

# Reviews of online banking adoption by customers as a new economic system in Iranian banking system

Nakhaei, Ali<sup>1\*</sup>, Aghaee, Hasan<sup>1††</sup>, Akhavan saffar, Mostafa<sup>1†††</sup>

<sup>1</sup> Department of Computer engineering, Payame Noor University, Iran

\*Author for Correspondence

## Summary

Today's the importance of the role of e-banking in the world and its impact on sustainable economic development is not worn on the person. Iran in diplomatic view because of the need for economic interaction with the world and in internal view because of increased satisfaction and development of economic activities needs to expand and standardize electronic banking. Accordingly, in the field of electronic banking and its development solutions, a lot of research has been done. In this article we intend to review the results of successful research in e-banking and monitoring expert banking opinions, and finally to express most important strategies for e-banking progress and developments.

## Key words:

*Economic system, e-banking system.*

## 1. Introduction

The aim of this study explores some of the successful research in the development of electronic banking in Iran and monitoring banking expert opinions in this field. In the second part of this article we summarize two researches in e-banking and outline its achievements beyond. Research (1) as titled "providing a conceptual model to explain the key factors affecting the quality systems provider of Internet banking services (Survey on Bank Mellat)" by (Divandari, Ali; Abedi, E. and Nasrzadh, Seyed Mohammad Reza, 2013) is provided. Research (2) as titled "Evaluation the impact of the perceived quality of e-banking services to customer satisfaction and commitment of Bank Saderat in Tehran" by (shadan zade, Wahab and Mohammed Kalay, Saneya 2014) is provided. In the third part, we express the views of experts in the field of electronic banking. And finally at the end we express the results of the inspecting most important strategies in the development of electronic banking.

## 2. Surveying the Successful Research Conducted in the Field of Electronic Banking

Research (1) as titled "providing a conceptual model to explain the key factors affecting the quality systems

provider of Internet banking services (Survey on Bank Mellat)"

Research explanation:

The main aim of the researchers in their study is: providing a conceptual model to explain the key factors affecting the quality systems provider of Internet banking services (Survey on Bank Mellat)" and they proposed the following assumptions:

- 1- Between the ease of use of the systems employed and quality of the internet banking service provider systems, there is a significant relationship.
  - 2- Between The utilization of the systems employed and quality of the internet banking service provider there is a significant relationship.
  - 3- Between the stability of the systems employed and quality of the internet banking service provider systems there is a significant relationship.
  - 4- Between the security of the systems employed and quality of the internet banking service provider systems there is a significant relationship.
  - 5- Between the speeds of the systems employed and quality of the internet banking service provider systems there is a significant relationship.
  - 6- Between the attractiveness of the systems employed and the quality of internet banking service provider systems there is a significant relationship.
- Variables affecting the quality of Internet banking service provider systems considered in this study include:

- The ease of use internet banking service provider systems means that the systems are designed in such a way that the use of the services provided by them for customers is simple.
- The usefulness of the internet banking service provider systems means that the systems are designed in such a way that the use of banking services to provide customers with high efficiency and effectiveness.
- Systems stability means that systems used on the Internet, in providing services to customers in the form of persistent, are without error and without a glitch.
- Systems security means that the ability of systems used on the Internet in maintaining the security of the organization sensitive information, such as sales data, price, goods and the like.

- Systems speed means that systems used in providing services to customers, at times of network traffic, have the speed.

- Systems Attractiveness means that system is designed in such a way that the use of the internet banking service for customers, being attractive and interesting.

According to the surveys conducted, all variables considered in the model presented in this research, have been used in a wide range of researches in the field of Internet banking, and our assumptions are supported based on a range of the formers researches.(Minijoon, 2001; Polatoglu and Ekin,2001; Gerrard,2006; Wu, 2003; Chen and Chang, 2003; Chung and Young, 2003; Pikkarainen, 2004)

To examine the assumptions, the concept of structural equation model was used. In other words, to assess the significance of the research model and the significance of each variable with other variables in the model, structural equation modeling was used. Statistical population in this study, are the users of Bank Mellat internet banking, and The sample, are the users of internet banking services of

