

CONTENTS

TABLES.....	vii
FIGURES.....	viii
ABBREVIATIONS.....	ix
SYMBOLS.....	x
1. INTRODUCTION.....	1
1.1 VIRTUAL BANK.....	3
1.2 TRADITIONAL BANKS VS. VIRTUAL BANKS.....	3
1.3 MOBILE BANKING.....	4
1.3.1 Mobile Banking Platform	5
1.3.2 Mobile Banking In the World.....	6
1.3.3 Mobile Banking In Turkey.....	11
1.3.4 Mobile Banking In Iran	13
2. BACKGROUND.....	17
2.1 LITERATURE REVIEW.....	17
2.2 TECHNOLOGY ACCEPTANCE MODELS.....	21
2.2.1 Theory Planned Behavior (TPB).....	21
2.2.2 Technology Acceptance Model (TAM).....	24
3. RESEARCH MODEL	29
3.1 RESEARCH MODEL AND HYPOTHESIS.....	29
3.1.1 Perceived Usefulness	29
3.1.2 Perceived Ease of Use	31
3.1.3 Security and Privacy	31
3.1.4 Compatibility	32
3.1.5 Trust.....	32
3.1.6 Social Influence	33
3.1.7 Facilitating Conditions	34
3.1.8 Perceived Cost.....	34
3.1.9 Anxiety	35

4. DATA ANALYSIS AND METHODOLOGY.....	36
4.1 DATA COLLECTION.....	36
4.2 RELIABILITY.....	36
5. RESEARCH FINDING AND ANALYSIS.....	38
5.1 SAMPLE OF STUDY.....	38
5.2 COMPARISON OF VARIABLES PERSPECTIVE BETWEEN TWO COUNTRIES	39
5.3 DATA ANALYSIS.....	42
5.3.1 Data Analysis in Iran	42
5.3.2 Data Analysis in Turkey	45
6. DISSCUTION AND CONCLUSION.....	48
a. DISSCUTION	48
b. CONCLUSION.....	54
REFERENCES.....	56
APPENDICES	
Appendix A: Questionnaire measurements.....	62
Appendix B: Independent t-test.....	64
Appendix C: One-way ANOVA.....	66

TABLES

Table 4.1: Reliability (Cronbach's Alpha).....	37
Table 5.1: Respondents Characteristics.....	39
Table 5.2: Variable Comparison of Iran VS. Turkey.....	40
Table 5.3: One-Way ANOVA (Mean & Standard deviation)	41
Table 5.4: Correlation of variables in Iran	44
Table 5.5: Correlation of variables in Turkey	47
Table 6.1: Hypothesis test-Iran	48
Table 6.2: Hypothesis test-Turkey	48

FIGURES

Figure 1.1: Global sales growth of computational-communication tools.....	2
Figure 1.2: Mobile banking and Credit card growth (2010-2011).....	7
Figure 1.3: Total mobile users who use mobile banking information services.....	8
Figure 1.4: Global view of mobile banking users (2010-2011).....	9
Figure 1.5: Forecast of mobile banking and online banking (1995-2016).....	10
Figure 1.6 : Usage of mobile banking vs. M- payments by types of mobile phone.....	11
Figure 1.7: growth in mobile subscribers and penetration of mobile phone.....	13
Figure 2.1: The basic Theory of reasoned action.....	21
Figure 2.2: Theory of planned behavior (Icek Ajzen 1985).....	22
Figure 2.3: Refined Theory of planned behavior (Icek Ajzen 1991).....	22
Figure 2.4: Conceptual model (Icek Ajzen 1985).....	25
Figure 2.5: Theory acceptance model (<i>Davis 1985</i>).....	26
Figure 2.6: Technology Acceptance Model (Davis et al., 1989).....	27
Figure 3.1: Conceptual model.....	30

ABBREVIATIONS

TAM	:	Technology Acceptance Model
TRA	:	Theory of Reasoned Action
TPB	:	Theory of Planned Behavior
DTPB	:	Decomposed Theory of Planned Behavior
ITU	:	International Telecommunication Union
SMS	:	Short Message Service
USSD	:	Unstructured Supplementary Service Data
FABA	:	Cultural and Education center of e-banking of Iran
EN	:	Eghtesad Novin Bank of Iran
TTF	:	Task Technology Fit
UTAUT	:	Unified Theory of Acceptance and Usage Technology
SEM	:	Structural Equation Modeling
SN	:	Subjective Norm
PBC	:	Perceived Behavioral Control
EOU	:	Ease of Use
US	:	Usefulness
ATT	:	Attitude
S	:	Security
COM	:	Compatibility
T	:	Trust
SI	:	Social Influence
FC	:	Facilitating Conditions
PC	:	Perceived cost
ANX	:	Anxiety

SYMBOLS

Weights that vary across people and contexts	:	w_i
The Behavior	:	B
Attitude toward a behavior	:	A
Design feature	:	X_i
Standardized partial regression coefficient	:	β
Random error term	:	ϵ

1. INTRODUCTION

Innovation and development in IT is an endless way in the technological era. It is evident that a modern society is made of faster computers and internet and replacement of computers with smart phones, tablets, etc.

Rapid increase in internet and computer base technologies like mobile devices is making fundamental changes in the behavior of people and systems of organizations in the society. Companies for enhancing their business performance, gaining more relative advantages and having a better relationship with customers are searching for developments in technology.

On the social level, the most effect of modern technologies is on younger generations, on each stage of their life. In other words young people are the most followers of new comers in the technology market. Today, our community is witnessing competition between young people on buying latest technologies or interchanging new and up-to-date information about them.

Apparently, the way of life and work has changed over the past years due to the growth in the use of technology and delivering information. There is no doubt that people's inclination toward mobility is enhanced, simply because the value of time and distance barriers is getting more tangible. Nowadays, since carrying cellphone is much easier than a laptop also smartphones are developing so fast, Adoption of mobile devices for performing daily tasks is emerging quickly.

Penetration of using mobile devices in daily life is becoming much stronger along with other modern technologies because it is as easy as a notebook or a wallet to carry. In addition, it can work as your computer. Riquelme and Rios (2010) believe that in close future, mobile phone will be a replacement for wallets to do financial transactions. Mobile phones are known as multifunctional devices. Besides transmitting voices, Hand phones support variety of services such as SMS, MMS, email, sharing videos and pictures, gaming, photography, applications and mobile banking as an advanced service. So, users divided into two groups

in terms of technology and services. Adoption of Technology and services dependent on people’s knowledge growth and behavioral changes (Constantiou et al. 2007).

Schema below is illustrated the growth of selling communication tools in the world which clarifies, growth of desktop PCs remains almost steady while selling notebooks is increased gradually. The notable increase is shown in smartphone interest in 2013. Tablets sells also is enhancing dramatically since 2010.

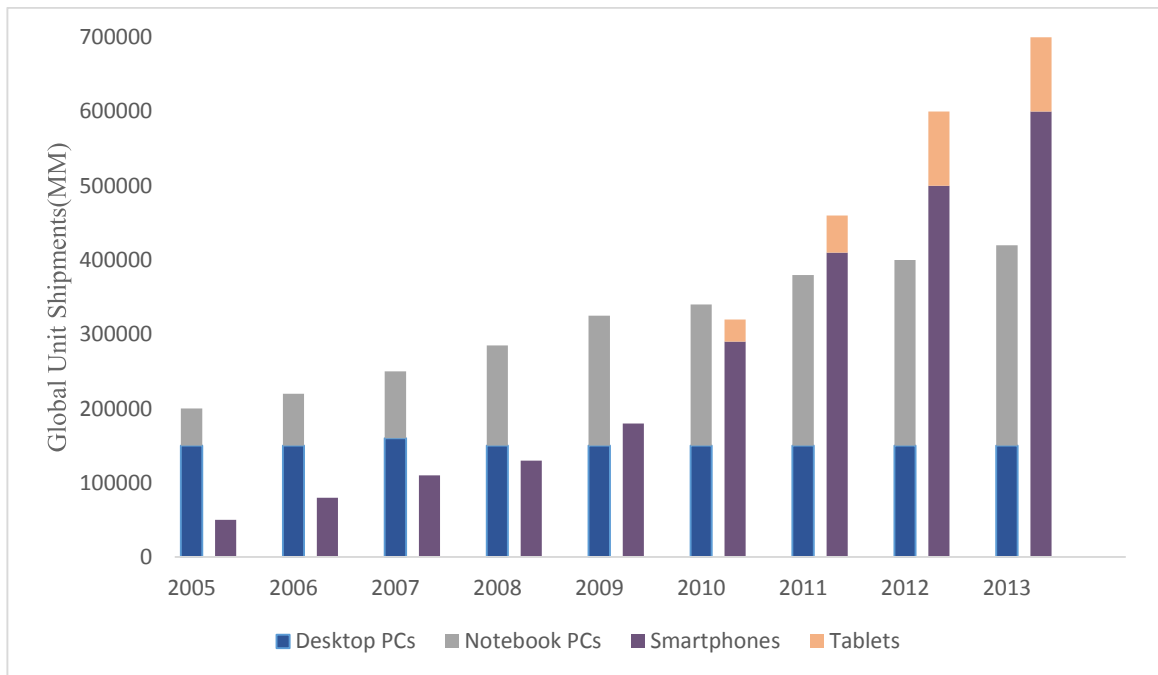


Figure 1.1: Global sales growth of computational-communication tools.

Source: Morgan Stanley Research

The main purpose of this thesis is to find out to what extend mobile banking is popular among Persian and Turkish people and what variables has significant influence on attracting people to adopt mobile banking as their daily life. In following chapter after explaining about mobile banking, different services and its impact on the world, including Iran and Turkey, we review other studies about mobile banking and Technology acceptance model (TAM), which we follow as our method to estimate usage of mobile banking in two mentioned countries. After

presenting hypothesis and checking the reliability of measurements we test the hypothesis by applying Pearson correlation coefficient.

1.1 VIRTUAL BANK

In Saderat Bank magazine number 53 written by Hadi Amini, Virtual bank as a subset of e-bank is defined as banking system which provides their services without any branches and cashier by using electronic channels. (e.g. Internet banking, mobile banking) .The first virtual bank in America continent made by Virginia (US) in 1995, in Europe by Dublin (Ireland) in 1999 and Asia by Singapore in 2000. Virtual banks paved the way for increasing security coefficient, enhancing e-commerce, increasing efficiency and effectiveness in financial activities, overcoming geographical limitation and making international banking systems. Such advantages make virtual banks national necessity of each country.

1. 2 TRADITIONAL BANKS VS. VIRTUAL BANKS

Hadi Amini in Saderat Bank magazine number 53 also compared traditional way of banking and P2P payments with virtual banks as new methods of banking as follows:

- 1- Structure: traditional bank depends on physical place and materials, but virtual one has information and mathematical data so there is no physics.
- 2- Time and place: unlike traditional bank, time and location for Virtual bank has no meaning (24/7).
- 3- Contact with managers: nowadays, access to managers and supporters is easier by e-mails and other similar facilities than the old type.
- 4- Service customers: the type of customer service for traditional bank was linear. In this kind of service, one employee is responsible to help one customer. Whereas, one service in virtual bank can be used for all users.
- 5- Security: both kinds of banking systems are in subject of to be stolen. The difference is that robbers in physical banks are without enough education but in virtual system they are usually skillful and sophisticated in virtual environment.

1. 3 MOBILE BANKING

The advent of information technology to a different dimension of human's life is obvious. Information technology is the key foundation of making banking sector stronger by increasing speed and reliability of financial operations (Dangolani 2011). Mobile banking is developing in parallel with the mobile market, besides, has permeated to the Banking sectors as well as other organizations.

With development of m-commerce banking sectors change their transactions with customers from face to face to computer mediated. Consequently, mobile banking helped customers pave the way for doing financial affairs with mobile phones (Al-Somali et al. 2009). Online electronics banking, mobile banking and internet banking are examples of services for banking market. Besides factors may influence banking sector, three other primary factors including competition, economy of scale and economy of delivery are more important. (Dangolani 2011).

Definition of Mobile banking in different resources are defined as providing access to bank account and credit card account by mobile devices to use financial services such as checking and monitoring account, paying bills, performing balance checks, viewing account balances and transfer money. Indeed, permitting customers to have quick approach to their financial information and reports in detail at exact time e.g. Customers can have a report about his/her expense categories from the previous month.

Although Mobile banking like any other new technology may need time to be accepted by society, the advantages of utilizing mobile banking services overweight resistance against adopting a new technology. Meanwhile, it will be more beneficial for both customers and organizations in time and energy. Dangolani (2011) indicates that it is necessary new technologies get adopted by businesses for customers' convenience. On the other hand according to Wang, Lo and Fang (2008) developments in technology do not guarantee to have a widespread consumer acceptance. Constantiou et al. (2007) believe there is a relation between having experience in years of using mobile devices and adoption of using services.

The Saderat bank website is expressed some benefits of mobile banking as increasing accuracy and speed in doing banking affairs, decreasing in Currency depreciation, decreasing the danger of carrying money, decreasing in cost, traveling, traffic, Air Pollution. Plus reducing pressure of worries and responsibility for waiting a long time in banks, reducing stress of over scheduling and doing jobs on time.

1.3.1 Mobile Banking Platform

There are three main platforms for mobile banking. Explanation about different Platforms of mobile banking is taken from an overview of mobile banking which is written in January 2009 by Mobile Marketing Association (MMA).

1.3.1.1 Short Message Service (SMS)

SMS is a popular kind of service which in user ask information by SMS about his/her account then the answer will be sent by SMS as well. This service is common and easy to use, no need to software installation, works over all wireless operators and all available mobile phones these days support SMS but it is not well secured and text characters has limitation (up to 160 characters long).

1.3.1.2 Mobile Web

By using this service people can reach to the internet and websites through their mobile phone by using WAP protocol. Screen size and internet speed is a concern in this type of service. More secure connection, familiarity with browsing the internet from mobile and experiencing a fancy and strong user interface are some advantages of this service, on the other hand, handset limitations, non-standard variables (browsers and operating systems) and no offline accessibility are named as obstacles of mobile web services.

1.3.1.3 Mobile Banking Via Application

The user is required to download the application of related bank on the mobile phone. The benefits involve more secure access and encryption of sensitive data through application, skillful and stronger user interface ability, more control on users' experiences and in the case that system is lost or stolen it has the ability to erase information remotely . But issues we may face with are related to supporting sector which will be more complicated by increasing in number of users or services. Also applications are not available for all devices Because of variety of screen sizes, operating systems.

1. 3.2 Mobile Banking in the World

Reported by International Telecommunication Union (ITU), today in developing countries more than 4 billion subscribers of mobile phones have possibility to reach financial services through their hand device and Study over five European markets (United Kingdom, France, Spain, Germany and Italy) shows 8.5 percent of 20 million mobile phone users had ability to use mobile banking in March 2011.

