

Factors Affecting Tendency to Use Mobile Banking and Consumers' Risk and Benefit Perception

(Case Study: Samen Credit Institution Clients)

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ABSTRACT: The banking industry is rapidly changing. The international economic development and competitive markets have influenced the banks as well. The main force in this environment is technology, which has led to breakage of legal, geographical and industrial barriers and has created new products and services such as a new e-banking which is the most important result and includes electronic channels that customers use to access and transfer funds between accounts and pay their bills. This study focuses on e-banking via mobile phones, to investigate the factors influencing the use of mobile banking with a focus on risk and perceived benefit. To achieve this goal, this study examines the effects of utilization feasibility and performance risk on perceived benefits and the effect of perceived benefit and financial risk on utilization tendency. The result obtained from questionnaires filled up by 400 costumers of Samen credit institution indicates that all of this research's hypotheses are accepted and the utilization feasibility has the highest influence on perceived benefit.

Keywords: Mobile Banks, Utilization Feasibility, Perceived Benefits, Performance Risk, Financial Risk, Utilization Tendency, Samen Credit Institution.

INTRODUCTION

Today, the banking industry is rapidly changing. . The international economic development and competitive markets have influenced the banks as well. The main force in this environment is technology, which has led to breakage of legal, geographical and industrial barriers and has created new products and services (Dandapani 2008).

Thanks to information and communication technology, e-banking, e-payment, investment safety, and data exchange is possible. E-banking, which is a result of information and communication technology in banking system, has allowed Bank customers and other stakeholders to interact with the bank without intermediaries and through various channels such as the Internet, mobile, ATM, telephone, and digital television Finance organizations provide for their costumers services with higher quality and less effort using information and communication technology (Karim & Hamdan, 2011).

Investing on ATMs, POS devices, PIN PAD, and banking network systems which are all parts of ICT, is reasonable when it enhances the bank profit and is in line with the bank's performance improvement. Thus, the banking system in recent decades moves quickly towards investing on new customer services technologies, as a way to control costs, attract new customers and meeting customers' expectations and has placed use of these technologies (internet banking, telephone banking, ATM machines, etc.) as a strategic necessity on its agenda. Banks through identifying the factors affecting use of the technology and understanding the difference between users and non-users, can promote and gain competitive advantage in their market, Because technologies like internet banking, phone banking and mobile banking in recent years, have been used as methods for maintaining customer loyalty and increase market share. In other words, banks use technology to meet the competitive challenges imposed by competitors and online banks and also as a way to reduce the cost of providing services which was provided only by a bank employee in the past (Joseph & Stone, 2003).

The increasing advancement of IT has been an effective and accelerating factor in financial segment and related services. Electronic financial service online or through mobile or any other way has been expanded very fast and the revolution of internet financial services has severely changed the nature and structure of the financial services throughout the world. The banking industry as one of the most important components of the financial system in each country, always reacts to changing needs and demands of customers, changes in social and demographic trends, advances in information technology, distribution channels strategies in the financial services sector, and quickly associates with Technology.

Presentation of electronic services has reduced the costs and provided made differentiate and categorize services for the growth of new technology. On the other hand acceptance of new channels of financial services leads to establishment and maintenance of closer links between banks and credit institutions and their customers. The benefits will be significant for them. Therefore, identifying the consumers' expectations, the factors affecting the adoption and their ability to use these technologies has turned it into an important necessity.

Banks need to review the terms of economic, social, cultural and other conditions in their own countries, when using IT. Obviously, costumers' lack of real and proper use of mobile banking would mean the failure of this type of banking. In spite of many investments in IT systems, the evidence shows that the number of failures is higher compared to the benefits. Therefore, organizations haven't been able to achieve their desired efficiency and effectiveness. The perceived benefit resulted by e-banking services utilization, can be considered as an effective factor of costumers' tendency towards this matter. Therefore, this study examines the factors influencing customers' intention to use mobile bank considering costumers' perceived benefit and risk.

