

The Effective Factors on Customers' Trust in Using E-Banking

Ali Alikhani¹, Asghar Abedi²

¹. Department of Management, Tehran branch, Islamic Azad University, Tehran, Iran

². Department of Management, Tehran branch, Islamic Azad University, Tehran, Iran

abedi9186@yahoo.com

Abstract: Today, one of the criteria of the development of any country is the rate of using new communicational methods between banks and the customers in the banking system of that country (Tero and Pikkariin, 2004). In this research we have studied the effective factors on the increase of customers' trust in using e-banking. In this regard, we designed a questionnaire containing 33 questions using Likert scale in relation to the components of the research; then, on the basis of Polester Model, 200 customers of Iranian Melli Bank were polled. According to the results of factor analysis and T-test, the relationship between security, privacy, keep, and benevolence on one hand, and customers' trust on the other hand was confirmed but the relationship between customers' satisfaction with e-banking system and customers' trust in the bank was not confirmed.

[Ali Alikhani, Asghar Abedi. **The Effective Factors on Customers' Trust in Using E-Banking**. *World Rural Observ* 2017;9(3):90-99]. ISSN: 1944-6543 (Print); ISSN: 1944-6551 (Online). <http://www.sciencepub.net/rural>. 15. doi:[10.7537/marswro090317.15](https://doi.org/10.7537/marswro090317.15).

Keywords: Effective Factors, Customers' Trust, E-Banking

1. Introduction

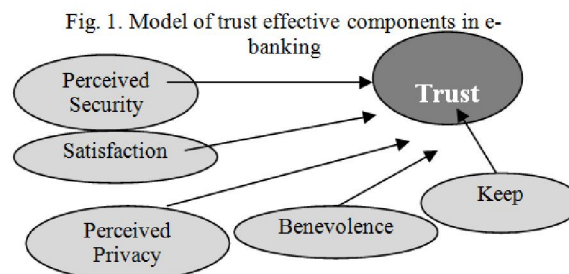
Rapid development of information and communication technology has affected banking and has caused structural changes in this area. Affected by such technological changes banking industry is experiencing significant changes so that banking has been transformed to information process services indeed now (Krueger & Malte, 2001).

Generally electronic banking can be described as a provider of facilities to the customers who want to do their banking operations at any given of time through confident communicational channels without any need to physically attend in the bank (Batiari & Babamalek, 2008).

As the newest way of providing financial services, electronic banking has offered a serious competitiveness in banking relations and has brought a favorite opportunity to tighten the relations with the customer through meeting their new and diverse needs. New era changes necessitate the banks to get along such developments for two reasons. First, as the provider of financial services, banks have to accompany the mentioned changes to gain the competitive advantage and to be survived in the business. Second, the effect of e-banking on the growth of global economy is so that many experts believe that the achievements of developed countries are indebted to electronic revolution of the banks (Fakursaqieh, 2009, p. 68). One of the main concerns of any bank customer in using electronic services of the banks is the trust in this new technology. In this research, we address the issue of customers' trust.

2. Literature review

2.1. Conceptual model



Source: Gaby Odekerken-Schroder, de Wulf, & Patrick Schumacher; "Strengthening outcomes of retailer-consumer relationships: The dual impact of relationship marketing tactics and consumer personality", *Journal of Business Research*, 2003, vol. 56, issue 3, pages 177-190

Having explicit regulations and agreements between the bank and the customer, and offering advantages for using electronic systems lead to customers' tendency to use electronic systems of the banks. Customer trust is not shaped in a short term, while the distrust is the most important barrier in potential growth of e-banking (Giffen, 2000). In e-banking, when the customers trust in the banks, more transactions will take place. But to understand the trust in electronic banking, one has to dissect the components of the trust, since such components are the prerequisite of the customer trust. Customer trust is vitally important because it guarantees the long term process of the banks. In each process, trust has a

special meaning, so trust in e-banking has special components including security and privacy perceived by the customers. The effective indexes on privacy include perceived keep and benevolence of the banks. Thus in this research, to study the dimensions of trust we use Polester's model of trust effective components (2003) and the hypotheses and problems of the research will be consequently proposed on the basis of this model.

3. Research hypotheses

General hypothesis:

There is a significant relationship between electronic banking and using its services.

Specific hypotheses

(1) There is a significant relationship between customers' perceived security of e-banking system and trust in bank.