ITU also reported a prediction by Berg Insight which indicate users of mobile banking in the world will rise from 55 million users in 2009 reach to 894 million users in 2015 with 115 million users in Europe and 86 million users in North America. Asia-Pacific will have the most usage of financial services and in the Middle East and Africa mobile banking will play a big part to present these type of services. In addition, Berg Insight expect that by 2015, 3 to 15 percent of the international money transfers will be applied by mobile phones.

Marketing chart website presented an analysis in US According to Juniper research which explain at the end of Q2 2011, 32.5 million Americans had reached to mobile banking which include 13.9 percent of all mobile users and by 2013, Juniper expects that number arrive at 400 million globally.

The following graph (Figure 1.2) is taken from ComScore which indicates the variation of the app usage among users from September 2010 to Jun 2011. In this comparison both mobile banking and credit card users appeared more active during a year passed and in Jun 2011 the number of users in mobile banking and credit card increased to 13.7 and 6.3 million respectively. Statistic for mobile banking users in this period started from 7.3 and increased to 13.7 Million. It is obvious that the trend in four sections was upward with a slight increase till December 2010 and then a rapid rise to March 2011 and continues in Jun 2011. mobile credit card users in comparison with mobile banking users had a lower growth which started from 3.8 million in September 2010 and reached to 6.3 million in Jun 2011.

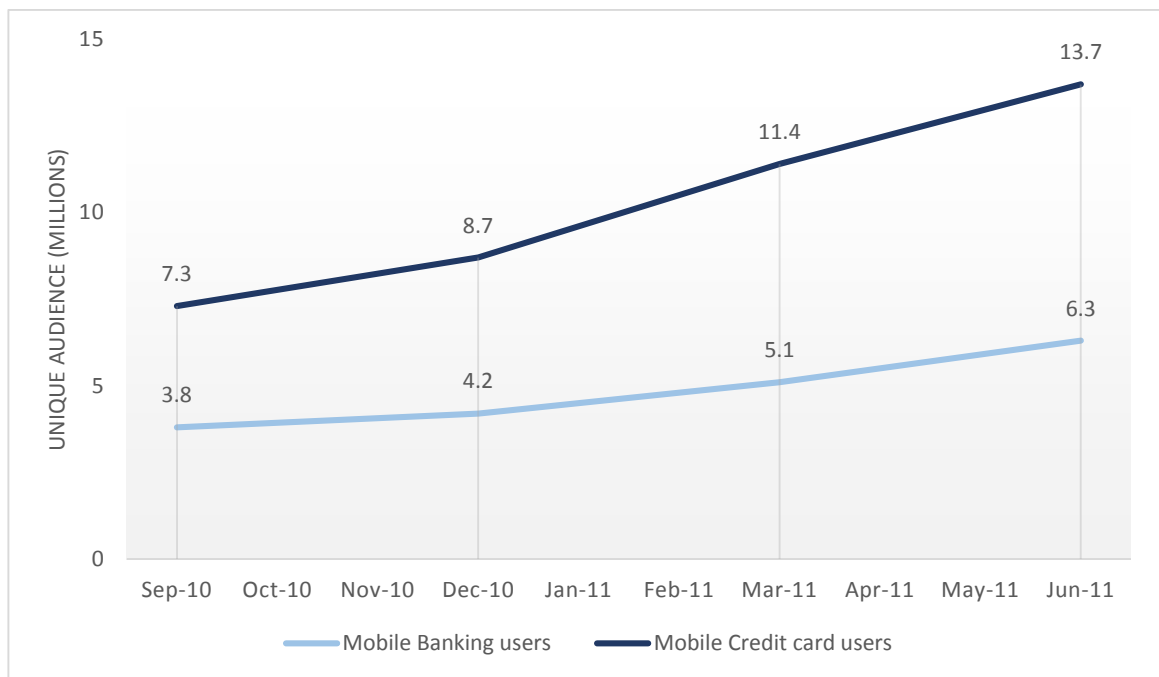


Figure 1.2: Mobile banking and Credit card growth (2010-2011)

Source: ComScore

According to juniper research, the acceptance of mobile banking does not restrict to America. Figure 1.3 illustrates anticipation of mobile banking usage by different regions between 2010

and 2013. Clearly, the Far East and China have the higher consuming of mobile banking in the world and then Western Europe, Africa plus Middle East and North America will be settled in the next stages. Latin America with the lowest range would have a fewest acceptance of mobile banking.

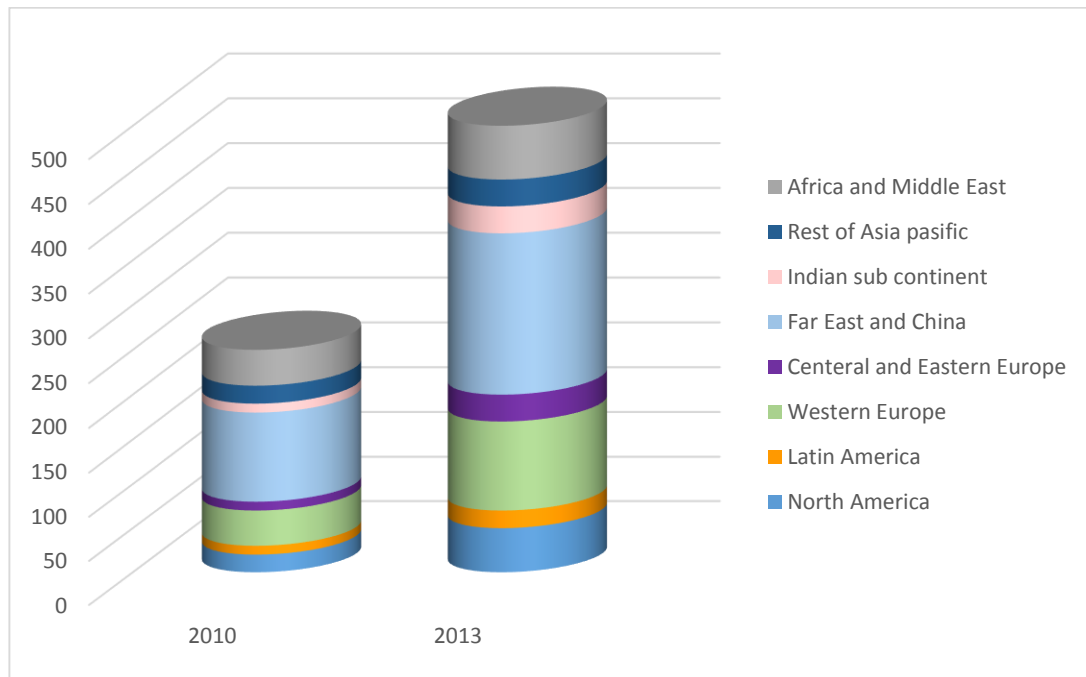


Figure 1.3: Total mobile users who use mobile banking information services.

Source: Juniper research

Figure 1.4 gives information from Marketingcharts about applying mobile banking during 2010 and 2011 between four countries (China, Brazil, Kenya, and USA). The most striking feature is that the percentage between these two years, increased more than 100 %.

In 2011 the highest number of mobile banking usage related to USA with 11% of customers and then China and Brazil with 10%. Whereas, USA in 2012 approached the second stage of customer usage with 22% after China with 25%. Kenya in both 2011 and 2012 had the least usage percentage but with the most increasing rate during one year.

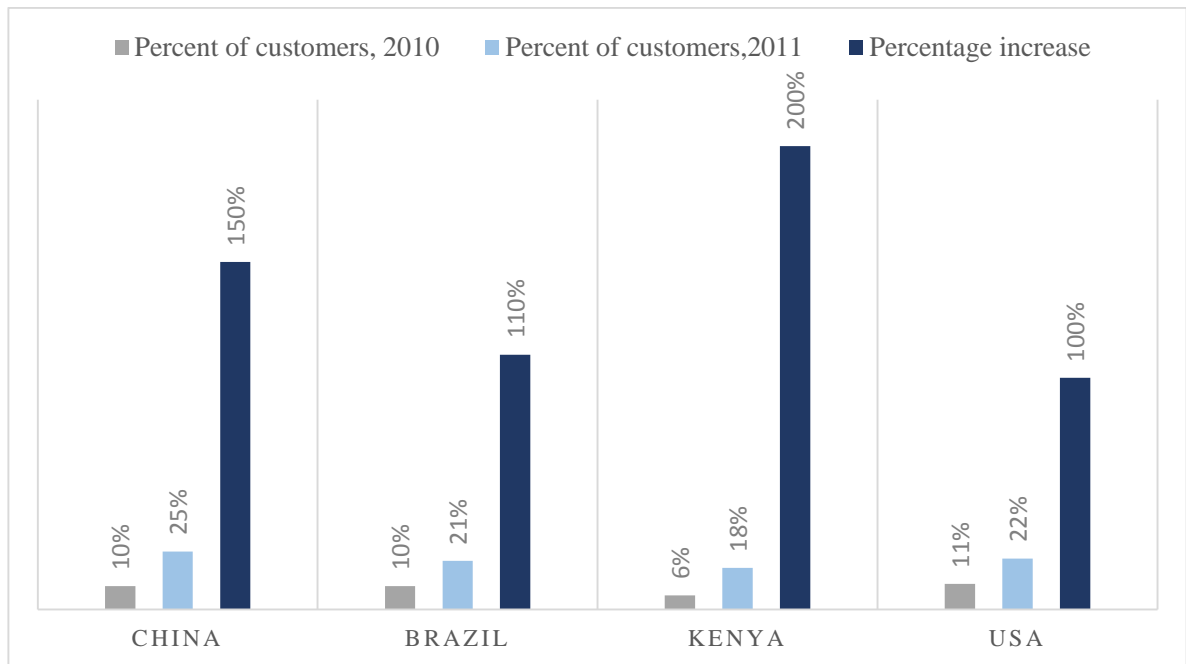


Figure 1.4: Global view of mobile banking users (2010-2011)

Source: Marketingcharts

TechCrunch website in a report from Forrester in 2012 declared that 46% of people who has a banking account in the US will use mobile banking by 2017, whereas, today only 13% of US mobile users are interested to use mobile banking. According to the Forrester survey, at the current time, the percentage of handling financial affairs by mobile banking are 45%, 61% and 31% for check balances, transaction histories and transfer money between accounts respectively.

The graph below (Figure 1.5) shows comparison of mobile banking and online banking since 1995 also anticipation of them to 2016. Mobile banking started to increase between 2008 and 2009 while online banking had a noticeable number of users. It is predicted that till 2016 subscribers of mobile banking will be over 30 million while online banking subscribers will reach to near 65 million.

According to the online banking report, during the years of 1996 to 2006 US Online banking subscribers went up to 40 million. So, mobile banking needs also 10 years to penetrate the market as online banking.

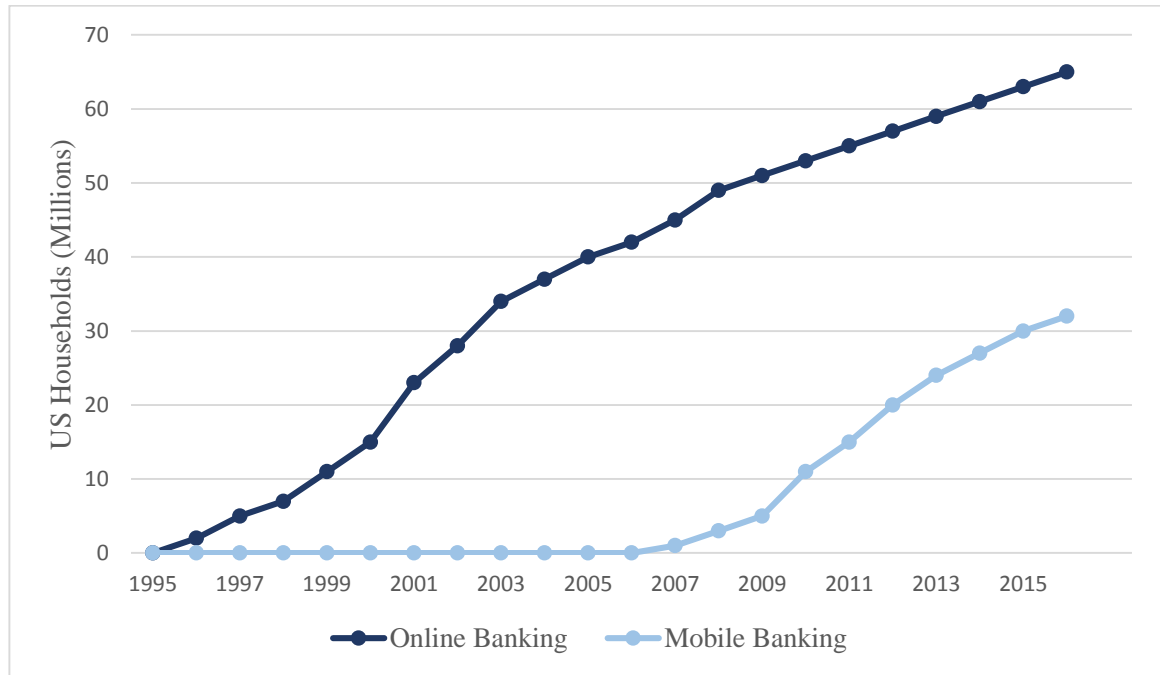


Figure 1.5: Forecast of mobile banking and online banking (1995-2016)

Source: Mobile Banking Association

Figure below (Figure 1.6) illustrates usage of mobile banking by American phone subscribers. Users of mobile banking from 21% in 2011 had increased and reached to 28% in November 2012, when the number of smartphone users who adopt m-banking in 2011 and 2012 were respectively 42% and 48%. This statistic exposes that mobile banking adoption highly correlated with age and raising in amount of smartphone users. Above information is gathered from Federal Reserve Board reports and publications.