Study of effective factors which cause the clients accept and use a new technology such as mobile bank services, is very significant; identifying these factors help the banking system to firstly use banking strategies that lead to acceptance and increased use of such banking services and secondly reduce the risk of its utilization. This matter can be count as an effective factor in decreasing the costumers' perceived risk; because, the right presentation of information and correct performance gain the costumers' trust to chose a banking method and reduce the risk at the same time.

Expanse of credit institutions and increasing importance of this sector in the current economic situation of the country (construction stage and striving for self-sufficiency), is legitimate reason to pay more attention to this sector and its customers. On the other hand, considering the latest attempt of Samen credit institute in electronic services which is triggering mobile bank, it can work as an outstanding system through the qualities such as accessibility anywhere and anytime and convenience, therefore, the clients of Samen credit institute have been chosen as the study population.

Theories and literature

One of the innovations, which have experienced a considerable change due to extensive evolution of ICT, is e-banking. Banks movement towards electronic banking and financial services has an important role in increasing the volume of e-commerce.

Although e-banking have many different levels, the thing that separates it from others is its hardware, software and financial data processing system. (Kamel & Hasan, 2007). In other words, e-banking is the efficient integration of all the bank's activities through utilization of innovative information technology which gives the ability to provide all the customers' required services. But what scholars generally agree on, is using technology hardware, software and networks properly, integration all activities and customer orientation.

Liao et al. (1999) introduced electronic banking as a virtual banking system, and thus have noted that "e-banking is referred to as virtual banking while it provides banking services with new tools, and technologies

different from traditional banking instruments (through electronic ATMs, telephone banking and home banking and online banking, etc.)" (Liao et al., 1999).

Accelerating the pace of financial transactions and banking, e-commerce prosperity, people satisfaction and reduced cost of banking, has transformed electronic banking from an advantage to a necessity.

Banking via mobile phone is one of the latest electronic distribution channels for banks for which, technology increasingly has become a critical element for them which increases convenience and added value for the customer and the bank. Given the clear benefits of this technology and growing mobile market, it has gained great popularity in European and Asian countries. According to statistics, the rate of mobile phone usage is higher than any other technology. Mobile bank has been defined as an exchange method via mobile phones. Another definition of mobile banks is customers' financing interaction with their bank such as payment and transfer of funds and in the simplest form is send an SMS and receive account balances through a mobile device (Laukkanen & Kiviniemi, 2010). According to this definition, considering its special qualities, mobile banking can be known as a subset of e-banking (Akturan & Tezcan, 2012) Banking services Through mobile phones, in addition to comfort and speed in fulfilling bank affairs, also reduces related costs, so Today, banks want to expand the market by providing banking services through mobile phones. Services that the mobile bank offers includes as follows:

- Financial information services: offers general information about the account. It also includes the local services (such as ATM machines, banks ...);
- Mobile Accounting Services: tends to manage all services that belong to clients' requests. For example, specifying the last payment by credit card;
- Mobile Services commission: Charging the non-information services such as money transfer, purchase or sale in store;
 - sending short messages: for special tax requests;
 - SIM - toolkit: Installing a tool in client's SIM card so that all services and information related to customer accounts are stored in the SIM card.

The use of mobile banking services in the financial services and banking industry can create a great value for them. Users also can have access to banking services such as account management, money transfer, bills payment, etc through mobile banking. This will help banks improve their service quality and reduce service costs (Zhou, 2011). Success in this task depends on the acceptance of these technologies and clients' intention to use them.

Behavioral tendency or utilization plan is the possibility of applying a specific system by individuals (al-Sufi and Ali, 2014, p. 5) Studies in the field of e-commerce show that customers intention to use online transactions is a strong predictor of their actual expectations in e-commerce transactions

Intended use of online banking is primarily influenced by the advantage of perception. Generally, consumers, when choosing a method of decision making in purchasing a product, do a cost-benefit analysis. Perception advantage in mobile banking is based on cognitive and emotional evaluation of the benefits and advantages of the service. the perceived advantages is the Consumers' assessment of the product value; the value of the product can be obtained from the comparison of the benefits that product brings about and the money that customer spends (Akturan & Tezcan, 2012).