(2) There is a significant relationship between customers' satisfaction with e-banking system and trust in bank.

(3) There is a significant relationship between customers' perceived privacy of e-banking system and trust in bank.

(4) There is a significant relationship between customers' perceived benevolence of e-banking system and trust in bank.

(5) There is a significant relationship between customers' perceived keep of e-banking system and trust in bank.

4. Research variables

4.1. Electronic banking

Providing facilities in order to increase the speed and efficiency of customers in using e-banking services at any given of time through confident communicational channels without any need to physically attend in the bank to do their desirable bank operation (Joseph & McClure, 2005).

4.2. Customer satisfaction

It is the rate of real performance of any firm in fulfilling customers' expectation, or the customers' feeling or attitude toward a product or service (Divandari & Delkhah, 2005, p. 188).

4.3. Perceived security

Security is to protect against a threat that makes potential situation and events that may lead to data damage and/or lost in providing services to the customer. Hence, customer's perceived security is the degree of protection against such threats (Furst & Karen, 2000).

4.4. Trust

Trust is the ability to perform and provide the promised services in a proper, exact, and reliable way (Arabi & Izadi, 2003, p. 66).

4.5. Perceived privacy

Privacy means to keep confident the personal information like account numbers, passwords, transactions, etc. (Palestar, 2003).

5. Definition of electronic banking

Electronic banking is to provide the customers' access to conduct financial transactions through secure channels without any need to physical attendance (Kohzadi, 2003).

6. Methodology

6.1. Statistical population

A statistical population is a set of entries which are compatible with specific characteristics (Irannejad, 2009, p. 129). The population of this research is the customers of the Tehran branches of Iranian Melli Bank.

6.2. Sample and sampling

Sampling method of this research is simple random method. Since the population size is larger than 30, so the population is normal and it is calculated by the following formula:

$$N = \frac{Pq}{\left(\frac{n-1}{n}\right) \left(\frac{e}{z^2 n}\right) + \frac{Pq}{n}}$$

where:

p: a percent of sample, which is assumed to be %50 in this research;

Pq= 1;

e: ignorable errors up to %6;

z: confidence level, assumed to be %95

Population size: infinite

6.3. Questionnaire validity

To promote the validity of the questionnaire of the research, some ways has been used. In this order, it was attempted to use logical contents, receiving the comments and advices of experts, referring to equivalent cases, and finally designing and correcting the questionnaires to be conceptually explicit as the experts' advices.

6.4. Questionnaire reliability

The way of measuring the reliability is to use Cronbach's alpha. This method is being used to calculate the internal consistency of measurement instruments like questionnaire. In such instruments, the answer of each question can adopt different numerical value. The values higher than %7 are usually acceptable for the reliability of the questionnaire. Entering the sample data in SPSS software, the value of Cronbach's alpha is obtained as %93.

6.5. Data collection method

The data of the research has been collected by library-archival and field method.

7. Findings

Table 1. Using traditional banking services

Traditional services					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 (very low)	59	30.6	30.6	30.6
	2 (low)	36	18.7	18.7	49.2
	3 (average)	48	24.9	24.9	74.1
	4 (high)	22	11.4	11.4	85.5
	5 (very high)	22	11.4	11.4	96.9
	6 (lost data)	6	3.1	3.1	100.0
	Total	193	100.0	100.0	

According to obtained results of using traditional services as shown in table 1, %48 of the respondents reported very low degree of using traditional services and totally %22 use traditional services higher than average.

Table 2. Using POS services

POS services					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 (very low)	48	24.9	24.9	24.9
	2 (low)	15	7.8	7.8	32.6
	3 (average)	44	22.8	22.8	55.4
	4 (high)	33	17.1	17.1	72.5
	5 (very high)	42	21.8	21.8	94.3
	6 (lost data)	11	5.7	5.7	100.0
	Total	193	100.0	100.0	

According to obtained results of using POS services as shown in table 2, only %24 of the respondents reported very low degree of using POS services and totally %38 use POS services higher than average.

Table 3. Using ATM services

ATM services					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 (very low)	12	6.2	6.2	6.2
	2 (low)	6	3.1	3.1	9.3
	3 (average)	42	21.8	21.8	31.1
	4 (high)	56	29.0	29.0	60.1
	5 (very high)	76	39.4	39.4	99.5
	6 (lost data)	1	0.5	0.5	100.0
	Total	193	100.0	100.0	

According to obtained results of using ATM services as shown in table 3, only %10 of the respondents reported very low degree of using ATM services and totally %68 use ATM services higher than average.