Bank Mellat at Tehran. In this sampling, a list includes the names of eight hundred Mellat Bank customers, were available to the researchers. Finally, from eight hundred questionnaires was sent to active Internet users, the number of 204 usable questionnaires reached to the researchers for investigating and analyzing the used data. Questions in the questionnaire have been designed according to the five-item Likert scale. In another part of questions, asking people to give their demographic information by selecting from among the options available. Researchers used content validity method at their questionnaire to ensure the correct measurement tool. Researchers used The Cronbach's alpha coefficient to assess their reliability. Researchers calculated questionnaire validity using SPSS software package. It turned out that 78 percent due to Cronbach's alpha coefficient, it can be said the validity of assessment tools is desirable. To determine the acceptability of the assumptions, the model was inspected in standard estimating and significant numbers modes. Figures 1 and 2 show the results.

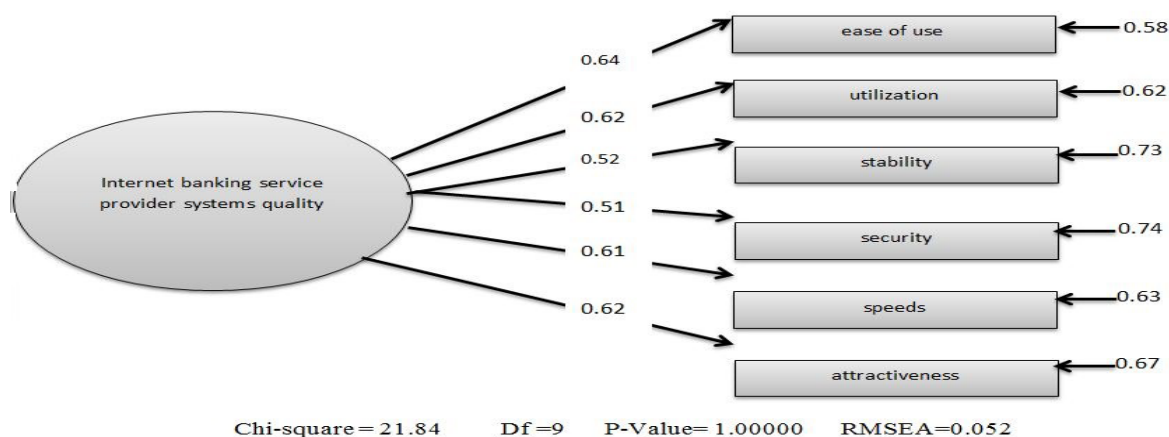


Figure 1. The standard model estimates

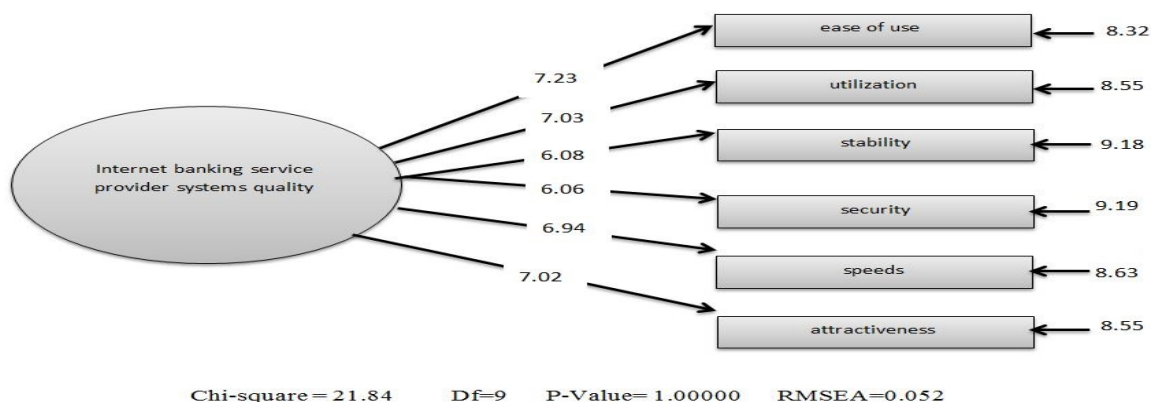


Figure 2-Model at significant numbers mode

In this study, the following results were obtained:

Ease of use of the systems employed and quality of the internet banking service provider systems has a positive, direct and significance relationship, Is equal to 0.64. (The first assumption approval)

Utilization of the systems employed and quality of the internet banking service provider systems has a positive, direct and significance relationship, Is equal to 0.62. (The second assumption approval)

Stability of the systems employed and quality of the internet banking service provider systems has a positive, direct and significance relationship, Is equal to 0.52. (The third assumption approval)

Security of the systems employed and quality of the internet banking service provider systems has a positive, direct and significance relationship, Is equal to 0.51. (The forth assumption approval)

Speeds of the systems employed and quality of the internet banking service provider systems has a positive, direct and significance relationship, Is equal to 0.61. (The fifth assumption approval)

Attractiveness of the systems employed and the quality of internet banking service provider systems has a positive, direct and significance relationship, Is equal to 0.62. (The sixth assumption approval)

Then the status of each factor due to current and ideal state, specified in view of customers. (Table 1)

Table 1: Current and ideal state of each factor from the customer perspective

Variable	1. Ease of use	2. Utilization	3. Stability	4. Security	5. Speed	6. Attractiveness
current state	4.21	4.17	3.96	4.17	3.85	3.69
ideal state	4.53	4.44	4.78	4.85	4.6	4
the gap	0.32	0.27	0.82	0.68	0.75	0.31

According to the table in terms of customer's stability, speed and security factors in Internet banking service provider systems are matter most. And therefore it is necessary for banks to provide such services in a way to have stability, speed and security at high level. And banks for effective competition in the field of online services and in order to gain competitive advantage and differentiate their services, Should be upgraded stability, speed and security of their systems and transfer this change to its customers. So, advertising design for online banking should be taken with regard to these factors, a comprehensive image of these services to the customers, which a comprehensive image of these services to

customers is made. The results obtained in this study suggests that: From the perspective of customers and users of the internet banking service provider systems, Systems are considered as high quality systems that primarily, it provides easy access to use and using banking services processes, be attractive. Usefulness of the systems and quickly provide their services Further features that made a good impression on customers, about the quality of their Internet banking services providers.

Research number 2: "Evaluation the impact of the perceived quality of e-banking services to customer satisfaction and commitment of Bank Saderat in Tehran" Figure 3 shows the research conceptual model in this research.

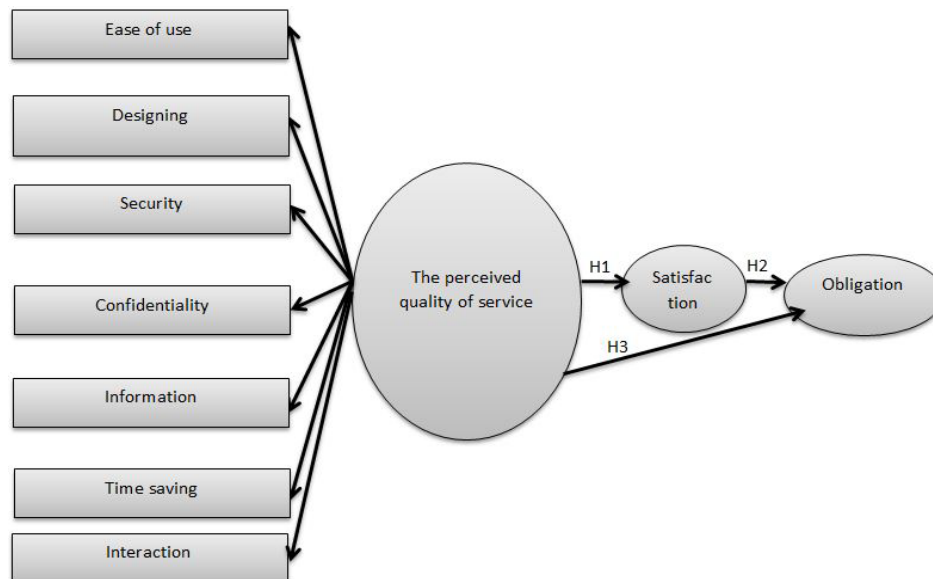


Figure 3 - the research conceptual model.

