hizmetlerini kullanmak için gerekli olan kaynaklara sahibim.	1	2	3	4	5
Q19. Mobil bankacılık hizmetlerini kullanmak için gerekli olan bilgiye sahibim.	1	2	3	4	5
Q20. Mobil bankacılık, kullandığım diğer teknolojilerle uyumludur.	1	2	3	4	5
Q21. Mobil bankacılık hizmetlerini kullanırken zorluk yaşadığımda, diğer insanlardan yardım alabilirim.	1	2	3	4	5
Q22. Mobil bankacılık hizmetlerini kullanmak keyiflidir.	1	2	3	4	5
Q23.Mobil bankacılık hizmetlerini kullanmak zevklidir.	1	2	3	4	5
Q24. Mobil bankacılık hizmetlerini kullanmak eğlencelidir.	1	2	3	4	5
Q25. Mobil bankacılık hizmetlerini kullanmak benim için bir alışkanlık haline geldi.	1	2	3	4	5
Q26. Mobil bankacılık hizmetlerini kullanmaya bağımlıyım.	1	2	3	4	5
Q27. Mobil bankacılık hizmetlerini kullanmak zorundayım.	1	2	3	4	5
Q28. Mobil bankacılık hizmetlerini kullanmak benim için doğal halde geldi.	1	2	3	4	5
Q29. Mobil bankacılık daha eğlenceli/keyifli olsaydı, muhtemelen daha sık kullanırdım.	1	2	3	4	5
Q30. Mobil bankacılığı kullanmak bana puan,					

ödül veya hediye (daha yüksek mevduat faiz oranı, daha düşük kredi faizi, daha düşük işlem ücretleri) kazandırsaydı muhtemelen daha sık kullanırdım.	1	2	3	4	5
Q31. Mobil bankacılık daha eğlenceli/keyifli olsaydı, muhtemelen diğer insanlara da kullanmaları için önerirdim.	1	2	3	4	5
Q32. Mobil bankacılığın güvenilir olduğuna inanıyorum.	1	2	3	4	5
Q33. Mobil bankacılığa güveniyorum.	1	2	3	4	5
Q34. Mobil bankacılığın dürüstlüğünden şüphe duymuyorum.	1	2	3	4	5
Q35. Yasal ve teknolojik yapıların beni mobil bankacılığın sorunlarından yeterince koruyacağından eminim.	1	2	3	4	5
Q36. İzlenmiyor/kontrol edilmiyor olsa bile, mobil bankacılığın işi doğru yapacağına güvenirim.	1	2	3	4	5
Q37. Mobil bankacılık, görevini yerine getirebilecek yeteneğe sahiptir.	1	2	3	4	5
Q38. Mobil bankacılıkta gezinmek kolaydır	1	2	3	4	5
Q39. Mobil bankacılık aradığım bilgileri kolayca bulmamı sağlar.	1	2	3	4	5
Q40. Mobil bankacılık iyi yapılandırılmıştır.	1	2	3	4	5
Q41. Mobil bankacılığı kullanmak kolaydır.	1	2	3	4	5
Q42. Mobil bankacılık uygun işlevsellik sunar.	1	2	3	4	5
Q43. Mobil bankacılık tarafından sağlanan bilgi faydalıdır.	1	2	3	4	5
Q44. Mobil bankacılık tarafından sağlanan bilgi anlaşılırdır.	1	2	3	4	5

Q45. Mobil bankacılık tarafından sağlanan bilgi ilgi çekicidir.	1	2	3	4	5
Q46. Mobil bankacılık tarafından sağlanan bilgi güvenilirdir.	1	2	3	4	5
Q47. Mobil bankacılık tarafından sağlanan bilgi tamdır.	1	2	3	4	5
Q48. Mobil bankacılık tarafından sağlanan bilgi günceldir.	1	2	3	4	5
Q49. Mobil bankacılık ile ilgili ne zaman desteğe ihtiyacım olsa, sorumlu/yetkili hizmet personeli yardım etmeye oldukça isteklidir.	1	2	3	4	5
Q50. Mobil bankacılıkla ilgili problem yaşadığımda, sorumlu/yetkili hizmet personeli kişisel ilgi gösterir.	1	2	3	4	5
Q51. Sorumlu/yetkili hizmet personeli, mobil bankacılık ile ilgili hizmetleri, söz verilen zamanda sağlar.	1	2	3	4	5
Q52. Sorumlu/yetkili hizmet personeli, mobil bankacılık ile ilgili sorularımı cevaplamak için yeterli bilgiye sahiptir.	1	2	3	4	5
Q53. Mobil bankacılık hizmetini kullanmayı seçmek akıllıca bir tercihtir.	1	2	3	4	5
Q54. Mobil bankacılık deneyimim memnun ediciydi.	1	2	3	4	5
Q55. Mobil bankacılığı kullanmaya karar vererek doğru yaptığımı düşünüyorum.	1	2	3	4	5
Q56. Mobil bankacılığı kullanmaktan genel olarak memnun kaldım.	1	2	3	4	5
Q57. Gelecekte mobil bankacılığı kullanmaya devam etme niyetindeyim.	1	2	3	4	5

Q58. Mobil bankacılığı günlük hayatımda kullanmaya her zaman gayret edeceğim.	1	2	3	4	5
Q59. Mobil bankacılığı gelecekte de kullanmayı planlıyorum.	1	2	3	4	5
Q60. Mobil bankacılığı gelecekte de kullanacağımı öngörüyorum.	1	2	3	4	5
Q61. Bu mobil bankacılık uygulamasını diğer kullanıcılara tavsiye etme niyetindeyim.	1	2	3	4	5
Q62. Bu mobil bankacılık uygulaması hakkında olumlu yorumlarım var.	1	2	3	4	5
Q63. Bu mobil bankacılık uygulamasını kullanmaları için arkadaşlarıma ilham vermeyi planlıyorum.	1	2	3	4	5

DEMOGRAFİK BİLGİLER

Q64. Cinsiyet	1> Kadın	2> Erkek	
Q65. Medeni Durumunuz	1> Evli	2> Bekar	
Q66. Yaşınız	1> 18'den küçük 2> 18-25	3> 26-33 4> 34-41	5> 42-49 6> 50 ve üzeri
Q67. En son bitirdiğiniz okul	1> Okuryazar 2> İlkokul 3> Ortaöğretim 4> Lise	5> Üniversite 6> Yüksek Lisans 7> Doktora	
Q68. Çalışma durumunuz	1> Kamuda ücretli çalışılıyor 2> Özel sektörde ücretli çalışıyor 3> Kendi hesabına çalışıyor 4> İşsiz / İş arıyor 5> Ev kadını 6> Emekli		

	7> Öğrenci	
	8> Yaşlılık veya engelli sebebiyle çalışmıyor	
	9> Diğer	
Q69. Aylık kişisel geliriniz	1> 2000 TRY'den az	4> 6000-7999 TRY
	2> 2000-3999 TRY	5> 8000-9999 TRY
	3> 4000-599 TRY	6> 10000 TRY ve üzeri