Table 4. Using mobile-bank services

mobile-bank services					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 (very low)	76	39.4	39.4	39.4
	2 (low)	37	19.2	19.2	58.5
	3 (average)	38	19.7	19.7	78.2
	4 (high)	19	9.8	9.8	88.1
	5 (very high)	10	5.2	5.2	93.3
	6 (lost data)	13	6.7	6.7	100.0
	Total	193	100.0	100.0	

According to obtained results of using mobile-bank services as shown in table 4, only %15 of the respondents reported very high degree of using mobile-bank services and totally %68 use mobile-bank services lower than average.

Table 5. Using internet services

internet services					
Valid		Frequency	Percent	Valid Percent	Cumulative Percent
	1 (very low)	58	30.1	30.1	30.1
	2 (low)	18	9.3	9.3	39.4
	3 (average)	54	28.0	28.0	67.4
	4 (high)	29	15.0	15.0	82.4
	5 (very high)	23	11.9	11.9	94.3
	6 (lost data)	11	5.7	5.7	100.0
	Total	193	100.0	100.0	

According to obtained results of using internet services as shown in table 4, only %15 of the respondents reported very high degree of using internet services and totally %68 use internet services lower than average.

Table 6. Gap analysis of using bank services from the respondents point of view

Statistics						
		Using internet services	Using mobile services	Using ATM services	Using POS services	Using traditional services (physical attendance)
N	Valid	193	193	193	193	193
	Missing	0	0	0	0	0
Mean		2.87	2.42	3.94	3.20	2.64
Std. Deviation		1.559	1.536	1.148	1.612	1.462

Table 8. Results related to general hypothesis

Correlations			
		Mean of using all services	Trust
Mean of using service	Pearson correlation	1	.147*
	Sig. (2-tailed)		.042
	N	193	193
Trust	Pearson correlation	.147*	1
	Sig. (2-tailed)	.042	
	N	193	193

* Correlation is significant at the 0.05 level (2-tailed).

On the basis of the comparison between diverse and different banking services, the highest means belong to using ATM services, POS services, internet services, and traditional services respectively; the lowest mean belongs to mobile services.

7.1. Descriptive statistics of main variables of the research

Table 7. Gap analysis of the main variables from the respondents point of view

Statistics							
		Security of services	Trust	Keep	Satisfaction	Benevolence	Privacy
N	Valid	193	193	193	193	193	
	Missing	0	0	0	0	0	
Mean		3.2591	3.4145	3.5181	3.4870	3.0176	2.9516
Minimum		1.00	1.00	1.00	1.00	1.00	1.00
Maximum		4.67	5.00	5.00	5.00	5.00	5.00

As it is clear in table 7, the average degree of research main variables in using banking services indicates that keep and satisfaction have the highest mean and privacy has the lowest degree among other indexes. It is to be mentioned that due to the nearness of the percentage of variables to each other, it is obvious that the bank has had a holistic approach to these dimensions and has attempted to pay attention to each of these dimensions without neglecting the others.

7.2. Testing the hypotheses

7.2.1. Testing general hypothesis

There is a significant relationship between electronic banking and using its services.

A: the relationship between using all banking services and customer trust.

H: The mean usage of all services and trust are independent from each other.

H1: The mean usage of all services and trust are dependent to each other.

On the basis of the obtained results at the significance level of 0.05, H1 is accepted and thus, there is a significant relationship between the two variables, so these two variables have positive and significant correlation.

Table 8.

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.410	.300		8.022	.000
	Trust	.177	.086	.147	2.049	.042

7.2.2. Testing linear relationship between mean of using all services and trust

H: There is no linear relationship between mean of using all services and trust.

H1: There is linear relationship between mean of using all services and trust.

Table 9. Linear relationship between using the mean of all services and trust

ANOVA ^b						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.919	1	2.919	4.200	.042a
	Residual	132.766	191	.695		
	Total	135.685	192			

On the basis of the obtained results at the significance level of 0.05, H1 is accepted and the positive effect of trust with coefficient.147 on the mean of using all services is confirmed.

