

The Effect of Virtual Banking on Bank Productivity (Case Study: Saderat Bank Branches in Tehran)

Somayyeh Vahedi*

*Corresponding Author. M. A. in Business Management, Science and Research Branch, Islamic Azad University, Tehran, Iran. Email: Sunrise.vahedi@yahoo.com

Neda Nafari

Assistant Professor, Islamic Azad University, North Branch, Tehran, Iran. Email: Nedanafari@yahoo.com

Abstract

Objective: Today, banks and financial institutions have consolidated and activated their presence on the internet with various goals. In the meantime e-banking is one of the significant items which soon will turn in to an aggressive policy in business and not an obligation caused by passivity, meaning that all of the businesses will be influenced by e-banking. **Method:** This research was applied objectively and regarding method was correlation, descriptive and survey. The statistical population consisted of customers of branches of Saderat Bank in Tehran. The research questionnaire was designed in 5 variables (productivity, customer satisfaction, creativity and innovation, the speed of banking affairs and cost reduction (bank- customer)) and 30 questions. The Cronbach's alpha coefficient was 0.8, which indicated the acceptable reliability of the questionnaire. To test the hypotheses, the Binomial test was used with SPSS software. **Findings:** The results showed that virtual banking had a positive relationship with customer satisfaction, cost savings, time-saving, and creativity and innovation of employees. **Conclusion:** It's better than raising customer culture in using new electronic services to reduce branches congestion & avoid wasting time.

Keywords: e-banking, e-commerce, advantages, productivity, innovation

1. Introduction

E-banking provides all of the bank's services electronically and via safe and immune interfaces and eliminates the need of clients physical presence in the bank. Furthermore, e-banking is also the creation of products and services with low prices through electronic channels. These products and services can include bills, loans, managing deposits and electronic payments such as electronic money [1]. According to the definitions above, it can be concluded that electronic banking is important and also a national requirement and is considered as one of the major infrastructures of the countries development due to its role in the development of electronic commerce, quality of bank service delivery, time-saving of millions of customers and reducing the social problems.

Considering the role of the banking system in economic-social development and its position in the finance chain, its importance is not overlooked. To maintain competitive advantage and increase the quality of their work, banks must shift their mediating role in banking operations and, with the advent of new technologies advance their knowledge of skill and expertise; this is the result of the phenomenon known as Virtual Banking [3].

Virtual banks are one of the products of this era that can facilitate many processes in everyday life [5]. Simplifications that caused virtual banking not only as a mere banking service, but also as a national necessity, but despite the tremendous importance of this type of banking, due to the technical, legal and cultural limitations does not have a suitable development in the country.

Some research is conducted in this field, including in a study by Forrester (2008) concerning information virtual banking, he concluded that seventy percent of clients were those who did not first answer their questions in the branches, as well as the results of this research showed that the use of virtual banking not only leads to customer service but also, with limited resources, increases bank revenue [4].

Chowel and Chowel (2009) conducted a study entitled "Factors Affecting Mobile-Based Banking Behavior." This research used a structural model to test and study the causes in the planning model. In this research, the causes of using mobile banking and ease of use, trust, utility, and benefits received are expressed [2]. Considering the importance of this article, the paper seeks to examine the impact of virtual banking on the efficiency of Tehran's export banks.

2.Method

This research is applied objectively and regarding research method and data collection is a correlation, descriptive and survey method. The statistical population of the study consisted of customers of Saderat Bank branches in Tehran. To determine the minimum sample size, the general formula for sample size for large communities was used as follows.

$$\sqrt{n} = \left(\text{var}(\theta)^{\frac{t_{\alpha/2}}{e}} \right) n = \frac{3.84 \times 0.25}{(0.08)^2} = 150$$

Therefore, the sample size was estimated, 150 people. By examining theoretical and empirical literature on the subject of research, and considering the views of the experts, the questionnaire was designed in the form of 5 variables (productivity, customer satisfaction, creativity and innovation, speed of banking affairs and cost reduction (customer bank)), and 30 questions based on the 5-point Likert scale from very low (1) to very high (5). To assess the reliability of the questionnaire, Cronbach's alpha coefficient was used; the obtained score was 0.8, indicating the internal consistency of the items and the acceptable reliability of the questionnaire. Data were analyzed by Shapiro-Wilk and Binomial test or binomial test using spss software.

3.Findings

Hypothesis 1: There is a significant relationship between virtual banking and customer satisfaction.

Regarding the results of Table 1, the relationship between customer satisfaction and banking services is statistically significant, in other words, this relationship in

generalizing the statistical population of branches of Saderat banks in Tehran also indicates the relationship. As a result, using the virtual services of Saderat bank increases customer satisfaction and attracts them to use the virtual banking services of Saderat Bank.