In this study, the examined variables are commitment, satisfaction and perceived quality of services. Perceived quality proposed as independent variable that affects the dependent variables: customer satisfaction and customer commitment. Among the dependent variables, customer satisfaction variable, as a mediator, it mediates between the impact of perceived quality and customer commitment. Perceived quality variable includes various dimensions: ease of use, design, security, confidentiality, information, and saving the time.

The research hypothesis is considered as follows:

- First hypothesis: the perceived quality of e-banking services has a positive effect on customer satisfaction.
- Second hypothesis: the satisfaction of the perceived quality of e-banking services has a positive impact on customer commitment.
- Third hypothesis: the perceived quality of e-banking services has a direct and positive impact on customer commitment.

The study is made according to the method and aim by the following categories:

Classification based on method:

This research method is a kind of hypothesis testing that is one of the types of field research. Information on this research using library studies and field studies through questionnaires collected. Questionnaire in this study is composed of three main parts. The first part is related to sample demographic. (Including information such as gender, education, occupation, income level), the second part related to banking operations (use of electronic services) of tested sample. The third part is related to hypotheses test that contains 24 questions that related to the SADERAT BANK perceived quality of e-services and satisfaction and commitment. Questions in the questionnaire have been designed according to the five-item Likert scale. After performing statistical analysis on collected questionnaires the following results obtained:

First hypothesis: the perceived quality of e-banking services has a positive effect on customer satisfaction.

Assumption 0: perceived quality of e-banking services has no effect on customer satisfaction.

Assumption 1: perceived quality of e-banking services has an impact on customer satisfaction.

According to the results of structural equation, standardized coefficient between the two variables is 0.88. The coefficient between these two variables is 19.56 (more than 1.96) shows that this relationship is significant. So Assumption 0 refuted, and Assumption 1 is confirmed. This means that the perceived quality of e-banking services has a positive effect on customer satisfaction.

Second Hypothesis: the satisfaction of the perceived quality of e-banking services has a positive impact on customer commitment.

Assumption 0: satisfaction of the perceived quality of e-banking services does not affect customer commitment.

Assumption 1: the satisfaction of the perceived quality of e-banking services has affect customer commitment.

According to the results of structural equation, standardized coefficient between the two variables is 0.37. The coefficient between these two variables is 3.39 (more than 1.96) shows that this relationship is significant. So Assumption 0 refuted, and Assumption 1 is confirmed. This means that the satisfaction of the perceived quality of e-banking services has a positive impact on customer commitment.

Third Hypothesis: the perceived quality of e-banking services has a direct and positive impact on customer commitment.

Assumption 0: perceived quality of e-banking services does not affect customer commitment.

Assumption 1: perceived quality of e-banking services has effect on customer commitment.

According to the results of structural equation, standardized coefficient between the two variables is 0.62. The coefficient between these two variables is 5.73 (more than 1.96) shows that this relationship is significant. So Assumption 0 refuted, and Assumption 1 is confirmed. It means that the perceived quality of e-banking services has a positive impact on customer commitment.

Researchers According to the results of their study offered some suggestions:

- Supply security and reliability of e-banking.
- Senior management commitment to security issues
- Employing the most advanced security systems
- Websites and portals strengthening security through collaboration with IT Security suppliers,
- Banking managers should make electronic banking processes easier as possible.
- And design guidelines for electronic banking in such way to be easy and simple to following it.

Also researchers after reviewing the respondent proposals, emphasize, in order to improve the quality of electronic services the following cases to be performed:

- Being a responsive authority to solve customer who use e-banking services problems electronically, even on holidays and non-office hours,
- Informing and training the various segments of society based on education level and age groups, with special attention to the elderly and less educated there.
- Customer loyalty must be a top priority for organizations.
- The use of service performance improvement standards and customer satisfaction standards on services delivery is one of the ways that can be considered for complaining customer satisfaction.

### 3. The banking experts' viewpoint on approaches to the development of electronic banking in Iran

(Bagheri, Ehsan. 2013) says important points regarding electronic banking in Iran that we summarize it:

#### 1- Business strategies

IT management for greater role and help to create real value for the bank and its customers requires a proper understanding of the business strategy. The field of information technology requires forces that are able to understand the business strategy and the creation of appropriate and relevant policies in the field of information technology

#### 2- The macro level decision-making

Although the bank's IT strategy and plans is evident and necessary, but this role has remained at the Assistance level. With regard to the role of information technology in the banking system, still has not operate the division in the board of directors and the board of directors of banks still remains in the hands of financial managers and accountants. This means that IT managers, in the management have not to attend significant improvement.