Research shows that between perceived ease of use and plan to use mobile banking services, direct relationship exist. In Mobile Banking system, it is necessary that both sides (the ease of learning and ease of use) be considered (Luarn & Lin, 2005). Perception about the ease of use refers to the degree to which a person believes that learning how to use and work with a particular system requires a little effort mentally, because more complex innovations need more technical and operational skills in order to be used by clients (Wang et al., 2003). Davis (1989) state that, the ease of use refers to the belief that the person did not put any effort for benefiting from a special system (Tobbin, 2012).

Electronic banking reduces transaction costs, performs faster transactions, causes transparency of information, and also allows customers to enjoy more free services, such as interest rates, stock, news and 24-hour use of the service. Accordingly, customer's perceived profit from overall assessment of the utility is based on what they received in exchange of what is paid (Püschel et al., 2010, p. 392). In another definition, it refers to the degree in which the client thinks a specific system can fulfill his needs and have a performance in line with his expectations (Tobbin, 2012). According to Luarn and Lin (2005) the ultimate cause mobile banking utilization is its profitability. The perceived benefit refers to the different expectation which consumers have from a new product service compared to its alternative. The relative advantage counts as one of the most important factors in the use of new innovation (Laukkanen& Pasanen, 2009).

Shirz and colleagues in 2010 examined the factors affecting the adoption of mobile banking. Their research results indicate compatibility, subjective norm and individual mobility (implementation of technology and

responsibility) have a high impact on the acceptance of mobile banking, while ease of use is less effective on acceptance. Based on the results, they have offered suggestions for customer segmentation and advertising methods.

Rapid development of electronic banking capacities and abilities is associated with some advantages and risks. The Basel Committee of Banking Supervision expects such risks to be identified and dealt with by banks with a precautionary manner and in accordance with the fundamental characteristics and challenges related to electronic banking. The committee stated e-banking risk management principles in a July 2003.

These principles are expressed in association with electronic banking system economic risks to promote the satisfaction of e-banking services, flexibility and keep pace with technology changes in a dynamic environment. Part of the risks of electronic banking focuses on regulations and its supervision and partly focuses on the financial instruments. In order to manage new risks, we need to define new strategies and methods of measurement. Accordingly, the risks of electronic banking can be divided into 8 categories (Zarei, 2011):

1. Security risk: This risk refers to risk from hackers, viruses and collusion makers. In order to reduce and eliminate this risk, a continuous monitoring, especially when dealing with critical issues on banking operations is necessary.

2. Legal and ethical risk: This risk refers to weaknesses in legislation and presence of vague rules, as well as the ethical dimension of illegality.

3. Reputation Risk: This risk is linked to the reputation of banks in the provision of electronic services. Damage to the reputation of the bank, has a negative effect on the community and causes further damage to the relationship between bank and customer and reduce the amount of customers. This risk arises from poor performance of banks in the provision of electronic services or the lack of communication by the telecommunications services.

4. Operational risk: the risk arising from weaknesses in the system design, lack of control and supervision of the bank's information system and human weaknesses in recruitment.

5. Laundering risk: the risk is caused by weakness in the identification and understanding of customers and weaknesses in the internal audit system. Customer Recognition, particularly key customers and infrastructure strengthening of reviews, inspections and electronic data banks control by internal auditors in this case is essential.

6. Strategic risk: this risk refers to new products and services in electronic banking system. Wrong analysis of the operations development costs or new operations establishment, not enough staff to support the operation and the lack of adequate insurance coverage are some of the most effective factors in this risk.

7. Cross-domain risk: the risk refers to various and merger risks, such as market risk or the economy that could increase the risk of developing electronic banking system. In other words, this risk considers uncertain financial economic conditions.

8. Traditional risk: the traditional banking risks include liquidity risk, market risk, interest rate risk and credit risk that could affect the banking system.

In this regard, Lu and colleagues in 2010 examined the effects of different dimensions of risk and trust in the adoption of mobile banking. They studied trust from three dimensions of tendency to trust (overall tendency in person to show faith or belief in humanity and accept trusting others), structural warranty (sensation of technical and legal structures to ensure the success of banking transactions), believe trust (the feeling towards seller reliability, including belief in the truth, benevolence and competence). They also evaluated the types of risks including operational risk, financial, temporal, psychological, social, personal, physical, and overall. In addition to risk and trust, self-operating and operating performance were examined. They pointed out that different aspects of trust have different effects and trust belief does not have a significant effect on the acceptance and the two factors of risk and performance have a direct impact on technology adoption by customers.