Table 1: Relationship between Virtual Banking and Customer Satisfaction

	classification	Frequency	Observed possibility	Test possibility	Significant level
Satisfaction				0.50	0.40
Group 1	0.00	61	0.41		
Group 3	1.00	89	0.59		
Total number		150	1.00		

Hypothesis 2: There is a significant relationship between virtual banking and creativity and innovation of employees.

Regarding the results of Table 2, the relationship between virtual services and creativity and innovation is statistically significant; in other words, this relationship in generalizing the statistical population. As a result, using the virtual banking services causes to create new methods for providing services to customers and so strengthens innovation among employees.

Table 2: Relationship between Virtual Banking and creativity and innovation of employees

	classification	Frequency	Observed possibility	Test possibility	Significant level
Creativity and innovation				0.50	0.001
Group 1	0.00	24	0.16		
Group 3	1.00	126	0.84		
Total number		150	1.00		

Hypothesis 3: There is a significant relationship between virtual banking and cost savings (customers and the bank).

According to the results of Table 3, there is a significant relationship between virtual banking and cost savings, and this relationship can be generalized to the statistical population of Saderat bank in Tehran. Here, saving costs for banks can reduce the use of manpower, reduce the cost of purchasing and maintaining buildings, and so on. Reducing traffic and reducing social dilemmas, such as domestic and foreign travels, can be saving for customers.

Table 3: Investigating cost saving and virtual banking

	classification	Frequency	Observed possibility	Test possibility	Significant level
cost				0.50	0.001
Group 1	0.00	54	0.36		
Group 3	1.00	96	0.64		

Total number		150	1.00		
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Hypothesis 4: There is a significant relationship between virtual banking and the speed of customer banking affairs.

According to the results of Table 4, there is a significant relationship between virtual banking and speed of customer banking affairs, and this relationship can be generalized to the statistical population of Saderat bank on Tehran. The use of virtual banking services increases the speed of work using communication devices such as the Internet, telephone, mobile, and so forth.

Table 4: Investigating the speed of customer banking affairs and virtual banking

	classification	Frequency	Observed possibility	Test possibility	Significant level
Speed of doing banking affairs				0.50	0.000
Group 1	0.00	30	0.20		
Group 3	1.00	120	0.80		
Total number		150	1.00		

Hypothesis 5: There is a significant relationship between virtual banking and bank productivity.

According to the results of Table 5, there is a significant relationship between virtual banking and productivity. In this case, productivity involves four factors of increasing the speed of doing affairs, customer satisfaction, creativity and innovation, and cost savings, and finally, the result shows that the use of virtual banking has a positive impact on these four factors and as a result productivity of banks.

Table 5:Investigating productivity and virtual banking

	classification	Frequency	Observed possibility	Test possibility	Significant level
Productivity				0.50	0.000
Group 1	0.00	47	0.32		
Group 3	1.00	103	0.68		
Total number		150	1.00		

4. Discussion and conclusions

- The results showed that the application of the virtual banking system would increase customer satisfaction. Therefore, the provision of virtual services causes using their attraction to virtual services, therefore, the bank must inform customers about the benefits and facilities of virtual banking and encourage them to use this system instead of traditional banking.

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- The results showed that there is a meaningful and positive relationship between virtual banking and the speed of doing affairs because banking affairs can be done with the use of devices such as the Internet, telephone, mobile ... and without needing to be present in the bank.

- The results showed there is a significant relationship between virtual banking and cost savings. Cost savings are investigated in two dimensions of bank and customers, the benefits that the system provides to the bank include: reducing the number of branches, reducing the use of manpower, the emergence of banking services, etc. Virtual banking provides benefits such as: lack of need to present in the long queues of the bank, saving time, comfort created through the facilities provided by technology and ... for customers, bank must encourage and explain these benefits to customers through the promotion.

- The results showed there is a significant relationship between virtual banking and creativity and innovation of employees. As the use of virtual bank services has provided several channels for providing services and banks have been able to provide more new services with their help, it can be concluded that virtual banking has a positive impact on creativity and innovation of employees, and encourage them to use new methods of delivering services to users.

- The results showed there is a significant relationship between virtual banking and bank productivity. In this research, productivity was divided into four sections: customer satisfaction, cost savings, time-saving, creativity and innovation of employees, and the result was that virtual banking has a positive relationship with each of the four sections, so virtual bank increases productivity, and banks can better serve their customers.

To improve the performance of banks, the following suggestions may be helpful:

-The banks equip all its branches to e-banking technologies such as ATM, Pin Pad, online banking and internal and external networks and broadband lines of data transmission.

-Raising customer culture in using new electronic services to reduce branches congestion & avoid wasting time

-It's better that banks in the selection of manpower care about the technical competence of employee and familiarity with today technology.

-Holding learning courses for banks and managers and staff to get familiar with e-banking and methods to properly convey information to customers in this regard.

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