Identifying Effective Factors on Consumer Intention to Use Mobile Banking Services
(Case Study: Banks of Guilan province)

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ABSTRACT

This study objective is identifying the factors influencing on consumer intention to use mobile banking services in the Guilan province banks. Proposed model of research is based on six concepts of perceived usefulness, perceived system quality, perceived ease, perceived security, perceived compatibility, subjective norm. Statistical population is bank customers of the Guilan province. In terms of the aim the present study is applied and in terms of nature and method is descriptive - analytical with emphasis on correlation branch. Also method of data collection is Field and by questionnaire. In this study, the descriptive statistics and inferential statistics were used to analyze the data. So that the first through the software SPSS for each variable in tables and graphs and statistical indices are described and then analyze the data, test hypotheses and to generalize results from the sample to population is used structural equation modeling and is used by Liserl software, and all hypotheses were confirmed.

KEYWORDS: Electronic Banking, Mobile Banking, Information Technology, Electronic Service

1. INTRODUCTION

With the economic development and competitiveness in international markets, banks have also been affected; the main force in this environmental is technology that is caused breaking legal barriers, geographic, industrial, and has created new products and services (Venkatesh & Davis, 2000). Banking industry today is rapidly changing (Gilaninia et al,2011). Electronic banking including all the electronic channels that customers to access their accounts and transfer funds between accounts and pay their bills use it. These channels include the Internet, mobile phone, digital TV and Automatic Teller Machine (ATM) (Laukkanen, 2007).This research focuses on electronic banking via mobile. Considering increasingly of large banks in developed countries and developing countries to provide banking services through electronic channels and development of banks and virtually financial institutions is caused increasing competition in the banking industry. So that other banks also seek to develop different approaches in e-banking. By introduction of Iran membership in the World Trade Organization (WTO) and the entry of foreign competitors in the financial markets, as Iranian banks need to developing its services in line with technological changes.

However, before offering any new services should be done research in the field of economic of service mentioned that comply new services with community needs and what system can deliver a good service to customers. In developing countries banks in developing country often try to emulate it and take service delivery to investigate the services provided by the banking system developed country. Due to lack of do research and investigations required, these services provide incomplete to their customers (Aladwani, 2001)   . Obviously, the lack of customer acceptance from e-banking system will fail to provide these services. Unfortunately, according to the significance of this issue yet no research has been done about it. Identify the factors that is caused consumers intend to use a new technology such as the use of mobile banking services may be important. Because recognition of these factors help to operate bankers that their marketing strategies to promote new forms of electronic banking systems.

2. Research Theatrical

Information and communication technology (ICT) as a new technology to enter the market in the 90's and rapidly developed**.** Due to Public of this technology has fundamental difference with other technologies**.** This means that not only has an impact on its field, but has significant effect in total economic and non-economic activities to facilitate and enhance the productivity and efficiency (Pezeshki & Dabagh Rezaei, 2005)**.** The banking sector is becoming increasingly competitive around the world (Taleghani , Gilaninia,Mousavian,2011; Rahemi & Gilaninia,2012). Promote and facilitate access to services of the monetary and banking the use and enjoyment of individuals and communities is considered the great achievements of the modern banking system. Removal of physical needs in bank branches, increased precision and payments received, accelerates in flow of economic transactions, increasing safety and much more is small and large benefits that electronic banking has