#### 3- Change approach to information and communication technology

Focus on the inadequate technical and information technology requires special attention to the man and his needs. Therefore, information and communication technology has been replaced with IT that focuses solely on technical. One of the main requirements in the field of information technology has changed technical approach to the management approach, that main stream is become more humane technologies.

#### 4- The role of IT management

The main trends of information technology management in universities are including advanced information systems, knowledge management, e-business and the management of information resources. Depth look at information technology show, this section only in the Information Resource Management (IRM) and to some extent remains limited in e-business and in the design, implementation and management of information systems and knowledge management not succeed.

#### 5- Integrated systems other than CORE

It is surprising that the Iranian banking system, information technology and management systems engaged itself in CORE and electronic banking channels management, and as it was mentioned in previous section, It is not pay attention to other IT roles. That's why banks Iran has not a comprehensive system for customer relationship management, authentication, information systems such market information system. Whereas , the CORE bank that is not only based on customer bank details, and realization of management strategy of our customers life, be require additional information on Iran's

banking system due to lack of knowledge of information systems and there is no possibility of full implementation.

#### 6. Monopolists in IT management

Customer data Management and personal privacy is the most important banking infrastructure. The creation strategies, solutions and customized products for the market and customers need access to information on transactions, customer interaction and relationship with the bank. This data should be used not only in the database banks, archive and protect. Thus creating a balance between privacy and exploiting them to create more value for customers is a top priority that must be considered is the IT field. Data mining is one of the solutions available to create efficient units that have different departments and decision-making to feed his bank.

#### 7- Innovation in Information Technology Management

IT in the banking system of Iran is the only known reference innovations. Even today management, research and development related to product development center are selected of IT managers. According to this process, IT management has an important role in the banking field and it is recognized as a center of innovation. This role has two main dimensions. First, this area needs to innovations related to communications, infrastructure, marketing and so on, and not focus only on the channels and electronics products. On the other hand support innovation in an effective manner.

#### 8- IT management structure:

The areas like macro-structure based banking organization's mission and typically 3 main categories of software, hardware and network payments are included. The nature of work in this field, paying attention to integrity, speed and perform tasks as a main context of services and products make highly inefficient and functional structure with many challenges along its banks. Therefore, structures such as the structure of the matrix can effective information technology in the creation, implementation and follow up of competitive strategies of the past.

#### 9- Human resources in IT management:

Information technology area in the banking system because of it is a specialized field is one isolated part of the banks. Also, It is in human resources has seen. Therefore, it should be able to hire managers, to employment, training, development, employment, performance evaluation and compensation, the job description and duties play a bigger role and engineers are motivated and to keep the banking system can take advantage of the knowledge and motivation of these forces.

Other items that e-banking experts emphasized are: (Yaghubi, Maryam; Ramazani Rad, Farzad. 2015)

Globalization and the use of social networks and social media and knowledge-based jobs could be affects a

significant portion of today's challenges in the area of economic, social, cultural and even political impact this.

- In order to upgrading the existing Banking situation as well as rationalize it within the available procedures of the world banking, especially in terms after the sanctions, it is essential that the existing banking procedures and processes are fundamental review. To do this, create an agile and intelligent infrastructure to provide banking services in minimal time and cost with high efficiency, Providing comprehensive vision during the process design, facilitate the implementation of banking activities with laws, regulations and instructions, Accelerating the design and implementation of banking systems and operational data integration capabilities in the banking system, it seems necessary.
- Prospective banks that try to succeed in competition, more than anything are relying to their ability to introduce new products and services and respond quickly to changes in market trends.
- New banking heavily influenced by emerging technologies such as mobile technology, cloud computing, virtualization, communication infrastructure, Big Data, and more.
- Key concepts in the design and implementation of bank services, such as network access, security, and user experience, authentication, supply channel conflict, etc. With the advent of mobile technology will revolutionize and are in need of redefinition. It's unlikely any other time this event occurs for incoming cloud computing technology and other new technologies into the banking system. So that banking system must always be ready to adapt and update their service with new information technologies.
- Central banks of Iran should have technical and human capacity for foresight and technological trends pursuit in their cause and also is in charge of lobbying and legal pressure to Apparatuses such as the Ministry of Communications and mobile operators to be effective on the status of technology in the country.
- The integration of the two approaches, the management theory (resources quality management, business engineering, systems thinking) and modern technologies (applications software development, system integration, service-oriented architecture, workflow management, transaction information management), will be a key role in the successful implementation of e-banking services.
- In the context of IT technology, communication can be to manage and reform the processes and customer satisfaction and also plays an important role in optimizing the business model in the field of banking. The results of these models improve communication processes, rapid feedback, identify bottlenecks, continuously improvement, change facilitation and harmony with the new conditions, creating the basis for defining policy, process integration and the preparation of reports and analyzes administrative