Lee and colleagues also considered the impact of trust on mobile banking in 2007 and added to studied factors, factor of perceived risk technology Acceptance Model (TAM). They show that the acceptance is influenced by factors such as trust, perceived risk, usefulness, and the effect of perceived risk is adjusted only with trust.

Another article entitled "Comparison between perceived value of internet banking and mobile banking by customers in the account payment services" was written in 2007 by Tommy Live Canon. The study, introduces efficiency, ease and safety of the most important demands, which are triggered by different customer perceived value of mobile banking and the internet, as it introduces risk as a major concern. The results of this study suggest that increased business managers' information about the differences of perceived value of electronic banking channels to increase activities for acceptance of banking channels by customers.

METHODOLOGY

According to technology adoption model, the application behavior of an information technology is determined by the intention to use that specific system and the utilization intention is also determined by the level of the usefulness of the intended technology from user's point of view (Eriksson et al., 2005). Users believe that using the technology to reach the efficiency in less time (Manzano et al., 2009).

Therefore, considering previous studies, the first hypothesis of this research is:

H1: the perceived profit affect the intention of using the mobile bank.

Studies show that understanding the ease of use is one of the most effective factors in perceived profit in utilization of the mobile bank (Venkatesh & Morris, 2000; Luarn & Lin, 2005).

The second hypothesis of this research is:

H2: the ease of utilization affects the perceived profit of using mobile bank.

The perceived risk is resulted from uncertainty of customers towards the consequences of buying decisions. This uncertainty of services values in case of bank services given through electronic technology is because of the lack of confidence in internet and its infrastructure and the temporal and spatial separation between users and bank staff. This can have a negative effect on user's tendency to use electronic technology and mobile bank. Studies show that the perceived risk of electronic bank is higher than risk in traditional banking (Bradley & Stewart, 2002; Mukherjee & Nath, 2003; Wang et al., 2003).

According to studies the third and fourth hypothesizes are:

H3: Performance risks affect the perceived profit of using mobile bank.

H4: Financial risks affect the intention of using mobile bank.

For having any services, users might need to play different roles or have different abilities. The amount of customization changes in every service according to application. These changes can affect the customer assessment of interactions for having intended services. Evidences show that the ease of using the modern technology affect the quality of services given and the utilization intention (Eriksson et al. 2005; Pallister et al., 2007). The ease of utilization is one the important factors of services qualities in mobile bank. Giving easy and simple instruction, comprehensive auxiliary menus and the ease of utilization of electronic banking affect the behavioral intention of users.

Therefore the fifth hypothesis of this study is:

H5: The ease of utilization affects the using of mobile bank.

Research method

The research method which was given above, in case of collecting information, is a library and survey method.

The primary information for understanding the concepts in this study were obtained using library methods (library discovery tools, such as books, articles and thesis and digital documents). For collecting additional information, non library methods, field methods and questionnaire methods were used as the main tools. The questionnaire in this study includes 25 items. According to the results obtained from measuring the reliability of the questions using SPSS software, the alpha index was equal to 0.859 which shows the stability of the questionnaire. Therefore, the reliability of questionnaire was approved. In this study, the statistical society includes all the Samen credit institution customers. The sample size in this study was calculated using Cochran sample size formula for big society with the confidence coefficient equal to 0.95 and accuracy coefficient equal to 0.05, and it was equal to 385 person which for more accuracy it was considered 400 person. In this study for assessing the relation between model components the structural equation modeling (SEM) was used. On the other hand, the researcher used the structural equations for analyzing the Confirmatory Factor.

RESULTS

A) Sample sociology description

The information of statistical sample sociology in this study includes all the Samen credit institution active customers divided by age, education, gender, marital state, work experience and enterprise class is given in table below.

Table 1. The sociology of respondents.