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brought with it (Bayat,2008)**.** Significant developments in the banking of the world has been made by electronic and this encourages us to have a closer look at the various features of this industry because of these developments can cause large changes in the banking world which can be mentioned reduceing geographical barriers, providing banking services as a selected item, the emergence of new competitors, create a database of customers and.... (Eildari, 2005). Financial sector (banks) is undergoing changes that have never experienced before in their history. These changes have had a profound impact on the industry structure and competitive nature. No wonder that, in the turbulent environment of accelerating change, financial institutions and banks have been forced to change style of their reaction towards market, so focus less on products and more on customers and rather short-term view, adopt the long term view(Harrison,2008). In order to survive of banks in competition arenas, bank branches are required to change from traditional banking. Desire and customer interests is based on a new form of internet, competition based on reduce costs, retain customers, encourage customer, customer susceptibility (acceptability), security, ease of use, wide range of products and services (Chang,2007). In fact, nowadays, the banking industry isn't limited alone in services provided back counter but its activity range has expanded in activities of multinational corporations; today's banks in electronic trading system entered as one of the major investors (main) in exchange market and in competition with other banks play crucial role in provide financial and monetary and economic welfare of social (Abbasi Nejad & Mehrnoosh, 2006). According to arrival of new technologies in data processing has been proposed new needs for banking services. Looking at the experiences of developed countries and the growth of electronic banking services can be expected needs making and increasingly trend it in field of banking in Iran. But before the full implementation of banking in country should be consider this issue that customers are accustomed to traditional services, although inefficient and most importantly, they have more confidence to it. In fact, this study focuses on Identify the needs and demands and expectations of bank customers in connection with e-banking in order to develop of e-banking and help to designers and marketers that in developing their marketing strategies are focused on these factors. This study examines to identify effective factors consumer intention to use mobile banking services in Guilan province banks and the main problem is as follows:

Is there relationship between perceived usefulness, perceived system quality, perceived ease, perceived security, perceived compatibility and subjective norm with Intention to use mobile banking?

Information systems researchers have found that mobile banking can be considered as one of the most important technological innovations,that are emerging as basic infrastructure for development of access to banking transactions through mobile phones or handheld and wireless communication technologies (Herzberg, 2003; Kleijnen, Wetzels, & Ruyter, 2004; Laukkanen & Lauronen, 2005). Mobile banking, where customers access bank services remotely by using mobile devices with wireless connectivity, is one of the latest service delivery modes available from banks (Banikhedmat et al,2011). Mallat, Rossi, Tuunainen (2004) claimed that Mobile banking services providing the creating value in terms of independent of saving time and place and quality for customers. The innovation diffusion theory (Rogers, 1995) Refers that Perceived attitudes of innovation (such as the relative profitability of innovation theory) influence individual application of innovation. A technological innovation has been studied by using this perspective. Mobile banking has new features compared with normal banking channels, however, the effects of innovation, requires considerable attention that is not understood devoted mobile banking entirely (sulaiman jaafar & mohezar,2007). Considering mentioned contents, analytical model of research derived from models Hsiu - Fen Lin (2010) and Je Ho Cheong and Myeong-Cheol Park (2005) and is discussed in the following.
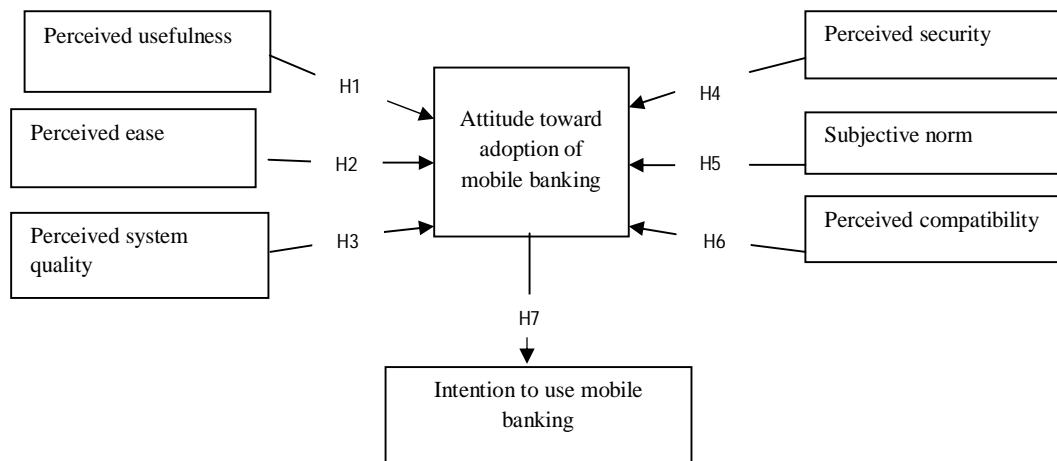