services, increase customer satisfaction, effectively prioritization and accelerate decision will be followed.

#### 4. Conclusion

After statistical analysis of preceding studies, as well as exploring the banking expert opinions, the following solutions recommended for the successful development of e-banking in Iran:

From the perspective of customers and users of the internet banking service provider systems, Systems are considered as high quality systems that primarily, it provides easy access to use and using banking services processes, be attractive. Usefulness of the systems and quickly provide their services Further features that made a good impression on customers, about the quality of their Internet banking services providers. Also when banks can provide electronic services according to their customers expect or even exceed their demands and expectations they provide, cause to customers satisfaction.

Another point is that new banking heavily influenced by emerging technologies such as mobile technology, cloud computing, virtualization, communication infrastructure, Big Data, and more. And finally the integration of the two approaches, the management theory (resources quality management, business engineering, systems thinking) and modern technologies (applications software development, system integration, service-oriented architecture, workflow management, transaction information management), will be a key role in the successful implementation of e-banking services.

#### References:

- [1] Bagheri, Ehsan. (2013). 10 IT requirements in the banking system of Iran. <http://banker.ir/news/13693>
- [2] Chen, S., Chang, T. (2003). A descriptive model of online shopping process: some empirical results. *International Journal of Service Industry Management*, 14, (5): 556-569.
- [3] Chung-Hoon, P., Young-Gul, K. (2003). Identifying key factors affecting consumer purchase behavior in an online shopping context. *International consumer purchase behavior in an online shopping context. International Journal of Retail & Distribution Management*, 31 (1):16-29
- [4] Divandari, Ali; Abedi, E. and Nasrzadh, Seyed Mohammad Reza. (2013). providing a conceptual model to explain the key factors affecting the quality systems provider of Internet banking services. (Survey on Bank Mellat). *Tehran University journal of information technology management*, 5, (1): 19-36.
- [5] Gerrard, P., et al. (2006). Why consumers are not using Internet Banking: a qualitative Study. *Journal of Services Marketing*, 20 (3):160-168
- [6] Minijoon, J., Shaohan, C. (2001). The key determinants of Internet Banking service quality: a content analysis. *International journal of bank marketing*, 19 (7):.276-291.

- [7] Pikkarainen, T., et al. (2004). Consumer acceptance of online banking: An extension of the technology acceptance model. *Internet Research*, 14(3): 224-235.
- [8] Polatoglu, V.N., Ekin, S. (2001). An empirical investigation of the Turkish consumer acceptance of internet banking services. *International journal of Bank Marketing*, 19 (4): 156-165.
- [9] Shadan zade, vahab; Mohammed Kalay, Saneya. (2014). Evaluation the impact of the perceived quality of e-banking services to customer satisfaction and commitment of Bank Saderat in Tehran. *PAJOUHESHGAR (JOURNAL OF MANAGEMENT)*, 11, (33): 67-75.
- [10] Yaghubi, Maryam; Ramazani Rad, Farzad. (2015). What is the role of information technology in banking after sanctions? *Electronic banking; modern system of banking business.* khabaronline. <http://www.khabaronline.ir/detail/487248/Economy/macroeconomics>
- [11] Wu, S.I. (2003). The relationship between consumer characteristics and attitude toward online shopping. *Marketing Intelligence & Planning*, 21(1): 37-44.