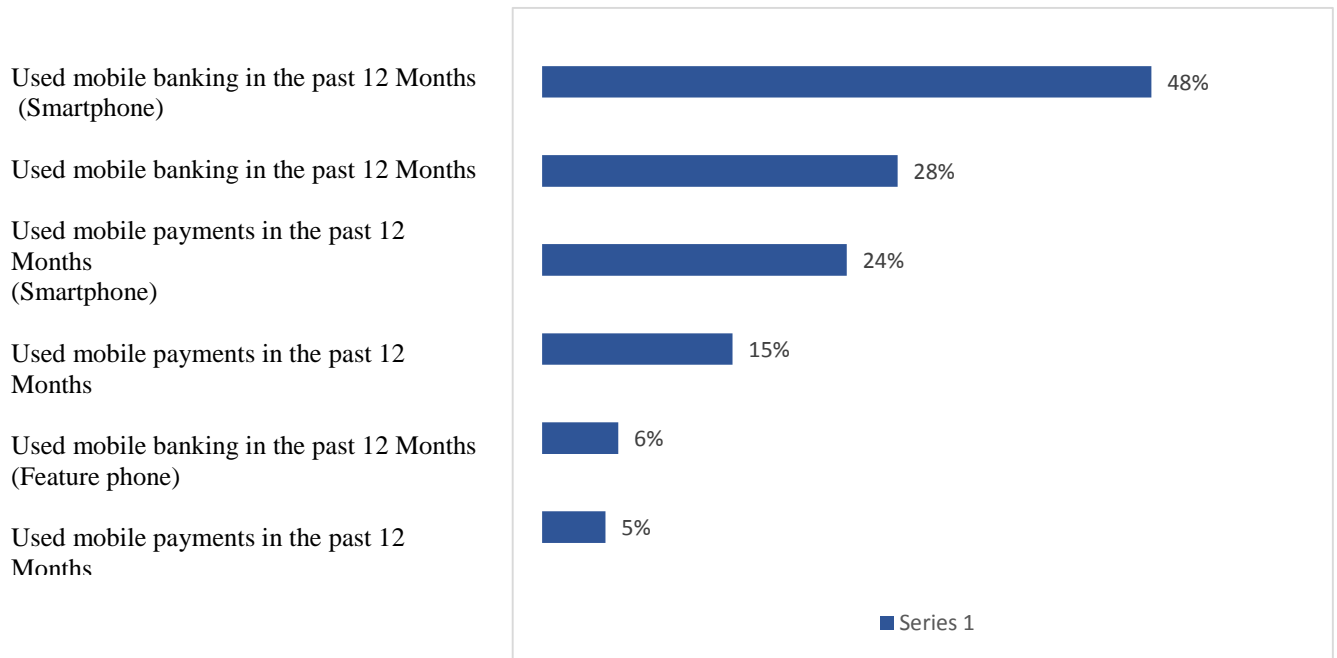


Figure 1.6: Usage of mobile banking and mobile payments by types of mobile phone

Source: Board of Governors of the Federal Reserve System.

1.3.3 Mobile Banking in Turkey

Turkey due to its good economy atmosphere and locating between the Middle East and Europe can bring the benefits of high technology from European countries. Promote harmony between economic growths, innovation and taking advantages of its location, Turkey can be a forerunner in technology between Middle East countries.

As reported by Fatih Isbecer (in November 2011) in venture beat website, statics of using mobile phones in 2008 from 50 million subscribers reached to 80 million in 2011 and it is predicted to saturate markets to 95 percent till 2013.

Garanti bank is a pioneer of mobile banking in Turkey and in 2004 started CepBank and launched Garanti Mobile Banking in 2007. Number of Garanti mobile banking subscribers is 36.63% from whole mobile customers. Garanti mobile banking app is available for iPhone, iPad, and Android (sosyalmedya 2012).

İşCep and İşPad are two mobile banking apps for İşbank. İşCep app is valid for mobile operating systems like iOS, Android, Java, Bada, Phone 7 but İşPad is designed for tablets and launched in 2010 (sosyalmedya 2012).

In the İşbank Annual Report, at the end of 2009 only Avea operator had over 12 million subscribers and 19% share in mobile communication market in Turkey. This number increased to 12.8 million subscribers with 19.3% market share by September 2011. In addition 16 million Turkish users approached internet banking from Jun 2010 and most of them have tendency to use mobile banking with the highest conversion in İşbank. This obviously points declining in the number of internet banking users and increasing in number of mobile banking in following years.

İşCep produced in 2007 for İşbank and improved in 2009 along with entering 3G infrastructure in mobile phones. Because of rapid growth in mobile banking user's, in 2011 İşBank launched İşTV and İşPad to fulfil customers' needs. (İşbank Annual Report 2009, 2011).

Pozitron website states that İşCep is one of the Turkey's first and most sophisticated mobile banking application which was chosen as the best Financial Application In 2012 by Informatics Associations of Turkey.

After İşbank and Garanti bank other banks such as Denizbank and Akbank launched their m-banking apps.

As stated in the Mobilike statistics survey which is gathered from bank members, Turkish mobile banking subscribers in June 2011 was 992.017 users which by 68% growth during one year reach to 1,663,375 users in June 2012. This report also shows to what extend number of installed credit card apps, money transfer transaction on mobile increased. Number of credit card apps on mobile from 13K in Jun 2011 significantly increased to 51K apps in Jun 2012 with growth rate of 292% and number of money transfer transactions in Jun 2011 was 845K which in 2012 with growth rate of 118% per transaction raised to 1.84 Million transactions.

According to study of Maoak (2005) price is a critical limiting factor in Turkey .So making services more affordable for people leads to a higher intention to use. This study also represents that self-efficiency, innovativeness and ease of use should be considered on enhancing usefulness.

1.3.4 Mobile Banking in Iran

According to Iran Telecommunication Company, mobile phone subscribers from 8510513 users in 2005 (1384 solar year) enhance to 48.000.000 users in 2011 (1390 solar year) which means more than five times increase in the number of subscribers. Meanwhile Diffusion coefficient of mobile phone in 2005 to 2011 (1384 to 1390 solar years) was respectively; 12.43% and 63 % (Figure 1.7). Dolat.ir is also reported mobile phone penetration rate about 91.2% in 2012 (1391 solar year).

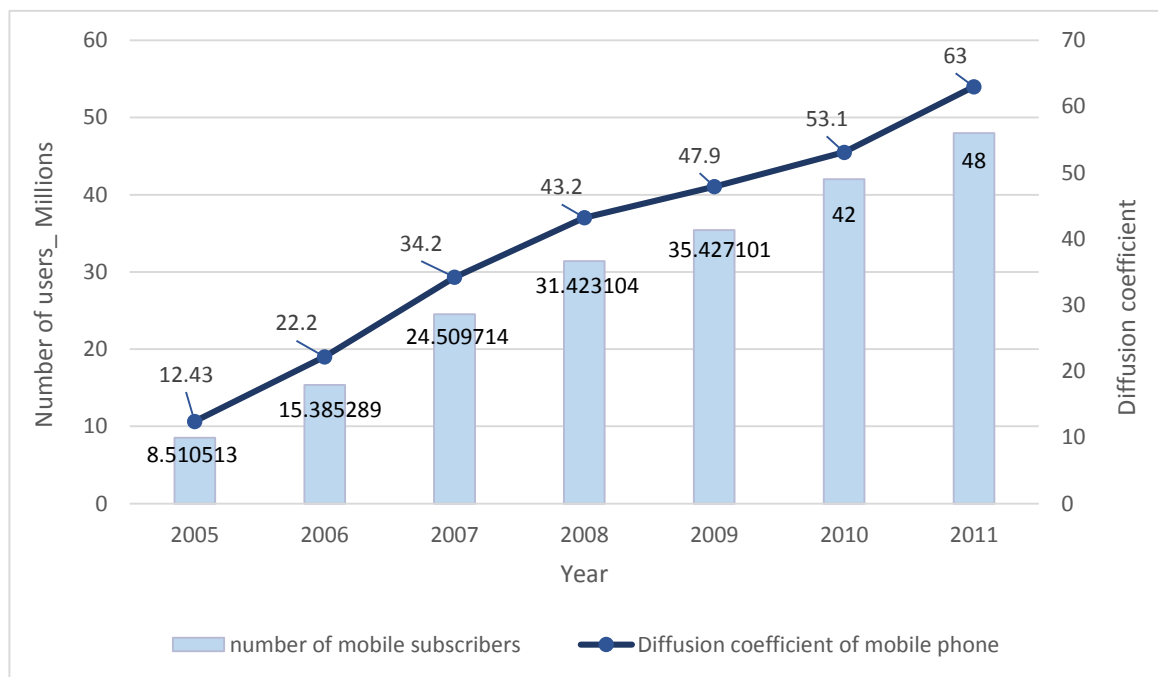


Figure 1.7: Growth in mobile subscribers and penetration of mobile phone

Source: Iran Telecommunication Company

Dangolani (2011) Determined that IT had a noticeable influence on aspects of saving the time, cutting down the expenses and facilitating the network transaction in the banking system of Keshavarzi Bank in Iran.

Bank users in Iran are most familiar with SMS banking, USSD and Internet banking services. SMS banking and USSD are usually used by older people while Internet banking mostly has popularity between Youngers who grow up in the computer era.

A study over Iran believes that this country is still developing slowly in internet banking scope. Internet banking usage in the first fourth months of 2009 in Iran was approximately 6 million which in comparison to UK with 22 million users in the same period (Hanafizadeh et al. 2012). So in the mobile banking area we expect growth of even less than internet banking.

Regarding mobile banking, Although Iran is in its first steps towards mobile banking penetration and there may not be enough interest in using this system, the number will exceed by finding out the obstacles and influential factors on people's satisfaction by using mobile banking.

Rakhshanifar in Saderat Bank magazine indicates Reasons of unpopularity of mobile banking in Iran can be unfamiliarity and distrust of people on this system.

As a report from some banking managers by FABA group (Cultural and Education center of e-banking of Iran), Parsian Bank started SMS services in 2005(1384 solar year) and at the end of 2006 (1385 solar year) the first software of mobile banking was made. Assistant manager of Mellat Bank added in 2009 (1388 solar year), 300.000 clients of this bank activated their mobile banking services and in 2010 (1389 solar year) the number of users is doubled.

Hadi Aminifard in a survey published by Saderat Bank stated, requirements for virtual banks in the Iranians' banking network depends on external and internal organizational factors. External organizational factors which are Uncontrollable and are influenced by other parts

such as technical sector, cultural and educational sector, economic and political and legal sectors. Internal organizational factors are recognizable for organizations like: management, creativity and security factors. The result presents external factors has more influence than an internal one.

As reported in Saderat Bank magazine, the average age of m-banking users is 10 years lower than the average age of banking users. Rakhshanifar Also mentioned that 34% of Iran's population are young people and Major clients of mobile banking in the world are the youth. So, Mobile banking in Iran can grow rapidly. But there is some communication infrastructure weaknesses especially during holidays and eve, SMS network interruption and inadequate advertisement are some drawbacks for significant growth in this banking system.

Upon a survey through EN Bank's customers, only 17 percent of responses belonged to users who previously used mobile banking services, remains preferred to use traditional Bank's services (Beiginia et al. 2011).

In experts' idea, although there is a wide usage of new technologies in Iran, in banking area there is a gap between Iran and pioneer countries in mobile banking. Requirements of mobile banking improvement in Iran involve infrastructure term, security and drawing customer's attention. But it seems that most important subject, which returns to infrastructure issues, is inappropriate internet broadband and need to provide 3G services.

Some people's idea about mobile banking apps is indicated in the below:

“I don't use mobile banking because I am not sure about security of applications”

“User interface is not strong enough”

“I just use it for checking account or buying mobile charge”

“I have tried it but I am not attracted and I am not sure about its security to transfer lots of money”

“I installed a mobile banking app on my mobile phone but it doesn't work”

“I can transfer money but for paying bills I have problem”

“I prefer to use USSD “

Besides some customers which were skeptical about mobile banking applications, some users have shown interest in tracking their finance by mobile banking. Their most satisfaction was about saving time and using it whenever they want.

2. BACKGROUND

This chapter reviews existing studies to find out what factors have significant influence on acceptance of mobile banking as goal of our research. Also we reviewed Technology acceptance model (TAM) which is used to analyze the role of different variables in mobile banking usage.

2.1 Literature review

Many researchers argued the acceptance of information technologies in various fields and discussed the adoption of a new technology. Also the factors which have crucial impact on consumers are identified. Al-Somali, Gholami and Clegg (2009) referred to the adoption of online banking in Saudi Arabia. This study is supported by TAM model in which all factors have adequate amount of R^2 (high explanatory power) for the model to be accepted. Also increasing consciousness about online banking plays a vital role in enhancing its adoption. Thair et al. (2010) compared acceptance of users to utilize m-payment, PayPal and credit card. The results indicate that m- payment has stronger influence than two others. Wang, Lo and Fang (2008) recommends a combining of TAM and network externalities to put an estimate on adoption of mobile communication innovation among customers.

Since our research focuses on mobile banking and specifically acceptance of mobile banking, we have reviewed some related subjects in the below.

Regarding to the acceptance of mobile banking, an Iranian research by investigating through bank clients found that acceptable constructs with higher effect on encouraging people to use m- banking are consecutively: compatibility, trust, perceived usefulness, credibility, perceived ease of use and the least influential are, need for interaction, Perceived risk and perceived cost (Hanafizadeh and et al. 2012). In the other research Sheng and et al. (2011) tried to find out which variables in china have more impact on accepting of m-banking and

apply non users to users. The results shows, through considered factors which are, perceived usefulness, ease of use, compatibility triability and risk, the only factor with no remarkable effect on accepting of m-banking was triability. In addition customers prefer to follow others to use m-banking even if they have another way to try. Yang (2009) investigated what challenges and motivations are important to adopt mobile banking. The result of this study presents a convenient and secure necessity of system with a competitive basic fee structure system.

Self-efficiency and structural assurance are found as the most significant factors which can influence on intention to use mobile banking indirectly through usefulness and trust by using of a structural equation modeling (SEM). In order to develop structural assurance and Self-efficiency banks need to decrease potential risks, uncertainties and enhancing user-friendly interface. (Gu, Lee and Suh 2009)

Beiginia and et al. (2011) have been made a comparison between three methods of TRA, TPB and DTPB (decomposed theory of planned behavior) to see which model is more appropriate for adoption of mobile banking by users in EN Bank. Although there was not a significant difference between TPB and DTPB in the result, DTPB had more influence on determination of behavioral intention, attitude, and subjective norm and predict customer's intention to use.

The user adoption model in Zhou et al. (2010) study is integrated from two models of TTF (Task Technology Fit) and UTAUT (Unified Theory of Acceptance and Usage Technology) which has upper variances than each model separately. Also the integration model showed how task technology fit is important as well as having significant impact on performance expectancy.

Soroornejad and Akhavan kharazian examined customer adoption of mobile banking in Iran by using four factors of usage, accessibility, speed and security. According to decision tree algorithm the following results are discovered:

Adoption of mobile banking services devoted to men with stronger risk taking and higher income. People who are educated and have higher income compared with others, have more

access to mobile banking. Satisfaction about security of services among people with higher education level and higher risk taking is more than others. Different point of view in speed parameters caused Men with higher income have had more satisfaction than female with lower income. Other findings which focus more on gender and type of users are the findings of Riquelme and Rios (2010) which explored in what extent gender affect adoption of mobile banking. The result showed excluding the importance of perceived usefulness in intention, women are more affected by social influence and also have a higher concern about the complexity of the system. So this study recommends to differ marketing practices for men and women. Constantiou et al. (2007) investigated how different type of users (talkers, writers, photographers and surfers) behave and what is their requirements in different services. Most advanced groups, photographers and surfers, are differ in need like color display and email. Both have price consideration but photographers have more concern about security, EOU, personalization, and comfort. Hsiu-Fen (2011) also discussed that users have different potency of using mobile banking. This study investigated two perspectives of innovation attributes and knowledge-based trust between permanent and potential users on adoption of m-banking in Taiwan and indicates that except benevolence all other factors which are subsets of these two prospects have tremendous influence on attitude.

