

Investigating the Relationship between Electronic Banking and Bank Service Fees (A case study: Private Banks in Iran)

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ABSTRACT

This research studies the role of electronic banking in increasing bank services' fees of private banks in Iran during the years between 2009 and 2011. To achieve our goal, we have chosen 185 persons as our research sample from among the whole branches of 15 Iranian private banks through random selection and the questionnaires were distributed among them. The results of research findings' analysis showed that the relationship between electronic banking and banks' earnings as our main hypothesis in this research is positive and meaningful and the relationship between banks' earnings and smart cards, ATMs, point of sale (POS), internet banks and telephone banks as subsidiary hypotheses is a positive and meaningful too.

KEYWORDS: Banking fees, Electronic banking, Electronic banking services, Electronic transactions, Iranian private bank.

1-INTRODUCTION

Although using electronic banking in Iran dates back to 35 to 40 years ago, its development has occurred in recent years. In the early times of electronic banking the number of transactions was 360000 in a year. It was 38000000 in the previous year and in the current year it would be more than 100000000. It is the duty of banks to inform and acknowledge people about modern banking services and they should play an effective role in avoiding the worn out notes and also reducing the physical presence of people in banks' branches. To spread electronic banking in the country we need acculturation. Although effective works have been done to implement electronic banking in the years between 2003 and 2004, we have a long way to reach the top desired position. If point of sales (POSSs) is installed in purchase centers, the number of people in front of ATMs will decrease. Unfortunately there hasn't been enough information spread to the public about the use of POSSs because currently more than 10000000 electronic transactions are recorded monthly in our country and only 150000 transactions are recorded through POS. Implementing electronic banking will reduce banking costs %60 to %70 besides improving qualitative level of services. Bank cards also can be used besides ATM and POS machines. Currently 57000 POS machines have been installed in sales centers and people do not need to carry money physically. Thus, by informing the people acculturation in the society we can enhance the use of electronic banking which can reduce the physical presence of customers in banks, reduce the staff's time waste, reduce physical flows of money, reduce cost of printing notes, reduce the destruction of damaged notes, reduce the number of staff in banks and thus reduce operational costs of banks [3].

The wonderful development of information technology and its spread in world monetary and banking markets has revolutionized the current banking methods besides fostering customers' affairs. Today the judgment of customers in banking affairs is based on the amount of capability of the banks in helping to resolve the problems and develop businesses [23].

The acceptance of electronic banking in most countries in the world is increasing in a way that the amount of electronic banking in pioneering countries is more than %50 [21].

The key factor in accepting electronic banking is the reliance and satisfaction of customers of banks which affects electronic banking acceptance indirectly. On the other hand the participation of customers in electronic banking acceptance is highly important; because this can reduce or omit the interactions between the organization and customers. Customer and bank participation is a factor which affects service quality, satisfaction and finally customer preservation; meanwhile many people are cautious about using modern technologies [20]. Electronic banking includes systems which enable customers and financial entities to use banking services in three levels of informing, connection and transaction. Today electronic banking is presented in sub-branches based on the market facilities and needs and in different forms such as: internet banking, cell phone based banking and technologies related to it, telephone banking, fax based banking, ATM based banking,

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POS based banking and electronic branches based banking. In pioneering banks in electronic banking, different channels of banking are integrated and unified island systems are made [3].

2-The statement of the problem

The most important goals of managers in profit making entities is to maximize the wealth and profits of shareholders of those entities. Increasing the number of private banks and the growth of privatization of governmental banks and increasing competition in financial markets as a result of obligations on private banks to increase the revenues and reduce the costs which result in increasing the profit per each share, challenges the authors. Presenting desirable products and services besides maintaining customers increases the fame of the bank and absorbs new customers and thus financial efficiency and profitability are achieved and this is not possible without using new approaches and technologies and tools. One of new technologies which is becoming more prominent in organizations and entities especially banks and is considered to be strategic is called information technology which can increase the banks capabilities in the following fields: presenting varied products, customer satisfaction, official trend fostering, improving quality of services, human resource yield and its management. Information technology in banks which is realized in the form of electronic services and electronic banking, has resulted in presenting various electronic services and increasing the speed of service rendering to customers, reducing operational and managerial costs and the number of referring customers to the branches, changing and revolutionizing in income gaining in developed banks [3].