7.2.3. Relationship between the mean of using each of services and customer trust

H: The variables of the research are independent from each other.

H1: The variables of the research are dependent to each other.

Table 10. Relationship between the mean of using each of services and customer trust

		Trust
Trust	Pearson Correlation	1
	Sig. (2-tailed)	
	N	193
Internet-bank services	Pearson Correlation	.157*
	Sig. (2-tailed)	.029
	N	193
Mobile-bank services	Pearson Correlation	.078
	Sig. (2-tailed)	.282
	N	193
ATM services	Pearson Correlation	.201**
	Sig. (2-tailed)	.005
	N	193
POS services	Pearson Correlation	-.005
	Sig. (2-tailed)	.941
	N	193
Traditional services	Pearson Correlation	.020
	Sig. (2-tailed)	.777
	N	193

Based on the obtained results at the significance level of 0.05, H1 on the variables of internet bank services and ATM services with trust is accepted and the significant correlation between the variables is confirmed but the relationship between POS services, mobile bank services, and traditional services with trust is not confirmed at 0.05 significance level.

7.2.2. Testing linear relationship between mean of using each of services and trust

H: There is no linear relationship between mean of using each of services and trust.

H1: There is linear relationship between mean of using each of services and trust.

Table 11. Linear relationship between the of mean using each of services and trust

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Internet services	.351	.160	.157	2.196	.029
Mobile services	.171	.159	.078	1.078	.282
ATM services	.331	.117	.201	2.840	.005
POS services	-.012	.167	-.005	-.075	.941
Traditional services	.043	.152	.020	.283	.777

On the basis of the obtained results at the significance level of 0.05, H1 is accepted for the variables of internet services and ATM services with the trust but the linear relationship between POS services, mobile services, and traditional services with the trust is not confirmed at the significance level of 0.05; i.e. trust has had a positive effect on the mean of using internet and ATM services and in other cases, the effect of trust on other services is confirmed.

7.3. Testing specific hypotheses

To test the hypotheses, under studied variables (direct effect and adjustment effect) will be tested in two models, a main model and a secondary one.

7.3.1. Testing the main model of the research

To confirm the model, T-value test is used. Generally if the T-value is higher than 2 or 2.576, the effect of under studied construct on the other one will be statistically significant at %5 and %1 error level

respectively. Thus the model is confirmed on the basis. As it is obvious, in this model the effect of satisfaction on trust is not accepted ($t=0.38$). Moreover, table 12 (including the results of model fitness) shows the measures of perceived security,

satisfaction, and privacy. According to the mentioned table and the indexes of general fitness of the model, the model fitness is confirmed. Consequently, the existed indexes in the model for testing the related characteristics in the construct are valid.

Table 12. Indexes of model fitness

Fitness index	Acceptability criterion	Presented statistics
X2 (Chi Square)	$\chi^2 \leq 3df$	X2 = 122.16, df =84
χ^2/df	$\chi^2/df \leq 3$	1.45
RMSEA*	RMSEA ≤ 0.08	0.049
GFI**	0.90 \leq GFI	0.92
AGFI***	0.85 \leq AGFI	0.89

* Root Mean Square Error of Approximation (RMSEA)

** Goodness of Fit Index (GFI)

*** Adjusted Goodness of Fit Index

The Standard values of the model (standard solution) presents the values of standard coefficients related to the linear relationship between the variables and under-studied items, which show beta coefficients of the model, as obtained.

7.3.2. Testing the secondary model of the research

To confirm the model, T-value test is used. Generally if the T-value is higher than 2 or 2.576, the effect of under studied construct on the other one will be statistically significant at %5 and %1 error level

respectively. Thus the model is confirmed on the basis. As it is obvious, in this model the effect of satisfaction, perceived privacy, security, benevolence and keep on the trust is not accepted.

Moreover, table 13 shows the fitness results. According to the mentioned table and the indexes of general fitness of the model, the model fitness is confirmed. Consequently, the existed indexes in the model for testing the related characteristics in the construct are valid.