In terms of Trust, Tao Zhou (2012) tried to identify how initial trust have influence on users based on the elaboration likelihood model (Self-efficacy). This study classified trust to central and peripheral cues which shows both have a powerful effect on trust. On the contrary, according to level of users in self-efficacy, the effect of behavior and strategy of providers on trust is different. On the other hand, Lee and Chung (2009) studied on satisfaction of using m-banking through trust in Korea, based on IS success model. The result showed that the effect of interface design quality is not as strictly significant as system quality and information quality. This study shows that in mobile banking people are more interested on factors which have more credibility to transfer their information and money than appearance and design aspects. Liu et al. (2009) also Analyzed several attribute of trust and found that the importance of perceived usefulness is greater than trust on intention of using m- banking.

Luo et al. (2010) by probing the effects of multi-dimensional trust and multi-faceted risk perceptions on mobile banking services found How risk perception extend its influence in the reduction of intention to use mobile banking.

As we mentioned before, our sample study is conducted in a multicultural case study of Iran and Turkey. So in the area of cross-cultural researches, Bankole and Cloete (2011) stated the result of comparing selected variables on acceptance of mobile banking is almost similar in Africa and Nigeria and the main difference is in the pattern of using services. Mao et al. (2005) selected Turkey and US as a case study to determine influence of usefulness, ease of use, price, and accessibility on intention to use mobile phone services and also explored how usefulness and ease of use affected by the efficiency and personal innovativeness. Chong et al. (2012) used TAM and DOI (diffusion of innovation) plus other additional factors in a cross-cultural study of China and Malaysia to predict intentions to use m-commerce. The predictors of this study which had influence on intention were trust, social influence, cost and variety of services. The only difference between acceptance of Chinese and Malaysian users was variety of services. Increasing in the number of services was a factor of attraction to adopt m-commerce. By contrast, in China people are satisfied with the current services.

Investigation on influential factor on user adoption of m-commerce over China and US shows that in China PU, PEOU, Cost and subjective norm places as major factors and in the US, Privacy, innovativeness, PU, enjoyment and Compatibility are emphasized as influencing intentions to use. (Dai & Palvia 2009)

2.2 TECHNOLOGY ACCEPTANCE MODELS

2.2.1 Theory of Planned Behavior (TPB)

Theory of planned behavior which was suggested by Ajzen (1985, 1987 and 1991) is developed from theory of reasoned action (TRA). Theory of reasoned action (Fishbein & Ajzen 1975) is considered as beliefs and attitude of people toward a behavior (Figure 2.1).

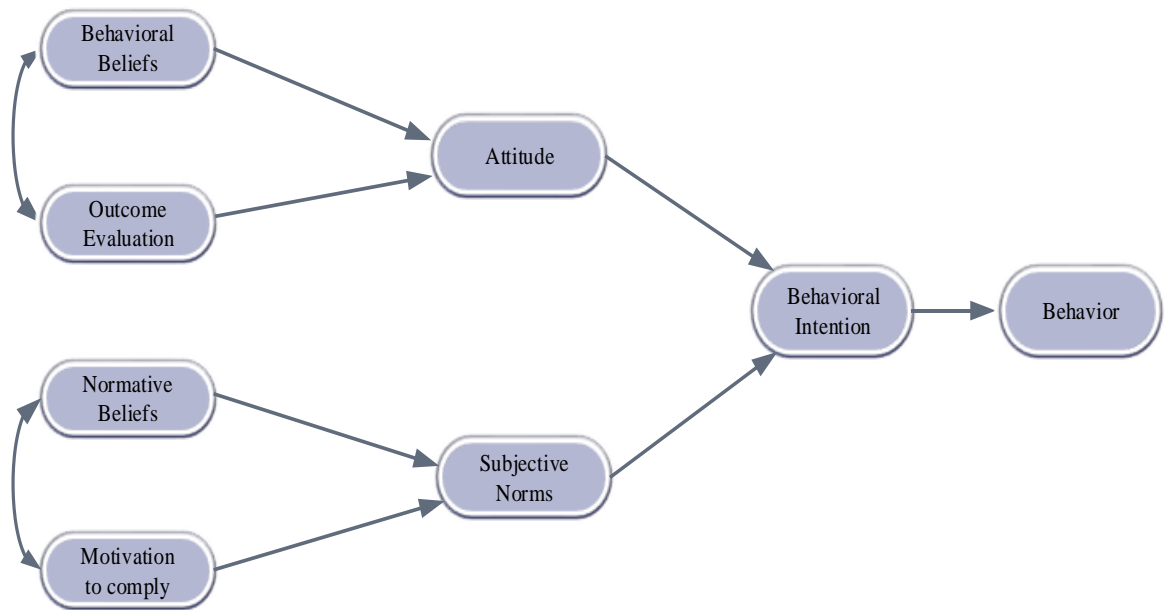


Figure 2.1: The basic Theory of reasoned action.

Source: (Fishbein & Ajzen 1975)

TPB is a psychological model which can predict how people behave toward doing an activity and how people's positive or negative intention cause to adopt a specific behavior.

Major determinants of TPB are Attitude toward the behavior, subjective norm and the last factor which makes TBP to be different from TRA is perceived behavioral control which is a key component of this model. Perceived behavioral control and intention can predict behavior directly. Two below Figures (Figure 2.2 and 2.3) show TPB's structural diagram which are taken from Ajzen (1985, 1991).

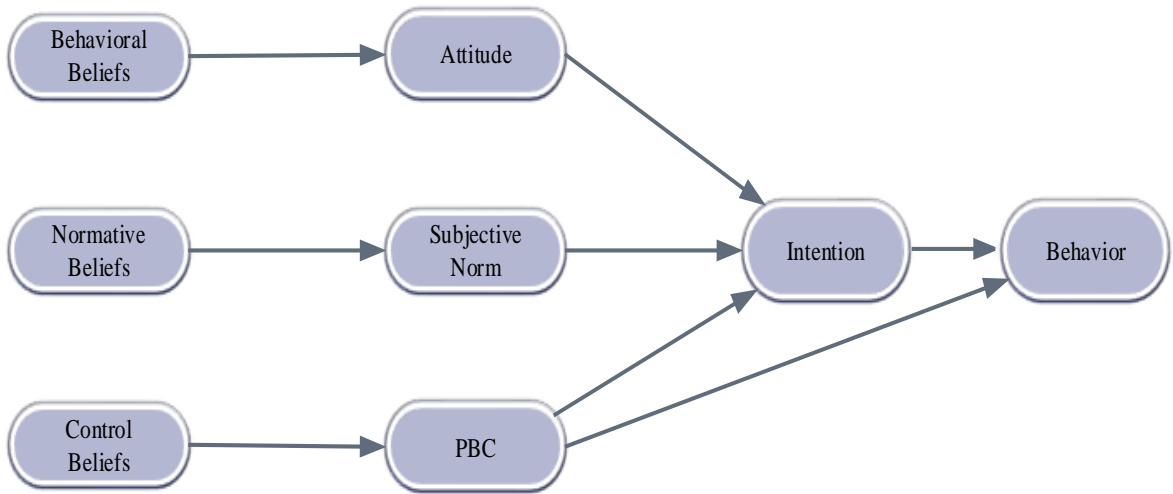


Figure 2.2: Theory of planned behavior.

Source: (Icek Ajzen 1985)

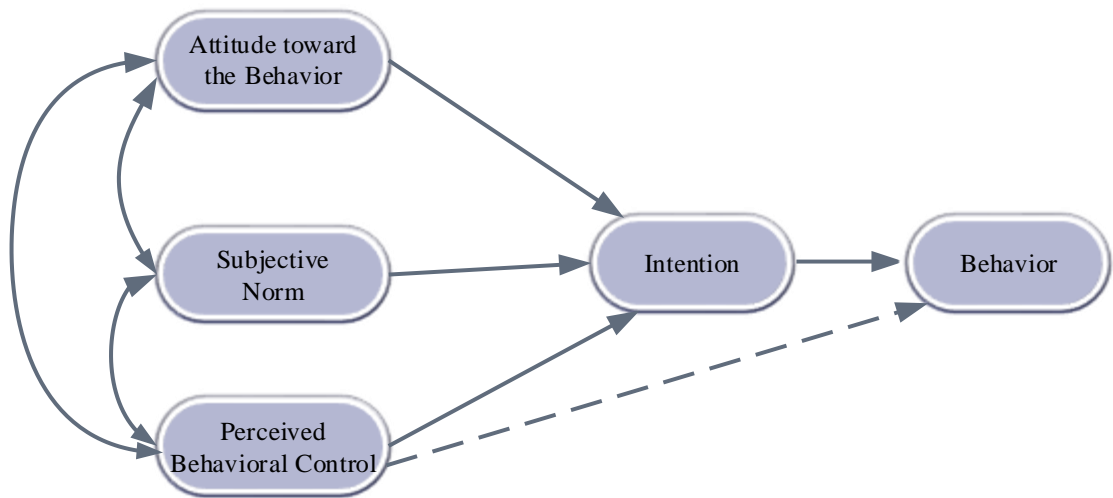


Figure 2.3: Refined Theory of planned behavior.

Source: (Icek Ajzen 1991)

- **Attitude Toward Behavior**

Behavioral beliefs are individual's opinion about the results of a behavior and Attitude toward the behavior refers to peoples' positive or negative idea about a behavior.

As shown in equation (2.1), to calculate attitude toward a behavior (A), beliefs (b) of performing a behavior are multiplied by evaluation (e) of the belief's Attribute then the product is summed for number of beliefs (n) (Ajzen 1991).

$$A \propto \sum b_i e_i \quad (2.1)$$

- **Subjective Norm**

Subjective norm refers to beliefs of people in the society about performing a behavior or not. To estimate subjective norm, multiplication of normative belief (n) and motivation to comply (m) social referent i and then summed over n relevant referents (Ajzen 1991).

The formula is shown in equation (2.2):

$$SN \propto \sum n_i m_i \quad (2.2)$$

- **Perceived Behavioral Control**

Perceived behavioral control indicates beliefs about how much a behavior is simple or sophisticated. To calculate PBC each control belief (c) is multiplied by the perceived power (p) to facilitate performance of the behavior and the result is summed over n control beliefs. The equation is shown as follows: (Ajzen 1991)

$$PBC \propto \sum P_i C_i \quad (2.3)$$

- **Intention**

Behavioral intention is caused by the integration of attitude toward behavior, subjective norm and perceived behavioral control. In the mathematical form of the Theory of planned behavior is shown on equation (2.4) (McSwain, Glandon and Glandon 2008).

$$\text{Intention} = w1 (A_B) + w2 (SN_B) + w3 (PBC_B) \quad (2.4)$$

Where

A = Attitude toward a behavior

SN = Subjective Norm

PBC = Perceived Behavioral Control

w_i = weights that vary across people and contexts

B = the behavior

According to Ajzen's theory of behavior, the more attitude and subjective norm be positive with stronger perceived behavioral control, the higher the impact on intention to do the behavior.

Main factor in both TRA and TPB is the intention of a person toward accomplishing a behavior. How likely people are interested to try or perform a behavior is defined as their intention. From the other side, Behavioral control is a combination of abilities and opportunities or control beliefs. Behavioral performance can be predicted by combinations of Perceived behavioral control (or self-efficiency) and intention. Also the importance of these two factors is changeable through different behaviors. It is clear that between individuals with same intention to gain an achievement, the person with higher and stronger perceived behavioral control is more successful (Ajzen 1991).

2.2.2 Technology Acceptance Model (TAM)

Technology acceptance model (TAM) like TPB is adopted from TRA and is defined as an information system theory by which we evaluate what reasons lead new technology to be accepted by users. Perceive usefulness and ease of use are named as two independent but also two important and fundamental variables of this model.

Legris et al. (2003) determined TAM's main target is to identify how attitudes, internal beliefs and intentions are influenced by external variables.

Where

X_i = Design feature i , $i = 1, n$

EOU = Perceived ease of use

US = Perceived usefulness

ATT = Attitude toward using

USE = Actual use of the system

β = Standardized partial regression coefficient

ϵ = Random error term

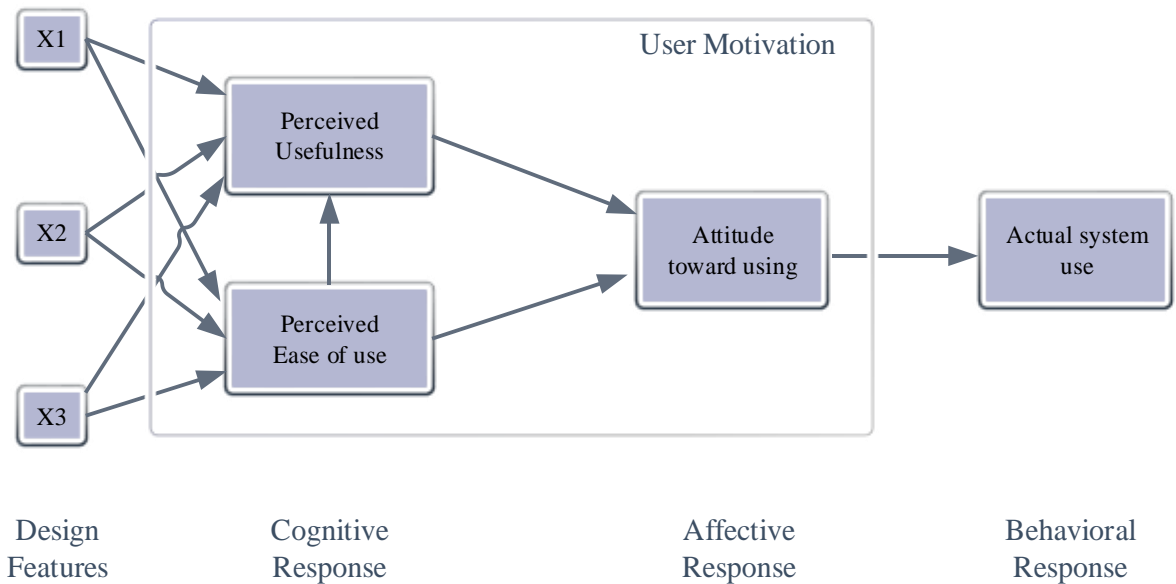


Figure 2.5: Theory acceptance model

Source: Davis 1985

As it is shown in figure 2.6, classical form of theory acceptance model which therein Main independent variables are PU and PEOU and the most important dependent variables are known as AT, BI, and U (Li et al. 2008).

