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A STUDY OF THE EFFECT OF CUSTOMERS' TRUST IN THE ACCEPTABILITY OF ELECTRONIC BANKING BASED ON THE TAM MODEL

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ABSTRACT

Use of electronic banking is a merit nowadays; it is actually a necessity because these electronic banks are able to present quicker, more perfect, more accurate and better services to the customers across the world. The lag derived from the traditional systems may cause the banks to lose the golden opportunity of attracting the customers, and with abolition of the paper methods in exchanging the trading documents in the developed countries the exchange up of documents of these types with the progressed countries will be died off in practice. One of the factors causing the acceptance of electronic banking in the third world countries is the trust that customers have to this kind of banking. This research deals with the effects of customer trust on the acceptance of the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah. For that aim, nine hypotheses were raised; the applied method for the research is descriptive-correlational and it is specifically based on the structural equations (Amos), and regarding the objectives, the research is practical. The statistical population of customers is Keshavarzi Bank of Karaj, the sampling method is simple random involving 207 people. The observations related to the questionnaire and the variables of each question of hypotheses were presented with the five-option range scale; the present research was conducted in September 2012. The results showed that trust can have a significant influence on the acceptability of the electronic banking and all the nine proposed hypotheses will be supported, the regression model fitted between the independent and dependent variables is significant and appropriate.

Keywords: *Electronic Acceptability Model, Trust, Perceived Utility, Perceived Ease of Access, Keshavarzi Bank in the City of Kermanshah*

INTRODUCTION

Definitions and Problem Statement of Research

GeiSkam (1996) believes that trust is the facilitator of the human interactions; trust allows individuals to carry out commercial transactions and gets the movement of economy become smoother. On the other hand, distrust is a useful state of mind that enables us to avoid the unreliable and unsafe individualized or organized systems (Berry, 1995).

The electronic banking can basically be defined as the provider of facilities for the customers to be able to have access to the banking services without physical presence at the bank and through secure and reliable intermediaries. On the other hand, despite the recent rapid growth of the electronic banking, the customers are reluctant to offer their personal and crucial information to the websites. In facing the websites, they would offer the requested information and when they are asked about the crucial and personal information, like credit card number, they feel worriment; this sense indicates the customer's lack of confidence in the internet and electronic banking (Lee and Turban, 2001).

About E-commerce and the internet security, it is natural that when the customers own the personal and crucial information, they will have some worries because trust gets more importance in presence of risk, and where the customers are required to present crucial information, trust becomes highly important; when an organization tries to build a one-to-one relationship with customers, it will find out that the strongest position in the customer's mind is reliability. Because of that, gaining the customers' confidence

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has always been one of the initial goals in creating a long term relationship with customers. In the world when the level of customer loyalty to products and services is reducing day to day, an only way of keeping the competitive status is having relationships based on trust with customers.

Otherwise, the only way remaining for the seller would be the price-based competition. According to the above points, it seems that studying the relationship between the effects of trust on the electronic banking acceptability by the customers is essentially required; therefore this study deals with studying the effects of customer trust on the electronic banking acceptability in the branches of Keshavarzi Bank in the city of Kermanshah based on TAM model. In this way, all the meaningful factors are kept in the model and at last, the optimal model will be chosen by the software through the model selection methods.

Literature Review for Research

- Kini and Choobineh (1998), in their study called "the importance of trust in the E-commerce" stated these results as the derivations of their work: trust and security are essential for the long term success and future of the E-commerce.
- Kini and Choobineh (1998), in their study called "trust in the E-commerce" stated the following as the result of their research: individual, system, task, and the information environment are influential on the trust in the e-commerce.
- Tavani (1999), in his research called "online privacy" stated his findings in this way: the revealed trust makers and the law ratifiers build the online trust.
- Yin and Davani (2001), in their study called "determining the extent of the customers' use of debit cards instead of cash and cheque" used the statistical analyses and concluded that the people ranging 25-34 use debit cards more than others. There is also a significant relationship between the individuals' educational level and outcome and use of debit cards. They recognized the technical knowledge and trust as the most important factors in more use of debit cards.
- Gefen *et al.*, (2003), in a study called "trust and TAM in online purchase: an integrated model" expressed the following as the result of their work: ease of use is related to increased trust, and the increased trust is related to enhancing the perceived utility.
- Chopra and Wallace (2003), in their research called "trust in the electronic environments" stated the following as the result of their study: a common language provided for the scholars of information systems studies the trust in different domains.

Objectives of Research

Determination of the effect of customer trust on the acceptability of electronic banking in the branches of Keshavarzi Bank in the city of Kermanshah.

Research Hypotheses

Main hypothesis: the customer trust has an effect on the acceptability of the electronic banking in the branches of Keshavarzi Bank in the city of Kermanshah.