Figure (1).analytical model of research

3. Research Hypotheses

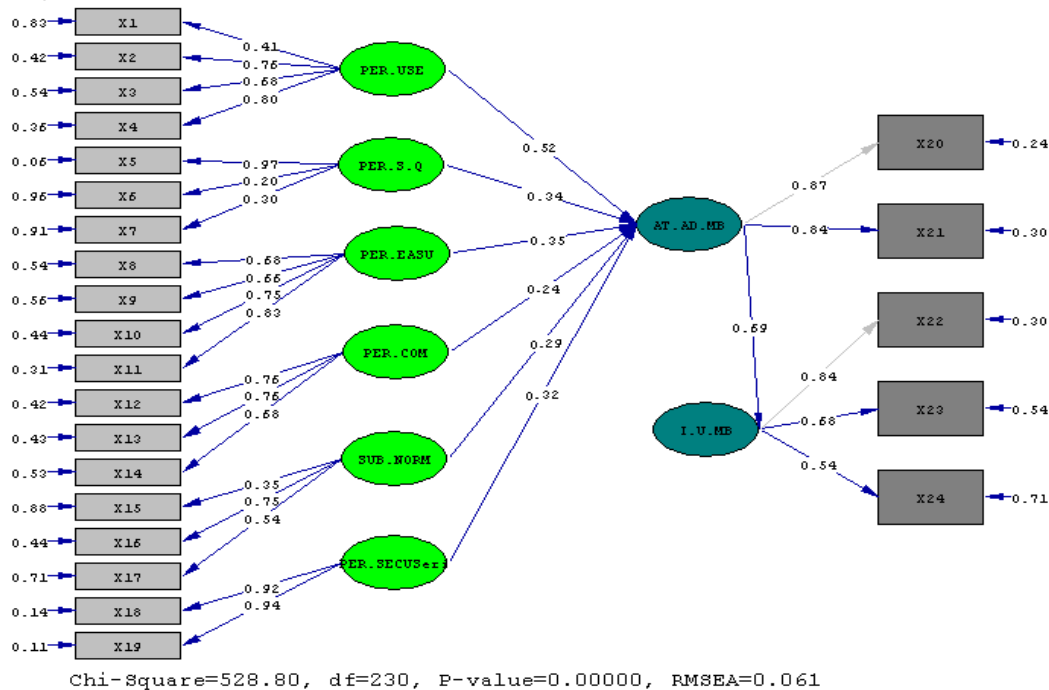According to research subject and its variables, research hypotheses is including

1-   There is relationship between perceived usefulness and attitude toward adoption of mobile banking.

2-   There is relationship between perceived system quality and attitude toward adoption of mobile banking.

3-   There is relationship between perceived ease and attitude toward adoption of mobile banking.

4-   There is relationship between perceived security and attitude toward adoption of mobile banking.

5-   There is relationship between perceived compatibility and attitude toward adoption of mobile banking.

6-   There is relationship between subjective norm and attitude toward adoption of mobile banking.

7-   There is relationship between customer attitude and customers intention to use mobile banking.