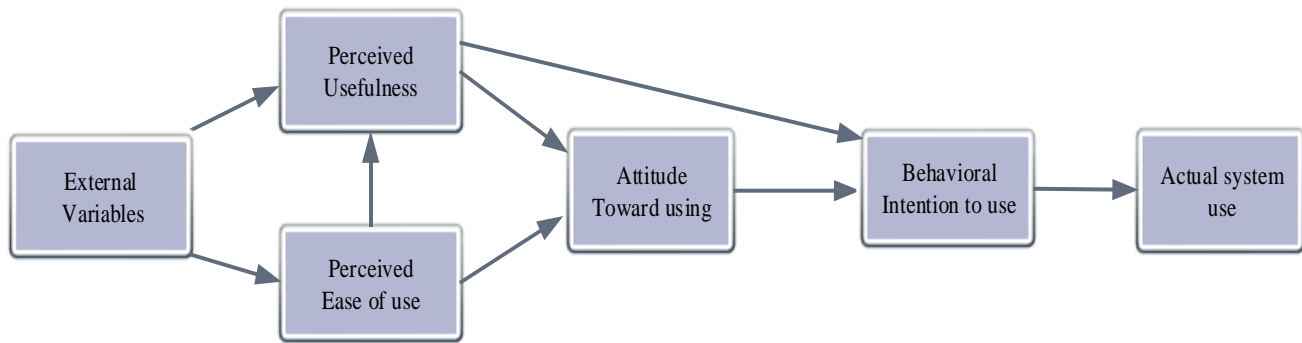


Figure 2.6: Technology Acceptance Model.

Source: Davis et al., 1989

Davis (1989) indicates Perceived usefulness and Perceived ease of use as people’s subjective judgment about performance and effort.

Perceived usefulness and perceived ease of use defined as follows:

People tend to utilize a system because they think this help them to do their job better. PU Refers to the idea that People believe using a new system cause to have advantageously improvement in their job performance (Davis 1989). Another study (Amin et al. 2007) states that PU is directly related to the productivity.

Despite the usefulness of a system some people concerned about difficulty of the system.

PEOU refers to the idea that people believe the new system is free to effort (Davis 1989).

Davis (1993) expressed when a system is easy to use it has the capability to be useful, however the inverse relation doesn’t exist. If the system be more convenient, the user’s performance and usefulness in the job will increase (Davis1985). So, Firms should focus on having a less complicated application and place more value information (Wang et al. 2008).

As Davis (1989) declared in his study, PEOU is more an antecedent of PU than being on the same level. Also usefulness has strongly more correlation with usage behavior than ease of use.

According to TAM, if an individual intends to do a specific action, he or she can do it without any restriction (like TRA). Whereas in real life they may face with some limitations like time, unconscious habits and so on (Yuanquan et al. 2008).

Observation on different studies revealed that TAM has considerable attention for IS usage. In original TAM two Independent variables of US and EOU has a direct effect on intention to use of a technology. But TAM is extended and modified in different studies and various variables are added to the structure of TAM to obtain more understanding of what effects on the adoption and enhancement of using a system. Also investigating to what reasons people change their behavior to use a technology.

As we stated earlier in the literature review, recently researchers get more attracted by following extended TAM in their studies with different constructs specially to explore the user acceptance of mobile banking technology.

3. RESEARCH MODEL

In this chapter we explain about research model and hypotheses which illustrate key factors on estimating the actual use of mobile banking.

3.1 RESEARCH MODEL AND HYPOTHESIS

As we mentioned in the literature review different studies used TRA, TPB, TAM and integration of various models to discover what factors act as a stimulus to mobile banking development in the society. The goal of this study, which is shown on the next page (figure 3.1), is to identify how these factors positively and negatively cause the acceptance of mobile banking in Iran and Turkey by extension of TAM model.

The research model includes nine factors of Perceived usefulness, perceived ease of use, security and Privacy, Compatibility, Trust, Social influence, Facilitating conditions, perceived Cost and Anxiety which are assumed to have influence on consumers to adopt mobile banking. The variables and hypotheses are supported by other studies in terms of technology acceptance.

3.1.1 Perceived Usefulness (PU)

Perceived usefulness (PU) is an individual's subjective assessment of performance. As indicated previously, it is also defined as people's belief in which adoption of a particular system would enhance their performance in the job. In Davis (1985, 1989) findings, Perceived usefulness besides being an important factor on technology acceptance, has a strong relation with usage.

The reason why people use mobile banking is because they find this system useful (Luarn & Lin 2005). The positive impact of perceive usefulness on intention and mobile banking usage is indicated in different studies (Davis 1989; Luarn & Lin 2005; Hanafizadeh et al. 2012; Dai & Palvia 2009).

Being aware of what advantages mobile banking has, have a positive impact on the customer's willingness to use mobile banking. Therefore, we posit the following hypothesis:

H1: Perceived usefulness has a positive effect on acceptance of mobile banking.

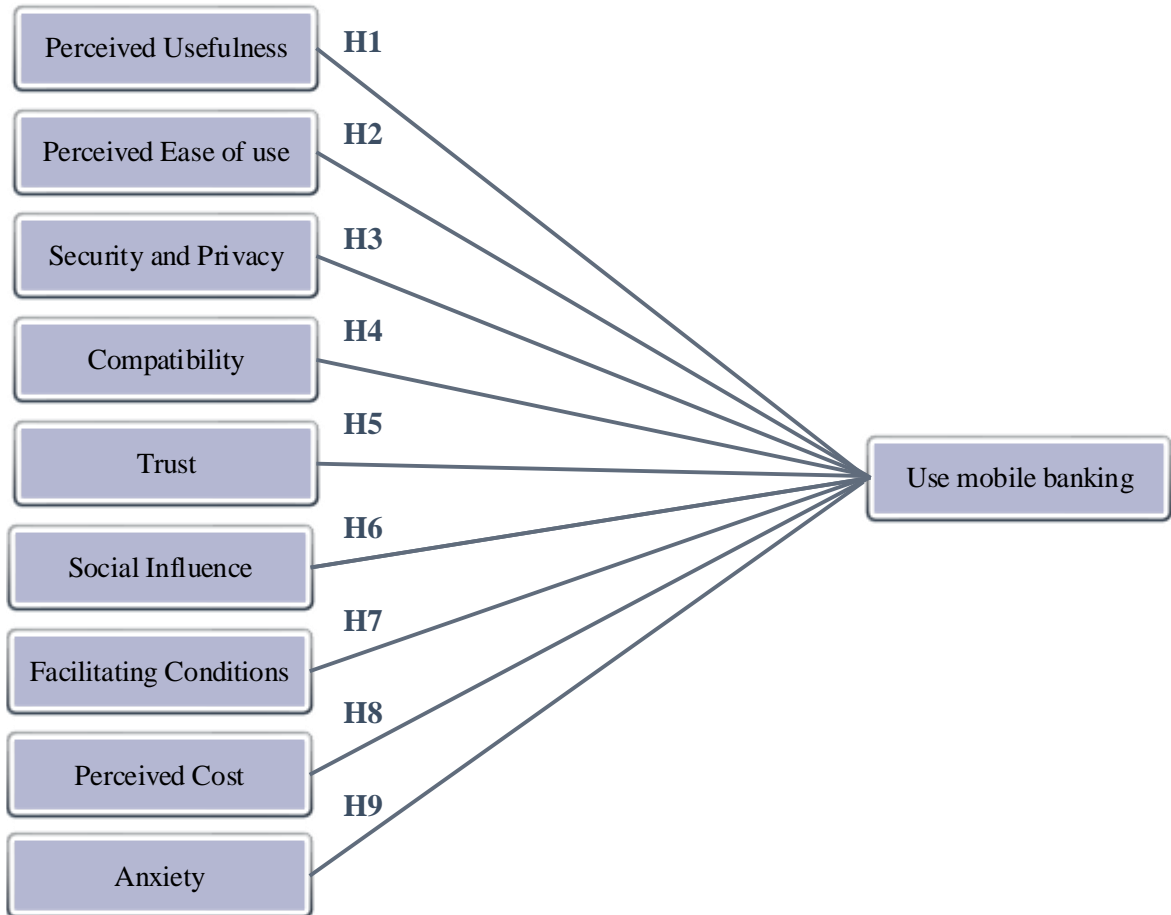


Figure 3.1: Conceptual model

3.1.2 Perceived Ease of use (PEOU)

Perceived ease of use (PEOU) is an individual's subjective assessment of effort and the same as Perceived usefulness, PEOU is also a main variable of TAM. Perceived ease of use is defined as individual's belief in which adoption of a particular System would be free of effort and difficulty (Davis 1985, 1989). Mobile banking systems must be easy in both learning and using terms to prevent problems of the system (Luarn & Lin 2005). Along with simplicity of system and being easy to use Job performance will increase directly too (Davis1985).

Some studies also have shown that perceived ease of use plays a significant role in consumer acceptance (T.Pikkarainen et al. 2004; Davis 1989). Therefore, we posit the following hypothesis:

H2: Perceived ease of use has a positive effect on acceptance of mobile banking.

3.1.3 Security and Privacy (S)

Security context was always a concern for both customers and producers and it will be more crucial in terms of money and banking systems.

Customers claim a secure environment for their personal privacy Because of high risk in openness adds in the mobile context (Dai & Palvi 2009).

One of the people's concern about the adoption of mobile banking services is transferring their personal information without their permission. So assuring them to have a secure transaction and protected privacy, has a positive influence on being a volunteer of using mobile banking (Luarn &Lin 2005).

The more people be ensure about security of the system and their personal privacy, the more likely they get attracted to trust and accept mobile banking . Due to the fact that security is a sophisticated context and need to be more discussed in different dimensions here we just focus on people's concern. Therefore, we posit the following hypothesis:

H3: Security and privacy has a positive effect on acceptance of mobile banking.

3.1.4 Compatibility (COM)

Lin (2011) found that for mobile banking firms it is important to consider compatibility of mobile banking with user's lifestyle and preferences in order to draw user's attention and keep customers.

In the investigation of Hanafizadeh et al. (2012), Compatibility is identified as the most effective factor on intention to use mobile banking. Also this study suggests that the higher user believe in the integration of mobile banking with their daily life as a common task, the higher positive impact on their intention enhance.

Having the literacy of using technologies helps to increase the consumer adoption of mobile banking. In other words being familiar with the technologies in daily life, help individuals to accept new technology like mobile banking easier and without resistance. For example, a person who has done most activities with mobile phone and internet will be interested to use mobile banking sooner than a person who is not well-informed about using mobile phones. Therefore, we posit the following hypothesis:

H4: Perceive compatibility has a positive effect on acceptance of mobile banking.

3.1.5 Trust (T)

Chong et al. (2012) stated that trust on transactions without any physical interaction is a reason of concern for people in China and Malaysia about m-commerce. Also People will trust in mobile banking services if they had a desirable idea toward their banks (Luo et al. 2010).

According to Zhou (2012), initial and continuance trust are two fundamental elements which trust is based on. Initial trust converts to experience trust by experiences which users have gained.

Determinants which have an influential role in the trust are familiarity With Bank, Situational Normality, Structural Assurances and Calculative-based Trust. Afterward, increasing trust has direct influence on behavioral intention (Gu et al. 2009). In another study (Zhou et al. 2010), Trust plays a direct and important role on satisfaction of mobile banking users. The result of this study undoubtedly shows that higher degree of satisfaction brings more motivation to use mobile banking.

So, on the basis of the above studies, Trust on a system lead customers to accept suggestion, information or services from the organization more easily. To trust in a new system such as mobile banking people need to clarify about concerns. Therefore, we posit the following hypothesis:

H5: Trust has a positive effect on acceptance of mobile banking.

3.1.6 Social Influence (SI)

Venkatesh et al. (2003) defined social influence as a degree in which people are influence by others idea about using new system. This study also indicates that social influence represents subjective norm which by earning more experience will get weaker.

Social influence is a factor with high impact on customers which have more tendency to use m-commerce by trends, media, and peers (Chong et al. 2012).

According to Lee & Chung (2009) Social influence significantly has influence on user adoption of mobile banking.

These days' users are in direct connection with their family, friends and society. Also in current time we are witness of the powerful impact of media and advertisement on TV, internet and even social networks on changing people's mind intentionally or unintentionally. Hence, we expect that:

H6: social influence has a positive effect on acceptance of mobile banking.

3.1.7 Facilitating Conditions (FC)

Facilitating condition is an individual belief in existence of a supporter or external factors to overcome difficulties of using the system (Venkatesh et al. 2003).

Customers should have enough financial and operational resources to adopt mobile banking (Lee & Chung 2009). On the other hand, realizing that there are environmental conditions to support individuals lead to find out mobile banking easy to use (Ghotbi & Nassir Gharechedaghi 2012).

Lee & Chung (2009) also revealed that FC has significant influence on mobile banking adoption. In another study, FC has a direct impact on the usage with a stronger effect on older workers with more experiences (Venkatesh et al. 2003). Therefore, we posit the following hypothesis:

H7: facilitating conditions has a positive effect on acceptance of mobile banking.

3.1.8 Perceived Cost (PC)

Many studies define perceived costs as a barrier to accept mobile banking. Hanafizadeh et al. (2012) found that cost has a high negative impact on using mobile banking services in Iran.

In China People with lower income and especially young ones has significant concern about costs, by contrast the costs are affordable by the higher number of people in the US (Dai & Palvi 2009). Similarly Yang (2009) defines system basic fees as a resisting factor to adopt mobile banking.

An investigation over the role of cost in m-commerce in Malaysia showed a negative coefficient which expresses higher cost cause people to lose their intention to use (Chong et al. 2012). Customer compare costs and benefits and if costs exceed the benefits they refuse adopting services (Cheong & park 2005).

Generally speaking, less people can afford using m-banking if the cost is high. Therefore, we posit the following hypothesis:

H8: Perceive Cost has a negative effect on acceptance of mobile banking.

3.1.9 Anxiety (ANX)

Feeling of anxiety is expected to cause a pessimistic outlook which leads to a negative effect on mobile banking usage. In many cases people are afraid of not being able to correct their mistakes such as entering wrong digits and pushing wrong keys in using new technologies, especially when they think they are faced with a virtual bank which is dealing with money.

Many studies debate on the relation between computer anxiety and using computer. Chatzoglou et al. (2009) state it will be difficult to accept simplicity of system if users are fearful and anxious about the system. According to study by Deborah and Christopher (1995), there was a high correlation between anxiety and computer use. Hence, more individual's anxiety results in a fewer use of system. Therefore we expect that a reason for avoiding to use mobile banking can be fear and anxiety barrier. Therefore, we posit the following hypothesis:

H9: Anxiety has a negative effect on acceptance of mobile banking.

Our variable relationships are grouped as PU-U, PEOU-U, S-U, PCOM-U, T-U, SI-U, FC-U, PC-U and ANX-U. Excluding Perceived cost and anxiety, the total variables are hypothesized to have a positive correlation with use mobile banking.