Table 13. Indexes of model fitness

Fitness index	Acceptability criterion	Presented statistics
X2	$\chi^2 \leq 3df$	X2 = 343.29, df =237
χ^2/df	$\chi^2/df \leq 3$	1.45
RMSEA	RMSEA ≤ 0.08	0.048
GF	0.90 \leq GFI	0.88
AGFI	0.85 \leq AGFI	0.85

7.4. Interpreting the main and secondary models

Based on the obtained models in the two parts, it is clear that the perceived security and keep have a positive role in shaping the service offerings, but when the variables of benevolence and privacy increase, such roles are not accepted. Thus the adjusting role of these two variables on keep and perceived security is confirmed, and among the 5 specific hypotheses, only the effect of satisfaction on shaping the trust of the services is not confirmed.

8. Discussion

a) In this research, customers' trust in electronic bank was investigated. In this regard,

b) The relationship between the trust and the mean of using all electronic services: the positive effect of the trust on the mean of using electronic services was confirmed at the significance level of 0.05 with coefficient 0.147.

c) The relationship between the trust and the mean of using each of the electronic services: it was found that the trust is effective on using ATM and

Internet services at the significance level of 0.05, with coefficients 0.2 and 0.15 respectively.

d) Thus, the results of hypothesis 1 which was mentioned in 2 parts indicated that the mentioned hypothesis is confirmed at a significant level with a weak regression coefficient.

e) The specific hypotheses were investigated in 5 parts, for which we used structural equations and

path analysis. The following results were obtained for each of the specific hypotheses.

f) The relationship between customers' perceived security of e-banking system and trust in bank: according to obtained model, this variable affects the trust on the basis of table 14.

Table 14. The results of the first hypothesis

Model's questions		Variable	Relationship with the trust	
Std. value	T-value		T-value	Std. Value
0.22	2.26	Perceived security	3.27	0.68
0.59	7.81			
0.47	6.04			
0.51	6.53			

g) The relationship between customers' satisfaction with the e-banking system and trust in bank: the effect of this variable on the trust was not confirmed, as shown in table 15.

Table 15. The results of the second hypothesis

Model's questions		Variable	Relationship with the trust	
Std. value	T-value		T-value	Std. Value
0.45	5.32	Customers' satisfaction	0.38	0.08
0.47	5.56			
0.63	4.55			
0.45	5.42			

The relationship between customers' belief in keep and perceived privacy of the bank: according to obtained model, this variable affects the trust on the basis of table 16.

Table 16. The results of the third hypothesis

Model's questions		Variable	Relationship with the trust	
Std. value	T-value		T-value	Std. Value
0.73	9.54	Privacy	2.16	0.26
0.80	10.54			
0.37	4.63			

h) Belief in benevolence and adjusting the relationship between perceived privacy and trust in e-banking system was confirmed on the basis of the secondary model and table 17. As it is clear in the table, the obtained T-value has an adjusting role for belief in the benevolence.

i) Belief in the keep of banking system and adjusting the relationship between perceived privacy and trust in e-banking system was confirmed on the basis of the secondary model and table 18. As it is clear in the table, the obtained T-value has an adjusting role for belief in the keep.

Table 17. The results of the fourth hypothesis

	Trust in electronic services
Variable	T-Value
Perceived security	0.02
Benevolence	0.32
Privacy	0.48

Table 18. The results of the fifth hypothesis

	Trust in electronic services
Variable	T-Value
Perceived security	0.02
keep	1.42
Privacy	0.48

Hence, the preliminary model of the research can be redesigned on the basis of obtained results as follows:

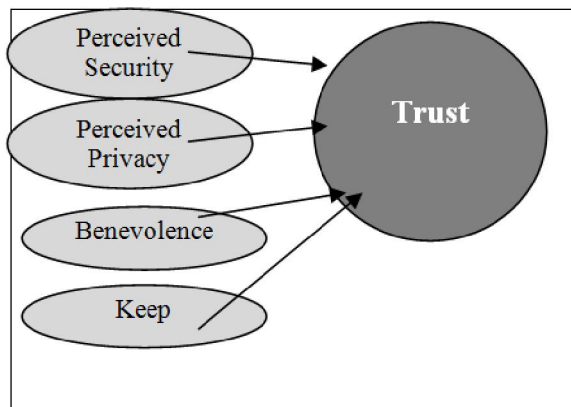


Fig. 2. Final model of the research

Based on the obtained results of the research it was found that the keep and benevolence have had a strong adjusting role for the relationship of privacy and the trust. This finding is compatible with the result of Saed Sheikhani's research (2005) entitled "electronic banking and its strategies in the Islamic Republic of Iran" in which he has discussed electronic money and its current position in Iran and has studied the cases of abuse and its relevant risks in electronic banking, including abusing the terminals which are assigned to the customers, abuses by bank staff, and abuses through hacking the communicational channels and making the accounts indebted by fake commands. Since the prerequisite of the keep is to prevent any abuse, it can be said that the effect of keep is to maintain the trust in the services.