3-Research Goals

After studying the theoretical foundations of the research, the following goals are set as our goals in this research:

- Investigating and studying about modern banking technologies and adding modern electronic banking services
- Using encouraging tools in order to provoke the customers to use modern banking systems
- Developing ATMs, POSs, Pin Pads and services which can be presented through the machines above in order to spread the culture of using electronic banking services
- Absorbing and training skillful and professional human resource in order to have desirable service rendering to customers

4- LITERATURE REVIEW

Many studies have been carried out in Iran and worldwide in electronic banking. Table 2 shows a sample of these researches. Foreign researches about electronic banking show that effective factors of absorbing service rendering to customers through internet and electronic banking are as follows: in time responding to the customers, the domain of services rendered, the type of customers' behavior, access to financial data, ease of using services, safety of services rendered, designing suitable graphical backgrounds. Here we will introduce a sample of local researches [22].

- Bidabad & et al. have studied electronic banking methods (internet, intranet and mobile) in a research entitled: "Electronic banking services and its administrative needs compared with different banking operational costs" in the year 2003. They calculated the cost of services in different types of banking systems by using Iranian National Bank data and applying the international criteria for the years between 2000 and 2002. According to the results of this research the average time needed to do each transaction in internet and intranet banking had meaningfully decrease in comparison with the traditional banking and the average cost of each transaction in traditional banking and semiautomatic banking has been 100 times more than the cost of each transaction in internet banking. Also the amount saved in personnel costs resulted from using internet banking compared with the present situation (traditional and semiautomatic banking) of Iranian National Bank regarding the prices of the year 2004 is 2291 billions and 4447 billions, respectively.
- Heshmati-e-Molae (2004) studied the development of modern tools in Islamic system, without regarding other suitable policies which are not applicable in Islamic systems, in an article entitled: "Modern tools in banking and their position in Islamic banking system", and found out that new tools can have a suitable position in it. He concluded that developing modern financial tools should be responsive regarding economical realities from one hand and observe Islamic norms in macro and micro approaches on the other hand which does not contradict with sustainable economic policy logics [11].
- Babazadeh (2005) found out in his dissertation entitled: "Studying the obstacles of implementing and developing electronic banking in Iran by using descriptive (questionnaire) research", that the low level of information among people of electronic banking advantages, the weakness in legal structure of entering electronic environment, governmental structure of business and specialized banks, the weakness of substructures, the low level of demands for electronic banking and insufficient supply of

electronic banking services are the main obstacles in implementing and developing electronic banking in Iran [6].

- A paper entitled: "Studying the preparatory factor, challenges, and bottlenecks of developing electronic banking" was presented by Hamidzadeh & et al. In 2007. In this paper the preliminary factors are recognized and ranked and electronic banking development driver was identified and also the challenges and external bottlenecks of electronic banking system in our country were recognized and ranked [10].
- An article entitled: "Factors and obstacles effective in creation and development of electronic banking in Iran", was presented by Feizi & et al. in 2005. In this paper first the concepts and services of electronic banking are posed and then the writers try to recognize and rank the factors and obstacles effective in creation and development of electronic banking in Iran [7].
- A research paper was presented by Amadeh & et al. in 2009 which entitled: "Studying the obstacles and development strategies of electronic banking in private banks of our country". In this article they tried to study and recognize the major obstacles of developing electronic banking in private banks of our country [5].
- Alemi (2004) studied the type of planning and implementation of a broad software terminal in bank in a paper entitled: "Planning and implementing a sample of an electronic banking (virtual branch)" [2].
- Koleini (2005) investigated encoding devices in internet and electronic payment protocols in a paper entitled: "Safety in Electronic Payment Systems" [15].
- Ebrahimi (2002) studied the obstacles of applying electronic banking in Iran in an article entitled: "Application methods of electronic banking in Iran" [1].
- Nematipour (2008) presented a paper about identifying development factors and key factors of success (C.S.F) in electronic banking in Iran.[19]
- Pourmirza & et al. (2008) studied and assessed CRM administration in Samaan Bank in an article entitled: "Customer Relationship Management in electronic banking industry in Iran" [19].