Age	Percentage	Education	Percentage	Gender	Percentage	Marital state	percentage
Less than 30	41	high school	37	Female	36	Single	69
31-40	32	Associate degree	27	Male	64	Married	31
41-50	17	High school graduate	30				
More than 50	10	Bachelor degree and master degree	6				

Hypothesizes tests and data analyzing

In this research for studying hypothesizes, the Pearson correlation method and structural equation method were used. The structural equation model has tow indicators: measuring model which define the relations between the hidden and measured variables and is tested using factor analysis, and structural model which consider a particular casual structure between hidden variables

Before studying hypothesizes, the analyzing model was tested. After its compatibility was assured, hypothesizes were tested. The research model in meaningful and standard cases is given in figure 2 and 3, respectively.

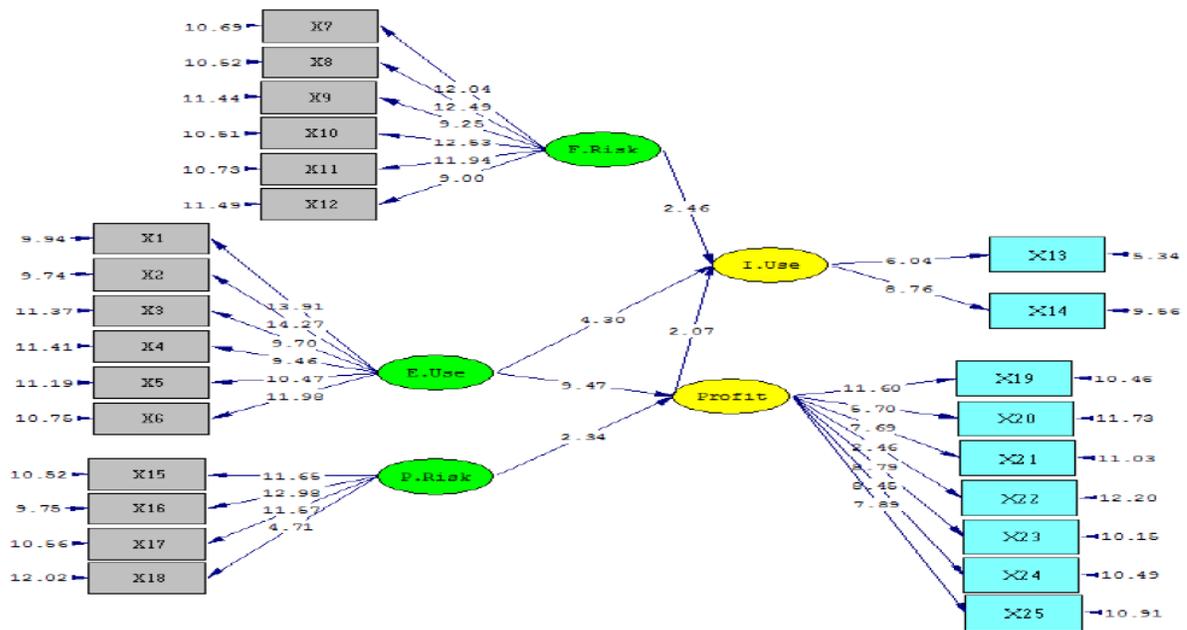


Figure 1. Injunctive functional analysis results in meaningful case.

Since the equation standard coefficients is not in the interval of (-1.96 and + 1.96), the mentioned equation is meaningful with confidence level of 99%.