4. RESEARCH METHODOLOGY

In terms of the aim the present study is applied and in terms of nature and method is descriptive - analytical with emphasis on correlation branch. Method of data collection is field and by questionnaire. Statistical population is bank customers of the Guilan province and sample size based sampling formula is obtained 650 customers. Survey questionnaire is designed based on previous research and also their validity has confirmed by professors of guide and consultant and cronbach test results show that the questionnaire has been reliable. In this study, the descriptive statistics and inferential statistics is used to analyze the data. So that the first through the software SPSS for each variable in tables and graphs and statistical indices are described and then analyze the data, test hypotheses and to generalize results from the sample to population is used structural equation modeling and is used by Liserl software.
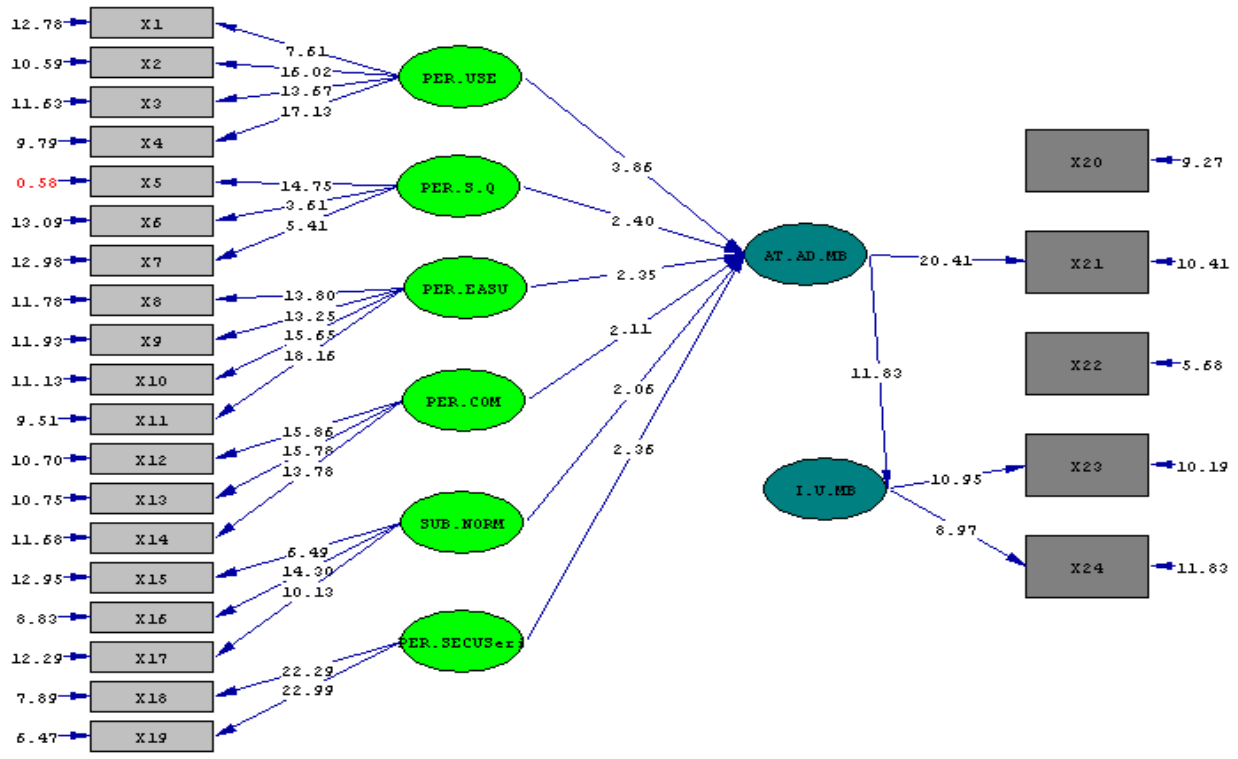
5. Data Analysis
Testing the research Causal model

Chi-Square=528.80, df=230, P-value=0.00000, RMSEA=0.061

Graph (1) Tested model of standard state

RMSEA index is less than 0.08 and $\dfrac{\chi^2}{d_f} = 2.29$ that indicate the model is suitable.

Graph (2) Structural model of Significant state (value - t)

In model in significant state is observed all numbers is higher than 1.96.

First hypothesis: There is relationship between perceived usefulness and attitude toward adoption of mobile banking.

With reference to the base model t-value can be seen that t-value is equal to 3.86 that are more than absolute value of 1.96.in result first hypothesis is confirmed and effect of perceived usefulness on attitude toward adoption of mobile banking is equal to 0.52.

Second hypothesis: There is relationship between perceived system quality and attitude toward adoption of mobile banking.

With reference to the base model t-value can be seen that t-value is equal to 2.40 that are more than absolute value of 1.96.in result second hypothesis is confirmed and effect of perceived system quality on attitude toward adoption of mobile banking is equal to 0.34.

Third hypothesis: There is relationship between perceived ease and attitude toward adoption of mobile banking.

With reference to the base model t-value can be seen that t-value is equal to 2.35 that are more than absolute value of 1.96. in result third hypothesis is confirmed and effect of perceived ease on attitude toward adoption of mobile banking is equal to 0.35.