5-Research Hypotheses

Since electronic payment tools include ATM, ATM card and POS and branch terminals, the number of ATMs, the number of cards issued, the number of POS, internet bank and telephone bank are considered as independent variables and maximizing the revenues is considered as dependent variable. Thus, research hypotheses are designed in the form of the main hypothesis and 5 subsidiary hypotheses as follows:

5-1- Main Hypothesis

There is a meaningful relationship between electronic banking and increasing the fees of banking services.

5-2- Subsidiary Hypotheses

- 1- There is a meaningful relationship between bank cards and the fees of banking services.
- 2- There is a meaningful relationship between ATM machines and the fees of banking services.
- 3- There is a meaningful relationship between POS machines and the fees of banking services.
- 4- There is a meaningful relationship between internet bank and the fees of banking services.
- 5- There is a meaningful relationship between telephone bank and the fees of banking services.

6-Electronic Banking Services rendered in private banks in Iran

6-1- Automatic Teller Machine (ATM)

An ATM can work as a branch of a bank and do most of the banking works in which most parts of transactions are carried out with the least interference of human force. Statistics show that ATM installation during 6 years (1998 – 2004) has had a growth rate of %45 worldwide. We can say that the greatest investments of banks in the whole world in computerized services era have been appropriated to ATMs and money distributing machines [13].

In summary it is ATM machines, processors or electronic terminals which are installed in specific locations by banks to foster customers' affairs and are accessible for customers day and night.

An ATM can work as a branch of a bank in itself and do many major banking tasks. A great deal of transactions will be done with the least human interferences. Additionally, this machine has been designed in a way that works 24 hours a day non-stop. By using ATMs a lot of money will be saved regarding the costs of staff and overcharge costs of a bank branch [13].

6-2- Point of Sale (POS)

Point of Sale (POS) is a machine which is installed in goods sale and service centers to be used in order to pay money instead of cash payment or physical money carrying to subtract the amount transacted electronically from the account of the card owner (customer) and pay the amount to the receiver's (salesperson's) account. This is done through the terminal mentioned and through links to the central computer. The machine which includes

a modem and a printer is given to the supermarkets and other sales centers by the bank. Generally the place of using sales terminals is supermarkets and service centers.

Point of sale machines mean to transfer cashes electronically in sale points in which the customer can transfer the money from his own account in a bank or a financial entity into the salesperson's account safely and wherever and whenever he wants to get any goods or services by using different forms, identification methods, with safety and electronic connections [12].

These tools were common in 1970s in the United States and its growth rate was less than ATM. Implementation and use observations of POSs in 11 pioneering countries in banking show that an average of almost one POS for 60 persons is seen. Regarding a population of 70 million in our country and considering that %68 of people are inhabitants of urban areas, we can conclude that in order to adjust with pioneering countries we need 696800 POS machines. Meanwhile the total number of POS in our country is 579436, and this shows that we have a %27 shortage of POS.

6-3- Telephone Banking

Doing a micro-business transaction among the bank and customers through telephone is called telephone banking.

6-4- Internet Banking Terminal

Currently home banking through internet is carried out by using modern debt cards (such as smart cards). These cards present a list of financial services such as electronic check, bills' payment, and other trivial banking services by the banks. The integration of home computers and smart cards have made possible to transfer the data related to accounts.

Banks can have a specific page on World Wide Web (WWW). Entities can let investors to control their accounts ask for loans or other transactions through internet [25].

6-5- Mobile Bank

Customers can use banking software by installing it on their own mobiles and use the services [25].

6-6- Card Services

Cards service is another part of services rendered by banks in order to use magnetic cards instead of carrying the money physically and to utilize new banking methods in order to make customers more comfortable. These cards are presented to customers regarding the safety principles by the bank for those who apply and are used as a suitable tool in order to fast and safe access in exchanges and transmissions. Owners of these cards can use them day and night and in holidays through ATM, POS, and Pin Pad to transfer cashes with their own cards [25].