4. DATA ANALYSIS AND METHODOLOGY

4.1 DATA COLLECTION

Iran and Turkey are two countries under investigation in this study. So, we prepared the questionnaire and translated them to both Persian and Turkish. The measurements are taken from different studies based on selected variables in terms of technology acceptance.

The survey is divided into three parts. The first part of the survey involves questions related to personal information (demographic part), the second part contains questions related to variables and the last part involves questions about the use of mobile banking. Except the first part and some questions in the last part, remaining questions were evaluated by five-point likert scale in range of strongly agree to strongly disagree. In the last part there were some questions about how often participants use mobile banking application services (Never, Seldom, Sometimes, Often, Always). (Appendix A)

The questionnaire distributed through friends and other random people in the universities and some banks by online survey and also paper-based in both countries. A total number of 278 Responses were collected which 150 responses were replied by Iranians and 128 responses were related to Turkish people.

4.2 RELIABILITY

In this part the reliability of the instrument for each country is determined separately. To estimate the reliability of measurements and correlation among the questions we tested the internal consistency of each construct by using Cronbach's alpha (α). To achieve the acceptable reliability score we need at least 0.6 between zero and one which means 60% consistency (Hair et al. 1998). Table 4.1 displays the results obtained by testing reliability.

The reliability of Security and facilitating conditions in Iran was 0.029 and 0.54 respectively and in Turkey for security and social influence we had a low alpha amount of 0.45 and 0.58

respectively. Consequently, by removing the items which caused the reliability of these variables to decrease, we reached the satisfactory amount of Cronbach's alpha. Security and Privacy factor is removed because of low alpha value. The final calculated reliability is among 0.6 and 0.89.

Table 4.1: Reliability (Cronbach's Alpha)

Variables	Number of Items	Cronbach's α IRAN	Cronbach's α TURKEY
Perceived Usefulness	4	0.87	0.89
Perceived Ease of Use	3	0.71	0.79
Security and Privacy	5	0.049	0.54
Perceived Compatibility	3	0.81	0.81
Trust	3	0.73	0.85
Social Influence	3	0.65	0.69
Facilitating Conditions	2	0.6	0.81
Perceived Cost	3	0.82	0.85
Anxiety	3	0.74	0.61
Using mobile Banking	3	0.82	0.85

5. RESEARCH FINDING AND ANALYSIS

5.1 SAMPLE OF STUDY

Table 4.2 shows descriptive statistics table of participant's profile in both countries. In Iran the proportion of using mobile banking in both males and females is almost equal; respectively 79 (52.7%) and 71 (47.3%) but in Turkey more male use mobile banking than females; respectively 74 (57.8%) and 54 (42.2%).

The result shows that in total most responses belongs to ages between 18 to 25 and then 26 to 30. The age of above 51 had the least participation in the survey with 4% after ages 41 to 50 with 4.3%.

In Total, 54.3% of respondents have Bachelor degree with 71.9% in Turkey and 39.3% in Iran. 43.3% of participants in Iran and 22.7% of Turkish respondents have Master degree.

Total adoption of mobile banking in these two countries was almost similar. Iranian users with 50.7 percent and Turkish users with 51.3 percent replied "Yes" to using of mobile banking applications for monitoring their finance While 48 percent of whole participants do not use mobile banking. More details about respondents is summarized in the table 5.1 on the next page.

The descriptive statistics table illustrates that usage of mobile banking in both countries are similar. About half of people who take part in this survey in both countries use mobile banking applications .On the other hand, half of them do not interested to use mobile banking. Clearly this information shows that the usage is not high in both Turkish and Iranian customers.

This data lead us to find out what reasons helps to improve peoples 'attention to accept mobile banking as their daily work and adopt it instead of traditional and former banking services.

Table 5.1: Respondents Characteristics

Measure		Total		Iran		Turkey	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Gender	Male	153	55	79	52.7	74	57.8
	Female	125	45	71	47.3	54	42.2
Age	18-25	110	39.6	41	27.3	69	53.9
	26-30	90	32.4	54	36	36	28.1
	31-40	55	19.8	37	24.7	18	14.1
	41-50	12	4.3	9	6	3	2.3
	51>	11	4	9	6	2	1.6
Education	Some college	27	9.7	21	14	6	4.7
	Bachelor	151	54.3	59	39.3	92	71.9
	Master	94	33.8	65	43.3	29	22.7
	Ph.D.	6	2.2	5	3.3	1	0.8
Actual use	Yes	144	52	76	50.7	68	53.1
	No	134	48	74	49.3	60	46.8

5.2 Comparison of variables perspective between two countries

We conducted independent sample t-test to compare our research variables between Iran and Turkey as two different ethnic groups. Table 5-2 reveals that there is no significant difference between Trust, Facilitating conditions, Perceived cost and Anxiety in Iran and Turkey. However, in Perceived usefulness, Perceived ease of use, Perceived compatibility and Social influence we have been witness of a considerable difference.

Table 5.2 Variable Comparison of Iran VS. Turkey

Variables	Group	N	Mean	Std. Deviation	Std. Error Mean	T-Statistic	Sig.
Perceived usefulness	IR	150	1.8350	.80728	.06591	-4.625	.000
	TR	128	2.3262	.94200	.08326		
Perceived Ease Of Use	IR	150	1.7533	.71568	.05844	-5.696	.000
	TR	128	2.3255	.92450	.08172		
Perceived Compatibility	IR	150	2.0111	.85174	.06954	-3.097	.002
	TR	128	2.3464	.95241	.08418		
Trust	IR	150	2.4889	.89047	.07271	.661	.509
	TR	128	2.4193	.85650	.07570		
Social Influence	IR	150	2.9467	.85144	.06952	-2.670	.008
	TR	128	3.2135	.80542	.07119		
Facilitating Conditions	IR	150	1.6733	.81920	.06689	-1.508	.133
	TR	128	1.8281	.89054	.07871		
Perceived Cost	IR	149	3.6644	.89950	.07270	-.283	.777
	TR	128	3.7083	.90008	.07956		
Anxiety	IR	150	3.4433	1.08612	.08868	-.710	.478
	TR	128	3.5313	.95726	.08461		

The result shows that Perceived usefulness was significant, $t(252) = -4.625$, $P = 0.000$ with higher degree in Turkey as opposed to Iran. So, on the average usefulness and relative advantage is more important for Turkish customer ($M = 2.33$, $SD = 0.94$) than Iranian users ($M = 1.8$, $SD = 0.81$). Regarding the difference in Perceived ease of use between Iran and Turkey, Turkish users has been more attracted by the simplicity of mobile banking than Iranians and t-test for unequal variances was significant at $t(237) = -5.696$, $P = 0.000$. Customer in Iran has less interest ($M = 1.75$, $SD = 0.71$) on the average to ease of use than Turkish customer ($M = 2.32$, $SD = 0.92$).

The results indicate that the mean on the Compatibility differ significantly in Turkey ($M = 32.3$, $SD = 0.95$) and Iran ($M = 2$, $SD = 0.85$), $t(276) = 3.1$, $P = 0.002$. Mean of social influence in Turkey ($M = 3.21$, $SD = 0.8$) was greater than Iran ($M = 2.94$, $SD = 0.85$) with t-test value of $t(276) = -2.67$, $P = 0.008$. Although Social influence and compatibility of using mobile banking in Turkish customers seems to be more important than Iranian people, there is not a big gap between their perceptions about these two variables like PU and PEOU. (Appendix b)

After comparing variables between two countries we applied One-way ANOVA to evaluate the relationship between Gender and nationality separately with customers' opinions about using mobile banking. The independent variable of gender includes two groups of male and female and independent variable of nationality divided into two groups of Iran and Turkey. Mean and standard deviation is shown in the table 5.3.

The result of analysis illustrates the test between Gender and use of mobile banking is not significant, $F(1,28) = 1.1$, $P = 0.3$. The P value is more than the significance level (0.05) so the equality of variances is true. Therefore, in the population all genders have equal mean of using mobile banking. Also the variance of the dependent variable across the population is homogenous. The result of one-way ANOVA between nationality and use of mobile banking also is not significant, $F(1,28) = 1.4$, $P = 0.24$. The P value is more than the significance level (0.05) so there is no differences among the groups. Therefore, in the population all nationalities have equal mean of using mobile banking. Also the variance of the dependent variable across population is homogenous. (Appendix c)

Table 5.3 One-way ANOVA (Mean & Standard deviation)

Country/Gender	Mean	Std. Deviation
IR	2.8222	1.13033
TR	2.9844	1.15611
Total	2.8969	1.14307
Male	2.8322	1.17610
Female	2.9760	1.10081
Total	2.8969	1.14307

5.3 DATA ANALYSIS

To find out the correlation between variables we applied Pearson product moment correlation coefficient. This method estimates if there is any linear relationship between two variables in the population. The value of Pearson Correlation Coefficient ranged from -1 to +1. A positive coefficient indicates the values of two variables are in the same direction and a negative coefficient indicates they are in the opposite directions. Also we can determine the high, medium and low degree of correlations in 0.5, 0.3 and 0.1 points respectively (Green and Salkind 2004, P.256).

The following tables (tables 5.4 and 5.5) provides information about the correlation between variables in Iran and Turkey.

5.3.1 Data Analysis in Iran

By investigating the correlation between Use mobile banking and other variables, it is estimated that the most significant relation belongs to perceived Usefulness with 0.61 and Social influence with 0.59 values. Actual use has a low negative correlation with Perceived Cost (-0.20) and Anxiety (-0.37).

For usefulness, excluding Perceived cost (-0.175) and Anxiety (-0.212), which has a weak and negative correlation, there is a positive relationship with other variables.

Perceived ease of use has no relation with the cost but has a significant correlation at 0.01 level with Compatibility (0.463), Trust (0.402), Social influence (0.376), Facilitating conditions (0.577), Anxiety (0.289) and as we discussed above with using mobile banking (0.530).

When we look at Compatibility we can see a significant relationship with all other variables.

Trust seems to have a good relationship with using mobile banking (0.558) and Social influence (0.527) and has no relationship with Cost.

The most relationships of Social influence is with using mobile banking (0.593) and there is no significant relation with Cost and Anxiety.

Facilitating conditions with 0.577 and 0.4 has most relation with Perceived ease of use and using mobile banking respectively.

By examining relationships in Perceived Cost it is seen that there is a low correlation between this variable and others excluding Ease of use, Trust and Social influence which have no significant relation with Perceived cost.

Finally, Anxiety is in a relation with all other variables except Social influence, even if these relations are not high enough.

Table 5.4 Correlation of variables in Iran

	Mean	Std. Deviation	PU	PEOU	COM	T	SI	FC	PCOS	ANX	Use M-Banking
PU	1.84	.81	1.00								
PEOU	1.75	.72	.583**	1.00							
COM	2.01	.85	.574**	.463**	1.00						
T	2.49	.89	.427**	.402**	.480**	1.00					
SI	2.95	.85	.455**	.376**	.405**	.527**	1.00				
FC	1.67	.82	.321**	.577**	.350**	.342**	.246**	1.00			
PCOS	3.66	.90	-.175*	-.144	-.228**	-.153	.010	-.279**	1.00		
ANX	3.44	1.09	-.212**	-.289**	-.246**	-.342**	-.063	-.213**	.397**	1.00	
Use M-Banking	2.81	1.13	.610**	.530**	.552**	.558**	.593**	.400**	-.203*	-.368**	1.00

Note: N=150.

** Correlations are significant at 0.01 level (P<0.01).

* Correlations are significant at 0.05 level (P<0.05).

5.3.2 Data Analysis in Turkey

Table 5.5 illustrates correlations among variables in the research model in Turkey.

The correlation between Use of mobile banking and other variables shows that all variables have a significant relationship with using mobile banking positively while Cost (-0.180) and Anxiety (-0.221) have a low negative relationship with mobile banking usage in the significance levels of 0.04 and 0.01.

By looking through correlations between Perceived usefulness and other variables it is seen that this independent variable has a significant relationship with all other variables.

Perceived ease of use has no relation with Anxiety but has a significant correlation at 0.01 level with Trust (0.497), social influence (0.436), Facilitating conditions (0.464) and higher degree of relation with Compatibility (0.729) and using mobile banking (0.638).

Regarding to Compatibility, the statistics show that it has a significant correlation with every other variables and the highest relationships are with ease of use (0.73), usefulness (0.67) and usage of mobile banking (0.68).

Trust in Turkey seems to have the best correlation with using mobile banking (0.442) and Compatibility (0.524).

The relationships between Social influence and other variables is significant with use of mobile banking (0.459), Perceived usefulness (0.357), Perceived ease of use (0.436), Compatibility (0.415) and Trust (0.36).

There is no significant relationship between Facilitating conditions and the variables of Social influence and Anxiety.

Excluding Perceived usefulness and Social influence there is a significant correlation between Perceived Cost and remaining variables.

Finally, by investigating Anxiety has been seen that there is a relation with all other variables except Perceived ease of use, Social influence and Facilitating conditions. The most relationship with Anxiety is estimated to Perceived Cost (0.538).

By comparing these two countries we realize that the highest correlation in Iran related to Perceived usefulness and Using mobile banking with the value of 0.61 while in Turkey the highest relationship belongs to Perceived usefulness and perceived ease of use with the value of 0.747 and Perceived ease of use and Compatibility with 0.729. But the best relationship with the use of mobile banking in Turkey belongs to Compatibility (0.676), Perceived usefulness (0.65) and Perceived ease of use (0.64), respectively.

Perceived Cost in both countries had very low relationships with other variables excluding Anxiety in Turkey (0.538).

Anxiety has a negative correlation with other variables except Perceived cost in both countries.

The least value of correlation in Iran related to Perceived Cost and usefulness (-0.175). However in Turkey the lowest relationships are as follows: Perceived cost and use of mobile banking (-0.18), Perceived cost and ease of use (-0.18) and Perceived usefulness and Anxiety (-0.196).

Table 5.5 Correlation of variables in Turkey

	Mean	Std. Deviation	PU	PEOU	COM	T	SI	FC	PCOS	ANX	Use M-Banking
PU	2.33	.94	1.000								
PEOU	2.33	.92	.747**	1.000							
COM	2.35	.95	.671**	.729**	1.000						
T	2.42	.86	.477**	.497**	.524**	1.000					
SI	3.21	.81	.357**	.436**	.415**	.360**	1.000				
FC	1.83	.89	.476**	.464**	.594**	.491**	.077	1.000			
PCOS	3.71	.90	-.169	-.181*	-.356**	-.244**	.166	-.428**	1.000		
ANX	3.53	.96	-.196*	-.161	-.281**	-.277**	.007	-.144	.538**	1.000	
Use M-Banking	3	1.15	.649**	.638**	.676**	.442**	.459**	.379**	-.180*	-.221*	1.000

Note: N=128.

** Correlations are significant at 0.01 level (P<0.01).

* Correlations are significant at 0.05 level (P<0.05).