Fourth hypothesis: There is relationship between perceived security and attitude toward adoption of mobile banking.

With reference to the base model t-value can be seen that t-value is equal to 2.11 that are more than absolute value of 1.96.in result fourth hypothesis is confirmed and effect of perceived security on attitude toward adoption of mobile banking is equal to 0.24.

Fifth hypothesis: There is relationship between perceived compatibility and attitude toward adoption of mobile banking.

With reference to the base model t-value can be seen that t-value is equal to 2.06 that are more than absolute value of 1.96.in result fifth hypothesis is confirmed and effect of perceived compatibility on attitude toward adoption of mobile banking is equal to 0.29.

Sixth hypothesis: There is relationship between subjective norm and attitude toward adoption of mobile banking.

With reference to the base model t-value can be seen that t-value is equal to 2.36 that are more than absolute value of 1.96.in result sixth hypothesis is confirmed and effect of subjective norm on attitude toward adoption of mobile banking is equal to 0.32.

Seventh hypothesis: There is relationship between customer attitude and customers intention to use mobile banking.

With reference to the base model t-value can be seen that t-value is equal to 11.83 that are more than absolute value of 1.96.in result seventh hypothesis is confirmed and effect of customer attitude on customers' intention to use mobile banking is equal to 0.69.

Based on the results structural equation test, the results of research hypotheses summarized is shown in Table (1).

Table (1) Research hypothesis test results

Hypotheses	Standard estimate	t-value	Result of test
1- There is relationship between perceived usefulness and attitude toward adoption of mobile banking.	0.52	3.86	Confirmed
2- There is relationship between perceived system quality and attitude toward adoption of mobile banking.	0.34	2.40	Confirmed
3- There is relationship between perceived ease and attitude toward adoption of mobile banking.	0.35	2.35	Confirmed
4- There is relationship between perceived security and attitude toward adoption of mobile banking.	0.24	2.11	Confirmed
5- There is relationship between perceived compatibility and attitude toward adoption of mobile banking.	0.29	2.60	Confirmed
6- There is relationship between subjective norm and attitude toward adoption of mobile banking.	0.32	2.36	Confirmed
7- There is relationship between customer attitude and customers intention to use mobile banking.	0.69	11.83	Confirmed

Test hypotheses, to obtain the final model, available structural relationships in the model indicated statistically significant and model fitting indexes have indicated appropriate and acceptable model.

Table (2) Values of model fitting indexes

index	value
χ^2	528.80
df	230
RMSEA	0.061
CFI	0.93
IFI	0.93
GFI	0.89
AGFI	0.85
NFI	0.89
NNFI	0.92
PGFI	0.68

Intention to use mobile banking = 0.69* Attitude toward adopting mobile banking, Rý=0.48

Determination coefficient study the model by using above equation shows that 48% intention to use mobile banking is explained by attitude toward adopting mobile banking.

6. DISCUSSION AND CONCLUSION

According to the results of the research hypotheses and research results conducted regarding the impact of perceived usefulness, perceived system quality, perceived ease, perceived security, perceived compatibility and subjective norms on attitudes toward adoption of mobile banking and also impact of attitudes toward adoption of mobile banking on customers' intention to use mobile banking services according to proposed model; bank managers can increase attitude toward mobile banking adoption and also customers intention to use mobile banking services towards bank service with proper strategic planning and on time and efficient and effective use of these elements to this way its competitiveness position has strengthened in the market and achieve to greater and continuing profits. Managers can consider the following suggestions:

1- As was observed there is relationship between perceived usefulness and attitude toward adoption of mobile banking. Therefore, according to research results, element "usefulness" is one of the effective factors in the use of mobile banking services. Because of this, officials of banks should be able to take various advantage of this technology compared to other technologies and also visiting to bank for their customers, so that they can lead to the use of this technology. When the bank customers does not distinguish between referring to bank and using mobile banking, do not feel no comparative advantage in technology compared to traditional banking (referring to Bank). Discuss the cost of using mobile banking services is one of effective factors in using this type of service. According findings of the study, customers who do not use of mobile banking services believe

that cost of using these services is more than visiting the bank. Thus, considering the cost of purchase and cost of time spent can also be considered part of this cost, bank officials must try in providing appropriate facilities and providing these services with lower cost.