Secondary Hypotheses

- 1- There is a significant relationship between the perceived utility by customers and their trust in using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.
- 2- There is a significant relationship between the customers' trust and their attitude to using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.
- 3- There is a significant relationship between the customers' trust and their intent in using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.
- 4- There is a significant relationship between the customers' perceived ease of use and their perceived utility for using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.
- 5- There is a significant relationship between the customers' perceived utility and their attitude to using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.
- 6- There is a significant relationship between the customers' perceived ease of use and their attitude to using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.
- 7- There is a significant relationship between the customers' perceived utility and their intent in using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.

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8- There is a significant relationship between the customers' attitude and their intent in using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.

9- There is a significant relationship between the customers' intent and their actual use of the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.

Statement of the variables evaluated in a conceptual model:

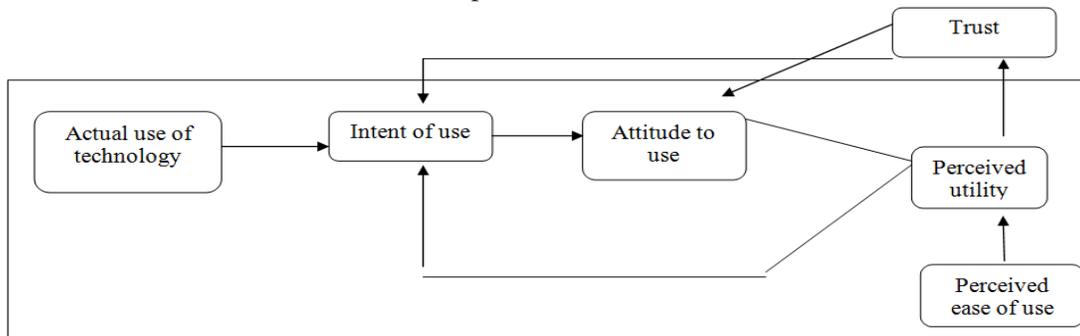


Figure 1: Conceptual model (Davis et al., 2013)

MATERIALS AND METHODS

Research Methodology: based on the objectives, the research method is practical. The research methodology is descriptive based on the data type, and it is a survey which deals with describing the relationship among the current variables using correlation test.

Data Collection Tools

In order to evaluate and measure the effective factors on the acceptability of the electronic banking in this study, the questionnaire designed based on the Likert scale was used for data collection.

Data Analysis

Studying the Hypotheses

Hypothesis (1)

There is a significant relationship between the perceived utility by customers and their trust in using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.

The estimated value of Spearman's rank correlation coefficient between these two variables equals 0.567 whose value at the level of $\alpha = 0.05$ is significant because p-value is less than 0.05.

Table 1: Hypothesis testing (1)

Variables		Customer trust	
Perceived utility	Spearman correlation		0.567
	p-value		0
	Number		207

Hypothesis (2)

There is a significant relationship between the customers' trust and their attitude to using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.

The estimated value of Spearman's rank correlation coefficient between these two variables equals 0.627 whose value at the level of $\alpha = 0.05$ is significant because p-value is less than 0.05.

Table 2: Hypothesis testing (2)

Variables		Customer trust	
Attitude to use	Spearman correlation		0.627
	p-value		0
	Number		207

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Hypothesis (3)

There is a significant relationship between the customers' trust and their intent in using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.

The estimated value of Spearman's rank correlation coefficient between these two variables equals 0.571 whose value at the level of $\alpha = 0.05$ is significant because p-value is less than 0.05.

Table 3: Hypothesis testing (3)

Variables		Customer trust
Behavioral tendencies and intentions	Spearman correlation coefficient	0.571
	p-value	0
	Number	207

Hypothesis (4)

There is a significant relationship between the customers' perceived ease of use and their perceived utility for using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.

The estimated value of Spearman's rank correlation coefficient between these two variables equals 0.544 whose value at the level of $\alpha = 0.05$ is significant because p-value is less than 0.05.

Table 4: Hypothesis testing (4)

Variables		Perceived utility
Perceived ease of use	Spearman correlation coefficient	0.544
	p-value	0
	Number	207

Hypothesis (5)

There is a significant relationship between the customers' perceived utility and their attitude to using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.

The estimated value of Spearman's rank correlation coefficient between these two variables equals 0.596 whose value at the level of $\alpha = 0.05$ is significant because p-value is less than 0.05.

Table 5: Hypothesis testing (5)

Variables		Perceived utility
Attitude to use	Spearman correlation coefficient	0.596
	p-value	0
	Number	207

Hypothesis (6)

There is a significant relationship between the customers' perceived ease of use and their attitude to using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.