6. DISCUSSION AND CONCLUSION

6.1 DISCUSSION

In the previous section we have estimates correlation between variables and in this section we aim to test hypothesis. Result of hypothesis test listed in the table 6.1 and 6.2.

Table 6.1 Hypothesis test – Iran

Hypothesis	Relationship	Correlation	R ²	Result
H1	PU – USE	0.61	0.37	Accepted
H2	PEOU – USE	0.53	0.28	Accepted
H3	S – USE	-	-	Removed
H4	COM – USE	0.55	0.3	Accepted
H5	T – USE	0.56	0.31	Accepted
H6	SI – USE	0.59	0.35	Accepted
H7	FC – USE	0.4	0.16	Accepted
H8	PC – USE	-0.2	0.04	Accepted
H9	ANX – USE	-0.37	0.14	Accepted

Table 6.2 Hypothesis test - Turkey

Hypothesis	Relationship	Correlation	R ²	Result
H1	PU – USE	0.65	0.42	Accepted
H2	PEOU – USE	0.64	0.41	Accepted
H3	S – USE	-	-	Removed
H4	COM – USE	0.68	0.46	Accepted
H5	T – USE	0.44	0.19	Accepted
H6	SI – USE	0.46	0.21	Accepted
H7	FC – USE	0.38	0.14	Accepted
H8	PC – USE	-0.18	0.03	Accepted
H9	ANX – USE	-0.22	0.05	Accepted

For the first hypothesis the Pearson correlation is equal to 0.61, $R^2 = 0.37$ and this correlation is positive and significant at 0.000 in Iran. This means that 37 % of the variance in mobile banking acceptance can be accounted by usefulness. While in Turkey, correlation is equal to 0.65, $R^2 = 0.42$ and $P = 0.000$ which indicates 42% of the variance in mobile banking acceptance can be explained by usefulness. So this hypothesis is accepted and the comparison shows that the higher perceived usefulness the higher acceptance of using mobile banking. So, in order to increase acceptance of mobile banking usage, supplying beneficial information align with customers' need to gain advantages is a key factor for firms and banks. Other previous studies also agreed upon the belief that banks should enhance customer awareness about Perceived usefulness and promotion of service quality. (Amin, Baba and Muhammad 2007; Hanafizadeh et al. 2012)

In the second hypothesis we also found a positive and significant relationship between Perceived Ease of use and use mobile banking with $r(150) = 0.53$, $R^2 = 0.28$ and $P = 0.000$ in Iran which means 28% of the variance in mobile banking acceptance can be accounted by ease of use. Similarly in Turkey, this relationship is positive and equal to 0.64, $R^2 = 0.41$ and $P = 0.000$, which indicates 41% of the variance in mobile banking acceptance can be explained by Ease of use. So this hypothesis is accepted in both countries. Due to the importance of using an easy to use system for both Iran and Turkey, if improvement of acceptance is highlighted, focusing on building a convenient and easy to understand app can have a positive effect on mobile banking acceptance. Aligned with our finding Hanafizadeh et al. (2012) also suggests that it is better to design a mobile software which be convenient and easy for all groups in the society. Some other findings also show the positive impact of ease of use on intention and using mobile banking (Amin et al. 2007; Lin 2011; Dai & Palvia 2009). But in Liu et al. (2009) study, Ease of use is not a significant factor because of familiarity of customers with online banking and similarity of mobile banking software's to online banking.

By the research result, hypothesis 4 is accepted with a positive correlation of 0.55, $R^2 = 0.3$ and $P = 0.000$ in Iran which indicates 30% of the variance in mobile banking acceptance can be accounted by Compatibility of system with daily life. In Turkey correlation is stronger than Iran with $r(128) = 0.68$, $R^2 = 0.46$ and $P = 0.000$ which indicates 46% of the variance in mobile banking acceptance can be explained by Compatibility. So this hypothesis is accepted in both countries. According to this finding suitability and existence of a harmony between peoples' daily life, job and mobile banking usage can enhance the tendency of customers to utilizing mobile banking. Lin (2011) claims that to attract and keep the customers, firms should accept the compatibility of individuals with life style. Dai & Palvia (2009) also found the compatibility as a significant factor in the US and suggests to vendors to identify users need. In addition, Hanafizadeh et al. (2012) suggests that finding out how customer manage their banking job, what is their need and how they are more convenient, leads to promote compatibility and increase in number of mobile banking users.

For hypothesis 5 we found a positive and significant relationship between Trust and using mobile banking in $p = 0.000$ level, $r(150) = 0.56$ and $R^2 = 0.31$ among Iranian which means 31% of the variance in mobile banking acceptance can be accounted by Trust. In Turkey correlation is lower than Iran with $r(128) = 0.44$, $R^2 = 0.19$ and $P = 0.000$ which indicates 19% of the variance in mobile banking acceptance can be explained by Trust. So this hypothesis is accepted in both countries. Lee and Chung (2009) found a positive effect of trust on user's satisfaction. Hanafizadeh et al. (2012) discovered being trustworthy for banks itself is more important than telecommunication operators and producers. So being satisfy with a system keep attention of banking users to try and continue to use mobile banking. Since both nations have concern about having trust on the way they are following their banking transactions, if customers' perspective toward reliability and security of banks is guided to a positive way, this will have a direct effect on acceptance of mobile banking. It would be better if Providers do their best effort to bridge the gap between mistrust and their mission for their long term success.

According to the research result, hypothesis 6 with $r(150) = 0.59$, $R^2 = 0.35$ and $P = 0.000$ is accepted with a positive relation with use mobile banking which means 35% of the variance in using mobile banking is able to explain by Social influence in Iran. In Turkey also there is a significant positive correlation between Social Influence and mobile banking usage which equals to $r(128) = 0.46$, $R^2 = 0.21$ and $P = 0.000$ which indicates 21% of the variance in mobile banking acceptance can be explained by Social influence. So hypothesis 6 is accepted in both countries. This result shows to what extent people have been affected by family, friends and other people in the society. Hence, applying different type of advertising like TV commercials, informative brochures in banks, outdoor advertising (e.g billboards, video billboards, bus shelters) and public demonstration to make people aware of new services and making them familiar with the advantages and positive valuation of using mobile banking apps, will make penetration of mobile banking more commonplace.

In Chong et al. (2012) study, Social influence is a significant predictor of intention to adopt mobile commerce. Zhou et al. (2010) also indicates that Social influence has a significant impact on user adoption of mobile banking.

Hypothesis 7 states that facilitating conditions has a positive relation with mobile banking usage. This claim is accepted with $r(150) = 0.4$, $R^2 = 0.16$ and $P = 0.000$ in Iran which means 16% of the variance in mobile banking acceptance can be accounted by Facilitating conditions. While in turkey the correlation is close to Iran with $r(128) = 0.38$, $R^2 = 0.14$ and $P = 0.000$ which indicates 14% of the variance in mobile banking acceptance can be accounted by Facilitating conditions. So this hypothesis is accepted in both countries and reveals that accessibility to enough facility of using mobile banking such as suitable phone which be compatible with banking app, knowledge to use, internet and etc. can growth user acceptance of mobile banking. Providing banking software which has compatibility with different type of operating systems in mobile phones is the crucial point that can help to attract people toward mobile banking utilization. Gu et al. (2009) found the facilitating conditions has a significant effect on ease of use. So, simplicity of the system will make people more interest to use mobile banking.

The result shows that hypothesis 8 in Iran has a correlation of $r(150) = -0.2$, $R^2 = 0.04$ and $P = 0.013$ which means 4% of the variance in mobile banking acceptance can be accounted by Cost and in Turkey the correlation is equal to $r(128) = -0.18$, $R^2 = 0.03$ and $P = 0.42$ which indicates only 3% of the variance in mobile banking acceptance can be explained by Cost. So this hypothesis is accepted in both countries. The relationship between Cost and using mobile banking in both countries is negative and very low in spite of being significant in 0.05 level. While cost in Dai & Palvi (2009) study is a critical concern for Chinese. In Hanafizadeh et al. (2012) study also the cost correlation with intention to use is low and negative. To agree with this study which suggested reducing cost by banks to remove this barrier, our study also states that reducing cost of banking transactions and devices give people a positive view about trying a way which may be more economical with more reasonable price and make them more interest to use mobile banking.

Last but not least, by testing hypothesis 9 we found that there is a negative relationship between anxiety and use mobile banking with correlation of $r(150) = -0.37$, $R^2 = 0.14$ and $P = 0.000$ in Iran which indicates 14 % of variance in mobile banking acceptance can be explained by anxiety and this relationship in Turkey is equal to $r(128) = -0.22$, $R^2 = 0.05$ and $P = 0.012$ which indicates 5% of variance in mobile banking acceptance can be explained by anxiety. So, this hypothesis is accepted in both countries. As we mentioned before in the research model section, anxiety is a belief about having no control over what we are doing and afraid about doing something wrong and do not have ability to solve and handle it. These results show that feelings of fear and anxiety about using mobile banking in both nationalities, reduce the tendency toward adopting this technology as a real bank. Low awareness of people about how this technology works and what advantages it has are some reasons for increasing worry to use. Improving guidance and Teaching customers how to manage their finances is a helpful way for banks to widen customers' experience and guiding them to reach their potential to use. Also being in touch with customers by emails and SMS and sending them up-to-date information about new services and their instructor to work can keep current customers to follow their banks constantly. Yang (2009) Suggests User trial

subscription period for reducing anxiety of customers. This idea is even possible for special services or limited number.

In Iran Perceived usefulness and then Social influence have the most impact on using mobile banking. It shows that gaining relative advantages and benefits from services plays an important role in Iranian characteristic to use a technology. Furthermore, Iranian user can be persuaded into using mobile banking by the environment and behavior of others in the society can be a confirmation to do the same. While in Turkey Compatibility, perceived usefulness and then ease of use respectively are the most influential factors for acceptance of mobile banking. It shows that Turkish customers have concerns about usefulness and simplicity of the system. But the most concern in Turkey return to compatibility of this technology with customers' lifestyle. So they focus on selecting a right service which is aligned with their daily work.

Both Iranian and Turkish customers are similar to have lower concern about cost and anxiety. This declares familiarity of people with mobile computing and having enough knowledge to use new information systems.

The result of our research statistic from sample of Iran and Turkey shows that mobile banking customers in Iran have more tendency to apply mobile banking apps for checking account, transferring money and paying bills, while in Turkey monitoring credit card, checking account and transferring money are the most usage of mobile bank apps. Meanwhile, The most utilize of mobile banking apps in Iran belongs to Saderat Bank, Melli Bank and Mellat Bank with the proportion of 36.8%, 34.2% and 30.3% respectively. (We should note that some people use more than one mobile bank app). On the other side, İş Bank and Garanti Bank have the higher number of customers for their mobile banking apps in proportion to other banks in Turkey with percentages of 32.4% for İş Bank and 23.5% for Garanti Bank. Furthermore, in average, number of referring to mobile banking by Iranian users is approximately 17 times in a month while Turkish users refer to their mobile banking almost 9 times in a month.

6.2 CONCLUSION

Today, banking sector and customers both are sides of a revolution in the banking industry and push for increasing mobile banking has begun. There are some studies which investigated in the mobile banking environment in the context of Iran but there is no preceding multicultural study regarding to mobile banking over Iran.

The major goal of our research is finding the factors with most positive or negative influence on the mobile banking acceptance between two cultural areas of Iran and Turkey. We adopted extended Technology acceptance model (TAM) to develop our research model. The nine factors are tested including perceived usefulness, Perceived ease of use, Security and Privacy, compatibility, Trust, Social influence, Facilitating conditions, Perceived cost and Anxiety. Security and privacy factor is removed due to measurement issue. Other hypothesis are accepted and findings show that all eight factors significantly affect Iranian and Turkish customers' toward the use of mobile banking. Based on the findings, in Iran perceived usefulness ($R^2 = 0.61$) and Social influence ($R^2 = 0.69$) was verified as the most effect on acceptance of mobile banking and in Turkey Compatibility ($R^2 = 0.68$) then Usefulness ($R^2 = 0.65$) and ease of use ($R^2 = 0.64$) were the most factor in interest of Turkish customers. Both perceived cost and Anxiety had a similar negative effect on the use of mobile banking.

Although many banks provided m-banking services, many people still follow traditional ones. Also they are more attracted by SMS banking and telephone banking than using an application. It may be because they didn't realize the compatibility of mobile banking with their life same as previous banking services. In order to increase customer adoption of mobile banking, Bank organizations, except finding what factors make the probability of using m-banking stronger or weaker, may need to apply some different strategies. Finding attraction ways such as using advertising and trials to let people get more familiar with the advantages of using m-banking besides making them convinced about security and efficiency of services to assure them about trustworthy and reliability of mobile banking can be useful ways. Also removing some obstacles can promote the use of mobile banking. For example one obstacle

is mobile banking applications are not available for all devices and another disadvantages in Iran can be daily limitation for money transferring and infrastructural issues.

In the further research we will focus on security and privacy factor because we had to remove it because of measurement issues.

REFERENCES

Books:

Green, Samuel B., Salkind, Neil J. 2004. *Using SPSS for the Macintosh and Windows: Analyzing and Understanding Data* (Fourth Edition). Pearson.

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

Hair, J., Anderson, R., Tatham, R., & Black, W. 1998. *Multivariate Data Analysis* (Fifth Edition). New Jersey: Prentice-Hall. Inc.

Periodicals:

Amini Fard, H., 2010. Virtual bank requirements in Iran banking network. *Saderat Bank Magazine 53*, [online] autumn 2010, P.82, <http://www.bsi.ir/News-Publications-Periodical/default.bsi> [accessed 28 December 2012].

Rakhshanifar, 2010. Mobile banking perspective in Iran. *Saderat Bank Magazine 53*, [online] autumn 2010, P.82, <http://www.bsi.ir/News-Publications-Periodical/default.bsi> [accessed 28 December 2012].

İşbank, Annual Report, 2009, 2011, http://www.isbank.com.tr/English/content/EN/Investor_Relations/Publications_and_Results/Annual_Reports-400-548.aspx.

Other Sources:

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

Al-Somali, S. A., Gholami, R. & Clegg, B. 2009. An investigation into the acceptance of online banking in Saudi Arabia. *Technovation*, 29, 130-141.

Amin, H., Baba, R. & Muhammad, M. Z. 2007. An analysis of Mobile Banking Acceptance by Malaysian Customers. *Sunway Academic Journal*, 41-12.

Bankole, O. & Cloete, E. Mobile banking: A comparative study of South Africa and Nigeria. *AFRICON*, 2011, 13-15 Sept. 2011. 1-6.

Beiginia, A. R., Soleimani Besheli, A., Esfandiari Soluklu, M. & Ahmadi, M. 2011. Assessing the Mobile Banking Adoption Based on the Decomposed Theory of Planned Behaviour. *European Journal of Economics*.