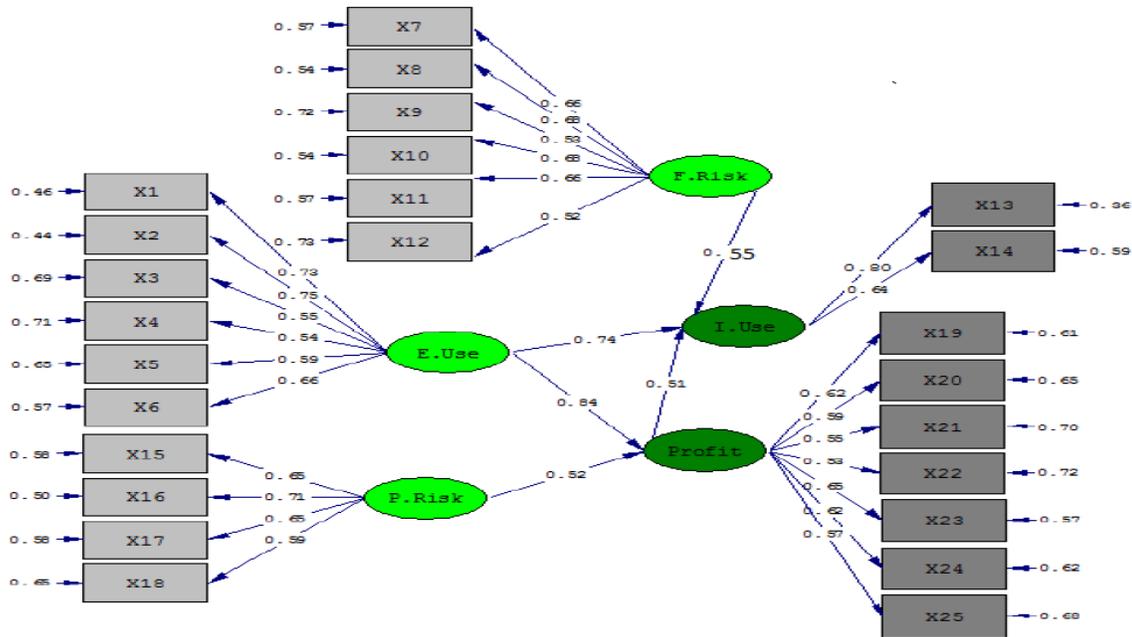


Figure 2. Confirmatory functional analysis results in standard case.

In standard mode it is necessary that the model value indicators be calculated. Table 3 shows the parameters of the model value

Table 2. Parameters of model value.

Index	Value
Chi-Square index	1.9
Index to estimate the square root of the variance of the error of approximation	0.033
Fitness softened Index (NFI)	0.95
No particular fitness program (NMFI)	0.93
GFI	0.92
AGFI	0.79

The results of testing hypotheses using Pearson's correlation coefficient. The Pearson's correlation coefficient with respect to the level of significance ($5\% = \alpha$) gives the ability to assess significance. Due to the fact that in this study, SPSS statistical software was used to estimate the Pearson correlation coefficient, and that it provided its significance level. So whenever in results, the significance level is less than 5%, there is a significant relation between these two variables. If the significance is higher than 5%, the null hypothesis is accepted and shows the lack of significant relation. The results of Pearson's correlation coefficient are shown in table 4.

Table 3. Results of Pearson's correlation.

Number of hypothesis	Variable	Pearson's correlation coefficient	Sig	Number
First hypothesis	Perceived profit	0.663	0	400
	Intention to use	0.663	0	
Second hypothesis	Ease of use	0.806	0	
	Perceived profit	0.806	0	
Third hypothesis	Performance risk	0.621	0	
	Perceived profit	0.621	0	

Fourth hypothesis	Financial risk	0.566	0
	Intention to use	0.566	0
Fifth hypothesis	Ease of use	0.763	0
	Intention to use	0.763	0

The results of causal relationships using structural equation modeling are shown in Table 5.

Table 4. Test causal relationships using structural equation modeling.

Hypothesis	Standard coefficient (R)	Meaningful coefficient (t-value)	Hypothesis test result
Perceived profit affect the intention of use of mobile bank	0.51	2.07	Hypothesis accepted
The ease of use affect the perceived profit	0.84	9.47	Hypothesis accepted
Performance affect the perceived profit of using mobile bank	0.52	2.34	Hypothesis accepted
Financial risk affect the intention of using mobile bank	0.55	2.46	Hypothesis accepted
The ease of use affect the intention of using mobile bank	0.74	4.3	Hypothesis accepted

As Table (6) is observed, standardized coefficient (R), or in other words load factor of all the hypotheses, is more than 0.5. Also a significant factor or t-value is not in the range of (1.96+ and 1.96-). Thus all the hypotheses are accepted. As a result, the second hypothesis has the highest loading factor; it means that the ease of use on perceived benefit of using mobile banking is most effective.