2- Also, it was observed that there is relationship between perceived system quality and attitude toward adoption of mobile banking. Considering research results, element "perceived quality system" is one of the effective factors in the use of mobile banking services. Therefore, it is recommended to bank officials attempt for use of this type of service and building favorable trust in the minds of customers by adopting appropriate strategies such as improving the speed of mobile banking, creating safe conditions.

3- Research results showed that there is relationship between perceived ease and attitude toward adoption of mobile banking. Given the ease of use may be consider minimal mental effort in learning and applying the customer's mobile banking technologies. Customer perception of ease of use of these technologies is affected by first experience of using it. Therefore, the first experience is a pivotal role in the perception of customer and will influence their future experiences. Therefore, banks officials should attempt to enhance customers' knowledge on how to use this kind of service through advertising and education.

4- Research results showed that there is relationship between perceived security and attitude toward adoption of mobile banking. In other words, legal infrastructure and the overall security of the internet affects on customer trust compared to internet banking system. On the other hand whatever banks are committing to obligations and morality toward their clients and to act based on them, customers trust is more. So bank officials should take an effective step in winning the trust of customers with introduce the knowledge and skills of experts and specialists employed in the Internet banking system in brochures, websites, banks, mass media and ..., provide assurance to customers about the bank action to meet its obligations in the field of internet banking services, commitment officials and employees of the bank to act based on the principles and code of ethics of bank, expression of clearly and precisely all of the rules to fight cyber tricks and crimes and accurate determination of the bank responsibility within the implementation of this rules, accurate and complete introduction to all of the technological infrastructure (encryption and decryption techniques, firewalls, digital signatures, internet authentication and ...) and how to support this infrastructures of customers.

5- Data analysis showed that perceived compatibility is determining factors of customer attitudes towards mobile banking services. In other words, whatever person has been positive perceptions of usefulness of internet banking, his/her attitude is more positive for the use of this service. Also, whatever individuals, Internet banking systems understand compatible with their favorite method to do banking activities and compatible with their lifestyle and feel that internet banking is more appropriate to all aspects of their banking activities will have a more favorable attitude toward the use of This system. So in order to create a favorable attitude toward customers must design systems that customers can have clear understanding of their benefit and be compatible with cultural - social values and potential acceptors needs.

6- Research results showed that there is relationship between subjective norm and attitude toward adoption of mobile banking. Given that subjective norm plays an important role in customers using mobile banking services, It is suggested to banking officials that affect on true perceptions of families to create more tend to use of internet banking services with proper advertising through mass media and marketing. Analysis of the data showed that people with higher self-efficacy in using computers and the internet have more readiness to use the internet banking service. Also it is suggested that increase self-efficacy of individuals in using computers and internet banking systems with holding courses and workshops.

7- There is relationship between customer attitude and customers intention to use mobile banking. According to research results, individuals thinking style about change or their attitude about to accept change are the factors influencing the use of technology, mobile banking services and users have more favorable attitudes towards change in comparison with non-users. Due to this issue, promoting activities should be more focused on users that have more favorable thinking and attitudes towards change and in this promoting program will be discussed on new innovations in the field of e-banking and new services of mobile banking technologies. Based on the above results, the ability to update of mobile banking services does not have appropriate quality. Therefore, bank managers should be aware from the last customers' needs and last changes of these technologies globally and can improve its services by using information obtained. Time and spending opportunity is a problem that users of mobile banking services have aware from it and have highly value for them. Users looking to meet their banking needs in the least possible time and with minimum costs. From activities performed by managers in the field of bank marketing that can be useful in order to customers' trends to use this type of service can be mentioned following items:

1- Improving Speed of the service delivery of this technology that is also associated with telecommunications infrastructure.

2- Increasing services offered through mobile banking such exchange trading, stocks and ...

3- Providing appropriate incentives such as cash and non-cash awards to users of electronic banking and mobile banking.

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