Chatzoglou, P. D., Sarigiannidis, L., Vraimaki, E. & Diamantidis, A. 2009. Investigating Greek employees' intention to use web-based training. *Computers & Education*, 53, 877-889.

Cheong, J. H. & Park, M.-C. 2005. Mobile internet acceptance in Korea. *Internet Research*, 15, 125-140.

Chong, A. Y.-L., Chan, F. T. S. & Ooi, K.-B. 2012. Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia. *Decision Support Systems*, 53, 34-43.

Compeau, D. R. & Higgins, C. A. 1995. Computer self-efficacy: development of a measure and initial test. *MIS Q.*, 19, 189-211.

Constantiou, I. D., Damsgaard, J. & Knutsen, L. 2007. The four incremental steps toward advanced mobile service adoption. *Commun. ACM*, 50, 51-55.

Dai, H. & Palvi, P. C. 2009. Mobile commerce adoption in China and the United States: a cross-cultural study. *SIGMIS Database*, 40, 43-61.

Dangolani, S. K. 2011. The Impact of Information Technology in Banking System (A Case Study in Bank Keshavarzi IRAN). *Procedia - Social and Behavioral Sciences*, 30, 13-16.

Davis, F. D. 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Q.*, 13, 319-340.

- Davis, F. D. 1993. User acceptance of information technology: system characteristics, user perceptions and behavioral impacts. *Int. J. Man-Mach. Stud.*, 38, 475-487.
- Ghotbi, A. & Nassir Gharechedaghi, N. 2012. Mobile Banking, Challenges and Strategies in the Banking System of Iran. *Journal of Basic and Applied Scientific Research*, 2, 5583-5594.
- Gu, J.-C., Lee, S.-C. & Suh, Y.-H. 2009. Determinants of behavioral intention to mobile banking. *Expert Systems with Applications*, 36, 11605-11616.
- Hanafizadeh, P., Behboudi, M., Abedini Koshksaray, A. & Jalilvand Shirkhani Tabar, M. 2012. Mobile-banking adoption by Iranian bank clients. *Telematics and Informatics*.
- Lee, K. C. & Chung, N. 2009. Understanding factors affecting trust in and satisfaction with mobile banking in Korea: A modified DeLone and McLean's model perspective. *Interacting with Computers*, 21, 385-392.
- Legris, P., Ingham, J. & Colletette, P. 2003. Why do people use information technology? A critical review of the technology acceptance model. *Information & Management*, 40, 191-204.
- Li, Y., Qi, J. & Shu, H. 2008. Review of Relationships Among Variables in TAM. *Tsinghua Science & Technology*, 13, 273-278.
- Lin, H.-F. 2011. An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. *International Journal of Information Management*, 31, 252-260.
- Liu, Z., Min, Q. & Ji, S. 2009. An Empirical Study on Mobile Banking Adoption: The Role of Trust. *Proceedings of the 2009 Second International Symposium on Electronic Commerce and Security - Volume 02*. IEEE Computer Society.
- Luarn, P. & Lin, H.-H. 2005. Toward an understanding of the behavioral intention to use mobile banking. *Computers in Human Behavior*, 21, 873-891.
- Luo, X., Li, H., Zhang, J. & Shim, J. P. 2010. Examining multi-dimensional trust and multi-faceted risk in initial acceptance of emerging technologies: An empirical study of mobile banking services. *Decision Support Systems*, 49, 222-234.
- Mao, E., Srite, M., Bennett Thatcher, J. & Yaprak, O. 2005. A Research Model for Mobile Phone Service Behaviors: Empirical Validation in the U.S. and Turkey. *Global Information Technology Management*, 8, 7.

- Mcswain, D. N., Glandon, S. & Glandon, T. A. 2008. The Theory Of Planned Behavior: An Examination Of Governmental Financial Managers' Intentions To Modify Internal Controls For E-Services. *Review of business information systems.*, 12, 33-52.
- Pikkarainen, T., Pikkarainen, K., Karjaluoto, H. & Pahnla, S. 2004. Consumer acceptance of online banking: an extension of the technology acceptance model. *Internet Research*, 14, 224 - 235.
- Riquelme, H. E. & Rios, R. E. 2010. The moderating effect of gender in the adoption of mobile banking. *International Journal of Bank Marketing*, 28, 328 - 341.
- Sheng, M., Wang, L. & Yu, Y. An Empirical Model of Individual Mobile Banking Acceptance in China. Computational and Information Sciences (ICCIS), 2011 International Conference on, 21-23 Oct. 2011 2011. 434-437.
- Soroornejad, S. & Akhavan Kharazian, M. Adoption Of Customers Of M-banking Services : Iranian Perspective.
- Thair, A., Luo, S. & Peter, S. Consumer acceptance of mobile payments: An empirical study. New Trends in Information Science and Service Science (NISS), 2010 4th International Conference on, 11-13 May 2010 2010. 533-537.
- Venkatesh, V., Morris, M. G., B. Davis, G. & D. Davis, F. 2003. User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27, 425-478.
- Wang, C.-C., Lo, S.-K. & Fang, W. 2008. Extending the technology acceptance model to mobile telecommunication innovation: The existence of network externalities. *Journal of Consumer Behaviour*, 7, 101-110.
- Yang, A. S. 2009. Exploring adoption difficulties in mobile banking services. *Canadian Journal of Administrative Sciences / Revue Canadienne des Sciences de l'Administration*, 26, 136-149.
- Zhou, T. 2012. Understanding users' initial trust in mobile banking: An elaboration likelihood perspective. *Computers in Human Behavior*, 28, 1518-1525.
- Zhou, T., Lu, Y. & Wang, B. 2010. Integrating TTF and UTAUT to explain mobile banking user adoption. *Computers in Human Behavior*, 26, 760-767.
- Davis, Jr., (1985). A Technology acceptance model for empirically testing new end-user information systems: theory and results. *Thesis for the Ph.D. Degree*. Massachusetts: Institute of technology.

Mobile Marketing Association, Mobile banking overview, 2009,
<http://www.mmaglobal.com>, p.1-13.

International Communication Union, Mobile banking, 2011,
<http://www.itu.int/net/itunews/issues/2011/07/32.aspx> [retrieval date 23 February 2013].

Come Score Data Mine, Mobile Banking App Usage Increases Dramatically in 2011, 2012,
<http://www.comscoredatamine.com/2012/02/mobile-banking-app-usage-increases-dramatically-in-2011/> [retrieval date 24 February 2013].

MC, 2010, <http://www.marketingcharts.com/wp/direct/mobile-banking-usage-to-double-by-2013-13351/> [retrieval date 24 February 2013].

TC, 2012, <http://techcrunch.com/2012/08/14/report-46-of-u-s-bank-account-holders-will-use-mobile-banking-by-2017/> [retrieval date 24 February 2013].

Federal Reserve Board reports and publications, Consumers and Mobile Financial Services, 2013, <http://www.federalreserve.gov/newsevents/press/other/20130327b.htm>. [retrieval date 2 March 2013].

Isbecer, Fatih, Turkey is leading the mobile revolution in the Middle East, 2011,
<http://techcrunch.com/2012/08/14/report-46-of-u-s-bank-account-holders-will-use-mobile-banking-by-2017/>. [retrieval date 14 December 2012].

Çimen Fulya, What are Turkish Banks Doing in Mobile, 2012,
<http://sosyalmedya.co/en/turkish-banks-mobile-report/>.

Pozitron, <http://www.pozitron.com/iscep-gets-best-finance-application-award/>.

Okan, Süleyman Active Mobile Banking Users Tripled in a Year, 2012,
<http://sosyalmedya.co/en/mobile-banking-infographic/>.

Iran Telecommunication Company, <http://tci.ir/s40/page5.aspx?lang=Fa>.

FABA group, 2010, <http://sarmayebank.blogfa.com/post/79>.

Monetary and Banking research institute central bank of Iran, Mobile banking solution,
<http://conf.mbri.ac.ir/ebps2/Default.aspx?PageName=Pages&ID=87>.

Hair, R. Anderson, R. Tatham, W. Black, Multivariate Data Analysis, 5th edn. (Prentice Hall International, London, 1998)

Appendix A:

Measurements

Variables	Questions	Recourses
Perceived usefulness	(1) Adopting mobile banking will allow me to conduct banking transactions more efficiently. (2) Adopting mobile banking will enable me to accomplish banking transactions more quickly. (3) Adopting mobile banking is a convenient way to conduct banking transactions. (4) Adopting mobile banking is useful for managing my finances.	(Lin 2011)
Perceived ease of use	(1) It is easy to adopt mobile banking to accomplish banking transactions. (2) Interaction with mobile banking does not require a lot of mental effort. (3) I think it would be simple for me to become skilled at using mobile banking.	(Lin 2011) (Hanafizadeh et al. 2012)
Security and privacy	(1) Using the mobile banking is financially not secured (2) I am worried about the security of mobile banking (3) Overall, matters of security has an influence on using mobile banking (4) I trust in the ability of mobile banking to protect my privacy (5) I trust m – banking as a bank	(Hanafizadeh et al. 2012) (Pikkarainen et al. 2004)
Perceived compatibility	(1) Mobile banking is compatible with my lifestyle. (2) Adopting mobile banking fits well with the way I like to manage my finances. (3) I believe that my mobile phone is compatible with mobile banking technology.	(Lin 2011) (Koenig-Lewis et al.2010)

Trust	<p>(1) I would trust my bank to offer secure mobile banking</p> <p>(2) I would trust my mobile phone manufacturer to provide a mobile Phone which is appropriate for conducting mobile banking</p> <p>(3) I would trust my telecommunication operator to provide secure data Connections to conduct mobile banking</p>	(Hanafizadeh et al. 2012)
Social influence	<p>(1) I would consider using m-banking if someone personally recommended it</p> <p>(2) When trying new technology, I trust my own instinct more than advice from others</p> <p>(3) Most people who are important to me think that I should use or continue to use mobile banking</p> <p>(4) use mobile banking because many people use mobile banking</p>	<p>(Al-Somali, Gholami and Clegg 2009)</p> <p>(Gu et al.2009)</p>
Facilitating conditions	<p>(1) I have the necessary resources to use mobile banking.</p> <p>(2) I have the necessary knowledge to use mobile banking.</p> <p>(3) If I have difficulty using mobile banking, there will be Professional to help me.</p>	(Zhou, Lu and Wang 2010)
Perceived Cost	<p>(1)It would cost a lot to use mobile phone banking</p> <p>(2)I think that the internet access cost of using mobile phone banking would be high</p> <p>(3)There are financial barriers (e.g. internet access cost or unqualified mobile phone) to me using mobile banking</p>	(Hanafizadeh et al. 2012)
Anxiety	<p>(1) I feel apprehensive about using m-banking</p> <p>(2) I hesitate to use m-banking for fear of making mistakes I cannot correct.</p> <p>(3) m-banking are somewhat intimidating to me.</p>	(Chatzoglou et al.2009)

Appendix B:

Independent t-test

Group Statistics

	Country	N	Mean	Std. Deviation	Std. Error Mean
PU	IR	150	1.8350	.80728	.06591
	TR	128	2.3262	.94200	.08326
PEOU	IR	150	1.7533	.71568	.05844
	TR	128	2.3255	.92450	.08172
COM	IR	150	2.0111	.85174	.06954
	TR	128	2.3464	.95241	.08418
T	IR	150	2.4889	.89047	.07271
	TR	128	2.4193	.85650	.07570
SI	IR	150	2.9467	.85144	.06952
	TR	128	3.2135	.80542	.07119
FC	IR	150	1.6733	.81920	.06689
	TR	128	1.8281	.89054	.07871
PC	IR	150	3.6644	.89950	.07344
	TR	128	3.7083	.90008	.07956
ANX	IR	150	3.4433	1.08612	.08868
	TR	128	3.5313	.95726	.08461

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
								Lower	Upper	
PU	4.096	.044	-4.682	276	.000	-.49117	.10491	-.69770	-.28465	
			-4.625	251.778	.000	-.49117	.10619	-.70031	-.28203	
PEOU	3.968	.047	-5.810	276	.000	-.57219	.09848	-.76605	-.37832	
			-5.696	237.225	.000	-.57219	.10046	-.77009	-.37428	
COM	2.457	.118	-3.097	276	.002	-.33524	.10823	-.54831	-.12218	
			-3.070	257.337	.002	-.33524	.10919	-.55027	-.12022	
T	.024	.878	.661	276	.509	.06962	.10529	-.13765	.27689	
			.663	272.051	.508	.06962	.10496	-.13703	.27626	
SI	.062	.804	-2.670	276	.008	-.26688	.09994	-.46362	-.07013	
			-2.682	273.059	.008	-.26688	.09950	-.46277	-.07098	
FC	.856	.356	-1.508	276	.133	-.15479	.10261	-.35680	.04721	
			-1.499	260.748	.135	-.15479	.10329	-.35819	.04861	
PC	1.264	.262	-.405	276	.686	-.04389	.10827	-.25703	.16925	
			-.405	269.110	.686	-.04389	.10827	-.25706	.16928	
ANX	3.305	.070	-.710	276	.478	-.08792	.12380	-.33163	.15579	
			-.717	275.702	.474	-.08792	.12257	-.32921	.15337	

Appendix C:

One-way ANOVA Gender and Use mobile banking

Descriptive Statistics

Dependent Variable: Actual USE

Gender	Mean	Std. Deviation	N
Male	2.8322	1.17610	153
Female	2.9760	1.10081	125
Total	2.8969	1.14307	278

Levene's Test of Equality of Error Variances^a

Dependent Variable: Actual USE

F	df1	df2	Sig.
1.573	1	276	.211

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Gender

Tests of Between-Subjects Effects

Dependent Variable: Actual USE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.422 ^a	1	1.422	1.088	.298	.004
Intercept	2320.846	1	2320.846	1776.793	.000	.866
Gender	1.422	1	1.422	1.088	.298	.004
Error	360.511	276	1.306			
Total	2694.889	278				
Corrected Total	361.933	277				

a. R Squared = .004 (Adjusted R Squared = .000)

One-way ANOVA Nationality and Use mobile banking

Descriptive Statistics

Dependent Variable: Actual USE

Nationality	Mean	Std. Deviation	N
IR	2.8222	1.13033	150
TR	2.9844	1.15611	128
Total	2.8969	1.14307	278

Levene's Test of Equality of Error Variances^a

Dependent Variable: Actual USE

F	df1	df2	Sig.
.141	1	276	.708

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Nationality

Tests of Between-Subjects Effects

Dependent Variable: Actual USE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.816 ^a	1	1.816	1.392	.239	.005
Intercept	2328.627	1	2328.627	1784.701	.000	.866
Nationality	1.816	1	1.816	1.392	.239	.005
Error	360.117	276	1.305			
Total	2694.889	278				
Corrected Total	361.933	277				

a. R Squared = .005 (Adjusted R Squared = .001)