DISCUSSION AND CONCLUSION

The main objective of the study was to investigate the factors influencing intention to use mobile banking and consumers' perceived risk and benefit consumers.

Results of the study indicate that between two variables of perceived benefit and the intention to use mobile banking, an average correlation exists. In other words, the change direction of these two variables is the same and with the Increase (decrease) of one, another increases (decrease). The perceived benefit has an effect on intention to use mobile banking and the impact of this effect is relatively modest. The results of studies of Ericsson and Luarn and Lin (2005), Pikkarainen et al (2004), Manzano et al (2009), Tobbin (2012) are consistent.

Research shows that between two variables of ease of use and perceived benefits of mobile banking, strong and positive correlation exist. In other words, change direction of the two variables is the same and with the Increase (decrease) of one, another increases (decreases). The perceived benefit affects the ease of use on mobile banking and the impact of this effect is relatively strong. The results of the study, Luarn and Lin (2005), Tobbin (2012) and Manzano (2009) are consistent.

Results of the study showed that between two variables of performance risk and perceived profit of using mobile banking, a moderate positive correlation exists. In other words, change direction of the two variables is the same and with the Increase (decrease) of one, another increases (decreases).the performance risk affects the perceived benefit of using mobile bank and the effect is rather average. The result of Kabir Studies (2013) and AlSoufi and Hayat (2014) also confirm it.

Results of the study showed that between two variables of financial risk and intention to use mobile banking, a moderate positive correlation exists. In other words, change direction of the two variables is the same and with the Increase (decrease) of one, another increases (decreases).the financial risk affects the intention to use mobile bank and the effect is rather average. The fourth hypothesis is proven. The results of the research of Kabir (2013) and AlSoufi and Hayat (2014) confirm this.

Results of the study showed that between two variables of ease of use and intention to use mobile banking, a strong positive correlation exists. In other words, change direction of the two variables is the same and with the Increase (decrease) of one, another increases (decreases).the ease of use affects the intention to use mobile bank and

the effect is rather average. The fifth hypothesis is proven. The results of the research of Kabir (2013) and AlSoufi and Hayat (2014), Tobbin (2012) and Chen (2013) are consistent.

The research proposal

According to the results obtained from the assumptions, the following points are suggested to senior managers of a Samen credit institution:

1. Based on results of the first hypothesis, it is suggested to Samen credit institution with the use of modern technologies and the use of electronic banking infrastructure strongly, the deployment of skilled and experts of technical affairs and offer desirable and attractive new services of mobile banking and aware its clients about this service's profits such as quality, high speed and time and cost efficiency.

2. According to the second hypothesis, it is proposed that management and staff responsible for implementing the project using mobile banking by providing simple instructions, understandable and the use of full assistive menus, fully describe the notes to customer. It is recommended that with careful attention to customers age and education level (high percentage of people under 40 years and diploma and bachelor degree), recipes and menus that is tailored to the majority of customers interest and concise be provided.

3. According to the second hypothesis, it is proposed to be senior managers with recruitment of qualified personnel, sophisticated in buying and support the banking system, minimize the risk of mistakes and errors in performance in online websites banking servers.

Samen Institute also with time and money spending should buy and install updated systems, that are attractive and with high security to gain customers' trust and to minimize error due to the performance of mobile banking. A strong and secure infrastructure for electronic banking could be an important competitive advantage for the organization.

4. Based on the fourth hypothesis, it is proposed that with the step by step training and consulting helps for customers and full consideration of security issues, customers' specific passwords and strong and strong information systems, perform in a way that minimize human error, financial risks and possible damages.

5. Based on the fifth hypothesis, it is suggested that considering what has been said and particular attention to the Samen credit institution, giving a simple and various pattern and instruction, with spending a reasonable price according to daily changes, in online and electronic infrastructures, using mobile bank have become a regular subject in customers' opinion, so customers can use this system with a peace of mind.

In the end, it is suggested in this study that the leaders of this institution provide a trustworthy and satisfactory area so they could attract more financial sources. And with providing a powerful, assured and modern operation, create a financial profitability through customers.

Conflict of interest

The authors declare no conflict of interest

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