The estimated value of Spearman's rank correlation coefficient between these two variables equals 0.627 whose value at the level of $\alpha = 0.05$ is significant because p-value is less than 0.05.

Table 6: Hypothesis testing (6)

Variables		Perceived ease of use
Attitude to use	Spearman correlation coefficient	0.627
	p-value	0
	Number	207

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Hypothesis (7)

There is a significant relationship between the customers' perceived utility and their behavioral intentions and tendencies in using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.

The estimated value of Spearman's rank correlation coefficient between these two variables equals 0.533 whose value at the level of $\alpha = 0.05$ is significant because p-value is less than 0.05.

Table 7: Hypothesis testing (7)

Variables		Behavioral intentions and tendencies	
Perceived utility	Spearman coefficient	correlation	0.533
	p-value		0
	Number		207

Hypothesis (8)

There is a significant relationship between the customers' attitude and their behavioral intentions and tendencies in using the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.

The estimated value of Spearman's rank correlation coefficient between these two variables equals 0.657 whose value at the level of $\alpha = 0.05$ is significant because p-value is less than 0.05.

Table 8: Hypothesis testing (8)

Variables		Behavioral intentions and tendencies	
Attitude to use	Spearman coefficient	correlation	0.657
	p-value		0
	Number		207

Hypothesis (9)

There is a significant relationship between the customers' behavioral intentions and tendencies and their actual use of the electronic banking in the Keshavarzi Bank branches in the city of Kermanshah.

The estimated value of Spearman's rank correlation coefficient between these two variables equals 0.477 whose value at the level of $\alpha = 0.05$ is significant because p-value is less than 0.05.

Table 9: Hypothesis testing (9)

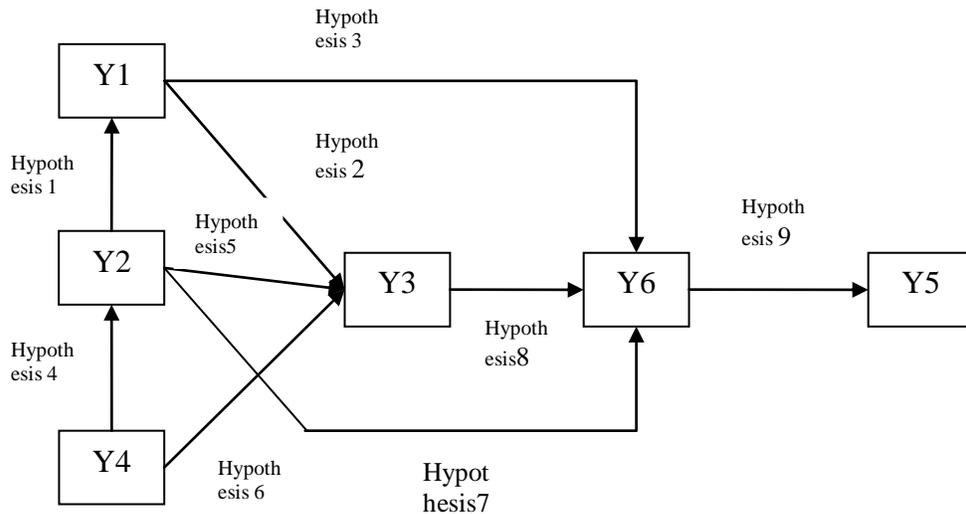
Variables		Actual use	
Behavioral intentions and tendencies	Spearman coefficient	correlation	0.477
	p-value		0
	Number		207

Next, we deal with studying the path analysis of the general model derived from all hypotheses from 1 to 9 using Amos software.

Path Analysis of the Overall Model

The overall model is the one derived from the results of hypotheses 1 to 9 which supports the regression relationship among the variables. The following model shows the relations considered by this model.

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Where,

- (trust) $Y1 = \log$
- (perceived utility) $Y2 = \log$
- (attitude to use) $Y3 = \log$
- $Y4 = \sqrt{\text{perceived ease of use}}$
- $Y5 = \sqrt{0.4 (\text{actual use of technology}) + 0.95}$
- $Y6 = \sqrt{10.5 (\text{behavioral intentions and inclinations}) - 8}$