9. Suggestions on the basis of obtained results of the hypotheses

To investigate the need for technical options in promoting the rate of perceived privacy and security in order to increase the customers' trust in electronic banking;

To provide needed trainings to the bank's customers through training catalogues and offering suitable software for mobile-bank services in the branches of the bank and general training through the public media in order to develop the electronic banking;

To investigate the barriers and causes of developing benevolence nature in electronic banking by strategic programming in order to prevent such barriers among the managers and staff;

In order to remove the customers' distrust in electronic banking (due to the lack of enough knowledge and guarantee) it is suggested that the government attempts to develop e-banking insurance through offering facilities and prompting the awareness and knowledge about electronic banking;

To investigate the barriers of developing the keep in electronic banking by strategic programming in order to prevent such barriers among the managers and staff;

To develop cultural programs in order to promote the keep as one of the most important pillars of electronic banking culture;

To investigate separately all the current services and their shortages in electronic banking in the all branches of Iranian Melli Bank in order to enable them in increasing the customers' trust with an comprehensive approach to all services;

To investigate the possibility of more integration in electronic banking system in order to support the needs of the customers with special attention to increase the security and privacy to strengthen the trusts.

Corresponding Author:

Asghar Abedi

Department of Management, Tehran branch, Islamic Azad University, Tehran, Iran

E-mail: abedi9186@yahoo.com

Reference

1. Allahyari, Mahmoud (2005), Electronic Banking Services and Their Administrative Needs, Tehran: Bank and Fiscal Research Center [in Persian Language].
2. Irannejad Parizi, Mehdi (2009), Methodologies in Social Sciences, fourth edition, Tehran: Managers Publication [in Persian Language].
3. Batyari, Azam & Babamalek, Ali (2008), Security in Electronic Banking; An Introduction to Modern Banking, Tehran: Center for Making Culture and Electronic Education [in Persian Language].
4. Behmand, Yashar (2006), "Electronic Banking", IT News Magazine [in Persian Language].
5. Divandari, Ali & Karimi, Samira (2007), Security of the Information and Its Standards; An Approach to Prevent the Risks in Banking and Electronic Banking, 18th conference of Islamic Banking [in Persian Language].
6. Furst, Karen (2000), Internet Banking: Developments and Prospect, Economic and Analysis Working paper.

7. Hafeznia, Mohammad Reza (2003), *An Introduction to Methodologies in Humanities*, Tehran, SAMT Publications [in Persian Language].
8. Housman, Heidarali (2001), *To Supply and Standardize Job Satisfaction*, Tehran: Governmental Management Publications [in Persian Language].
9. Kahzadi, Norouz (2003), *The Situation of Electronic Banking in Iran and the world*, Tehran: Selection of Bank and Economic News [in Persian Language].
10. Krueger, Malte (2001), "Offshore E-Money Issuers and Monetary Policy", *Peer-Reviewed Journal on The Internet*, Vol. 6, pp.10-18.
11. Polester (2003), "Strengthening outcomes of retailer-consumer relationships the dual impact of relationship marketing tactics and consumer personality", *Journal of Business Research*, pp. 177-190.
12. Sheikhan, Saed (2005), *Electronic Banking and Its Strategies in Islamic Republic of Iran*, Bank and Fiscal Research Center [in Persian Language].
13. Sohail, M. Sadiq & Balanchandram Shanmugham (2003), "E- Banking and Customer Preferences in Malaysia: An Empirical Investigation", *Information Sciences*, 208-210.
14. Tero, Pikkari; Pikkari, Kai & Pahlila Seppo (2004), "Consumer acceptance of Online Banking: An Extension of the Technology Acceptance model", *Internet Research Journal*, vol.14, pp. 224-235.
15. Wong, H. Y. & Merrilees, B. (2005), "A brand orientation typology for SMES: a case research approach", *Journal of Product & Brand Management*, vol.14 No.3. pp.155-62.

9/24/2017