7-RESEARCH METHODOLOGY AND DATA COLLECTION METHOD

The research method in this paper is descriptive and surveying. To collect the data used in this paper we have used library method (including tools such as books, papers and dissertations) and field studies (including questionnaire distribution and interviews with banking system incumbents and statistics collected about the number of ATMs, ATM cards, telephone bank, internet bank and POS machines) and preparing statistical tables and comparing and analysis of tables and referring to related entities and interviewing with banking experts and scholars. It should be noted here that interviews have been presented in limited numbers and only to recognize the criteria to be suggested in each of hypotheses. Also T Student test has been utilized in this research to assess and verify the hypotheses.

7-1- Research Domain

The subject domain of this research includes studying the role of electronic banking in increasing the fees of banking services. Regarding the location and time period of this domain, the present research includes all branches of 15 private banks in Iran during the years between 2009 and 2011.

By using a random sampling model, 185 persons were selected from among our statistical population and the questionnaires were distributed among them. The questionnaire of this research included 42 questions which were distributed among the variables as follows:

ATMs: 8 questions; ATM cards: 7 questions; Internet bank: 6 questions; Telephone bank: 5 questions; POS machines: 8 questions; Bank fees: 8 questions.

Table 1: Model effects' coefficients identifying fees (revenues) of the bank

Variable	t-value (t)	Sig. (meaningfulness level)
ATM	2.301	0
ATM card	-4.534	0
POS	2.593	0
Internet bank	4.431	0.010
Telephone bank	-4.590	0.023

7-2- Testing subsidiary hypotheses of the research

In this part of the research we will test the relationship between each of the 5 variables of ATM, ATM cards, Internet bank, Telephone bank and POS machines and the revenues of the bank dually. Table 2 shows the results of solving these hypotheses.

Table2: the results of solving subsidiary hypotheses

Subsidiary hypotheses	Test statistics	Sig.	Hypotheses results
1	-6.055	0	Approved
2	2.673	0.008	Approved
3	4.684	0	Approved
4	4.959	0	Approved
5	-4.661	0	Approved

Hypothesis 1- There is a meaningful relationship between bank cards and the fees of banking services. The results gained by SPSS software show that the amount of test statistics equals $t = -6.055$ and $Sig = 0$. Since if $Sig < 0.05$, H_0 is rejected and H_1 is approved, the relationship between bank cards and the fees of banking services is meaningful.

Hypothesis 2- There is a meaningful relationship between ATM machines and the fees of banking services. An ATM can work as a branch of a bank and do most of the banking works in which most parts of transactions are carried out with the least interference of human force. The results gained by SPSS software show that the amount of test statistics equals $t = 2.673$ and $Sig = 0.008$. Since if $Sig < 0.05$, H_0 is rejected and H_1 is approved, the relationship between ATM machines and the fees of banking services is meaningful.

Hypothesis 3- There is a meaningful relationship between POS machines and the fees of banking services. The results of analyzing this hypothesis by the help of a multi-variable test show that the amount of test statistics equals $t = 4.684$ and $Sig = 0$. Since if $Sig < 0.05$, H_0 is rejected and H_1 is approved, the relationship between POS machines and the fees of banking services is meaningful.

Hypothesis 4- There is a meaningful relationship between internet bank and the fees of banking services. The results of analyzing this hypothesis by the help of a multi-variable test show that the amount of test statistics equals $t = 4.959$ and $Sig = 0$. Since if $Sig < 0.05$, H_0 is rejected and H_1 is approved, the relationship between internet bank and the fees of banking services is meaningful.

Hypothesis 5- There is a meaningful relationship between telephone bank and the fees of banking services. The results of analyzing this hypothesis by the help of a multi-variable test show that the amount of test statistics equals $t = 4.661$ and $Sig = 0$. Since if $Sig < 0.05$, H_0 is rejected and H_1 is approved, the relationship between telephone bank and the fees of banking services is meaningful.

8-Conclusions

The aim of this research is to study the effect of electronic banking on increasing the revenues of private banks in Iran. To investigate electronic banking criteria we have used 5 common services in the present era which are ATM, bank cards, internet bank, telephone bank and POS machines and the related tests, the results of our research show that there is a meaningful relationship between electronic banking and increasing banks' revenues. This means that all subsidiary and main hypotheses of the research are approved. Thus, we can claim that electronic banking can increase the revenues of private banks in Iran and if we use modern electronic systems in banking we will encounter a great deal of reductions in each of transactions.

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