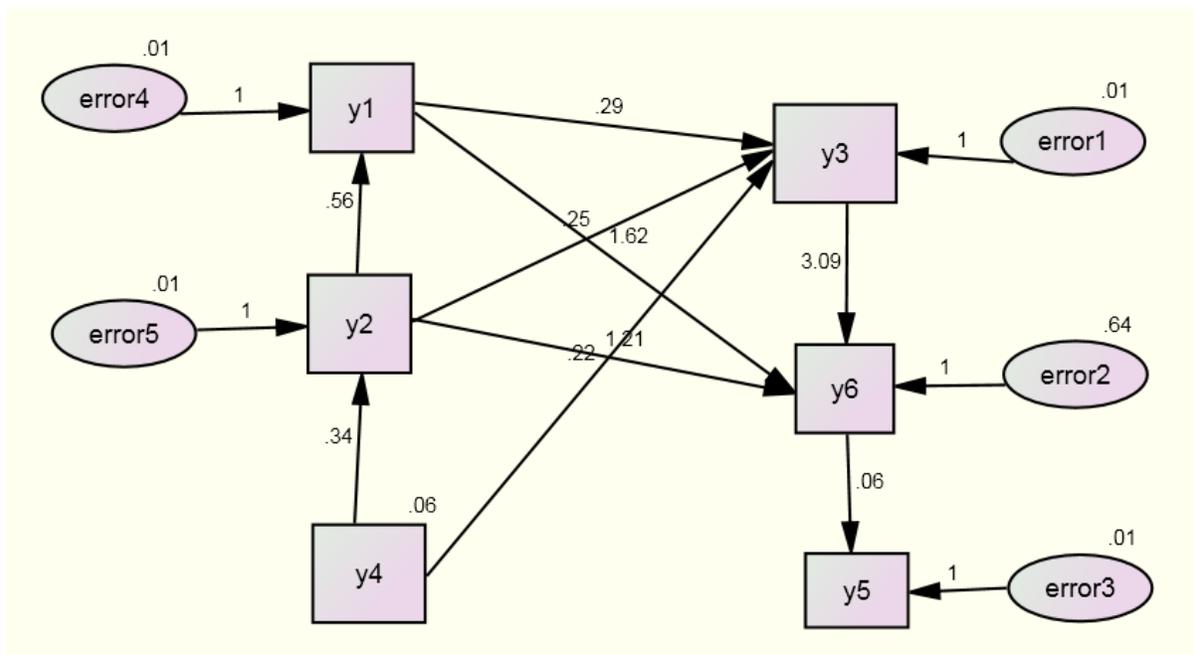


Figure 2: Path analysis of the general model

Path analysis of the model is as follows. This model has been derived from all the hypotheses 1 to 9. The following output of the Amos represents the path analysis of the overall model where the presence of the linear relations has been shown by unidirectional arrows. The numbers written on these unidirectional

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lines are the regression coefficients estimated by Amos. The number on the arrow between the variables Y2 and Y3, for example, is the regression coefficient in stating a relation between these two variables. By error variables, we mean the error terms that should be considered in introducing the model using Amos. The following table presents the regression coefficients estimated by Amos.

Table 10: Estimated regression coefficients of the overall model

Regression relation	Estimated regression coefficients	p-value
y4→ y2	0.337	0
y2→y1	0.560	0
y1→y3	0.289	0
y2→y3	0.248	0
y4→y3	0.217	0
y1→y6	1.62	0
y2→y6	1.211	0.019
y3→y3	3.095	0
y6→y5	0.056	0

The second column of the above output shows the regression coefficient estimated between the two related variables. For example, the regression coefficient related to the regression relation between the two variables Y4 (independent variable) and Y2 (dependent variable) equals 0.337 and the last column suggests the significance of these coefficients in the regression relation between the two variables. All of these coefficients are significant at the level $\alpha = 0.05$ because the p-values related to all of them are less than 0.05. The Amos outputs in studying the appropriateness of the model are as follows:

Table 11: Fitting measures of the overall model

RMSEA	CFI	IFI	RFI	NFI	GFI	AGFI	RMR
0.22	0.889	0.891	0.703	0.881	0.917	0.710	0.013

The Chi-square value estimated for the overall model equals 66.56 with 6 degrees of freedom. All the variables in this model, except RMSEA, support the appropriateness of the model well. The general model is more appropriate in comparison to model (2) and is relatively more appropriate than model 1. This model, however, has a weakness and that is abundance of RMSEA. It shows that there might be a model which is more appropriate than this model where better relationships among variables are considered. For that, in the exploratory analysis we are in search of a model which is more appropriate in all terms and especially has less chi-square value.

RESULTS AND DISCUSSION

This research titled as "a study of the effect of customers' trust in the acceptability of electronic banking in the Keshavarzi Bank branches in the city of Kermanshah" is to evaluate the relation and the extent of customer trust in the acceptability of electronic banking. The research assessments involve two stages. At first, the developed hypotheses were tested using Spearman correlation coefficient and the correlation extent between the dependent and independent variables was specified and the hypotheses were supported with 95% certainty. In the second stage, we dealt with the proposed model and the model's power was evaluated using SEM structural equation modeling. All the fitting indicators of the model show that the model is quite acceptable. The main model of research and its secondary models were compared using the fitting indicators.

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