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Designing native security model of e-commerce in banking

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ABSTRACT: Security is one of the most important factors considered in electronic exchanges. Security and privacy in making deals to attract customers to an e-business plays a vital role. E-commerce, require a secure infrastructure. The purpose of this study was designed based on the native security model of e-commerce in the banking field. The model consists of independent variables: familiarity officials and decision-makers, managers aware of the goals, culture, organization, strategic management, a national program effective, knowledge, commitment, expertise, bandwidth, job rotation, high-speed Internet access, support centers, use of resistant the dependent variable is the safety of the participants. To test the hypotheses, a questionnaire with 30 questions designed to Rate 0-100 and the Statistical Society (Tejart bank) 80 employees, and directors of each bank were distributed. The method used in this research is descriptive - survey is. To test hypotheses using path analysis and AMOS software was used for statistical analysis of data. The results showed a significant positive correlation between the variables other than the strength of the relationship between negative and meaningless to users with security shows expertise and knowledge of the variables that most impact and job rotation has the least impact on security.

***Keywords*:** Security, Security model, e-commerce, e-banking.

INTRODUCTION

In recent years there was extensive use of internet banking as well as a distribution channel for financial services, financial services, IT, and competition the early signs of banking (Elisha.2010). Among the challenges facing e-banking security issues and as is common in the community need to provide the technology infrastructure for the acceptance and confidence of customers, e-banking needs as a new technology in the banking industry, the security infrastructure for sustainability and public acceptance. First and foremost is the issue of security in e-banking debate it will look and more about internet banking as virtualized environment is inherently insecure. The process of e-banking security means knowing the client's identity, bank and retain information during the transfer process. Overall, it is an important factor in the widespread acceptance of electronic banking processes, software development and increase safety in the system and why the issue of security, even in highly developed countries still poses a challenge (Sengupta.2005). Commercial activities is on the internet growing exponentially and security needs. The rapid evolution of computing and communication technology and its standardization has made a big jump in e-commerce. Business is growth factors, including reducing the cost of access, increasing the transmission speed and easy reach to customers and vendors (Nada et.al, 2008). Internet Banking refers to provision of electronic banking services via the Internet and personal computer or other device with Internet access capability (Gkoutzinis.2008). The most important problem in electronic payment systems is an emphasis on safety (Turban et.al.1999). In order to keep the bank branch banking competition is necessary to attract customer interest and interest based on a new type of Internet-based competition, cost reduction, customer care, customer advocacy, safety, ease of use broad range of products and services Branch (Chang,2007). In this study of the above section above to identify factors affecting electronic security deals. The purpose of this study was to determine the relationship between electronic security and the study provides a model through which to create electronic security.

The study objectives

Main objective:

- Design of the native security model of e-commerce in the banking field.

Subsidiary objectives:

- Cognitive structures affect the security of e-commerce in the banking field.
- Structural measures affecting the security of e-commerce in the banking field.
- Ranking of each of the structures that affect the security of e-banking domain.
- Design of model structures that affect the security of e-banking domain.

The main hypotheses:

H_1: The security of e-commerce in the banking field, there is a positive and significant impact.

Sub-hypotheses:

H_1: Culture has a significant positive impact on security in e-commerce.
H_2: Coordination has a significant positive impact on security in e-commerce.
H_3: Strategic management has a significant positive impact on security in e-commerce.
H_4: Job rotation has a significant positive impact on security in e-commerce.
H_5: Knowledge has a positive and significant impact on the security of e-commerce.
H_6: Commitment has a significant positive impact on security in e-commerce.
H_7: Internet speed has a significant positive impact on security in e-commerce.
H_8: Support center has significantly positive effect on the security of e-commerce.

Operational model

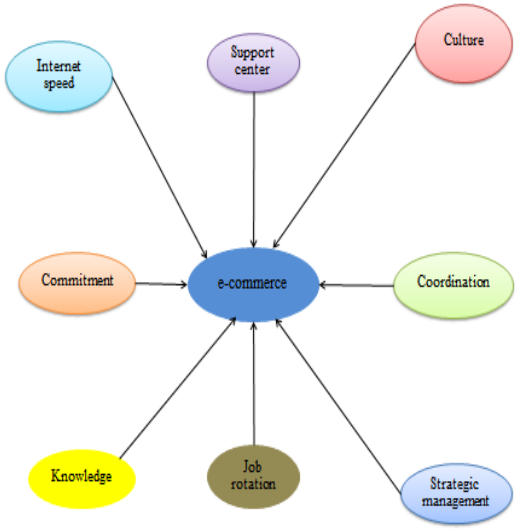

Figure 1. Native model of security in electronic commerce

Theoretical frame work for research

Research Method

Considering the subject of this research, the universe of this study is the Employees and managers of the main branches of Tejart bank in kermanshah province-Iran. The sampling method and sample volume was determined by morgan table. The universe was 106 people and sample volume was determined 80 persons. Samples were collected by the simple accidental sampling method. A closed questionnaire was used for collecting data and the questions were categorized into 8 sections with a value of 0-100.For analyzing data, path analysis was used.

Kolmogorov- Smirnov

To use path analysis and regression method, errors must have a normal distribution. To examine this, Kolmogorov-Smirnov test is being used.

Table 1. One-Sample Kolmogorov-Smirnov Test

	Error
N	80
Kolmogorov-Smirnov	.245
Sig	.071

In the table above, since p-value= .071 and p >0.05, the hypothesis of being normalized is accepted.

A primary sample of 80 people were examined to do this research and as for getting sure of its reliability, cronbachs Alpha was used. As its shown in the table below, α = .772, which proves the reliability of the questionnaire.

Table 2. Reliability Statistics

Cronbach's Alpha	N of Items
.772	30

In the table above, Cronbach's Alpha = .772 and α> .70, then it can be said that this questionnaire is reliable. In this model, the impact of independent variables such as Culture, Coordination, Strategic management, Job rotation, Knowledge, Commitment, Internet speed and Support center on the dependent variable of e-commerce is examined. Therefore, the model is illustrated as following:

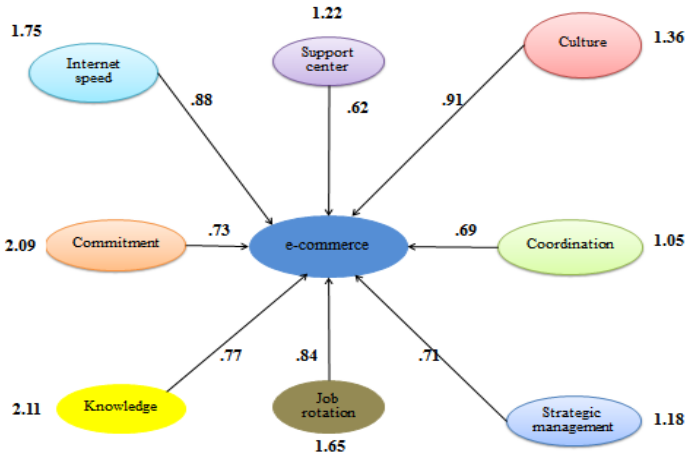

Figure 2. The regression coefficients of independent variables in Tejart bank

In the figure above, .91 demonstrates regression coefficient between culture and e-commerce variables, and 1.36 demonstrates the variance of reliability variable.

Regression coefficients of variables in Tejart bank

The table above shows the calculated regression coefficients of independent variables on dependent ones. According to this table, the regression coefficient of the variable Coordination is .69. Also, the calculated regression coefficient of Strategic management=.71, Job rotation=.84, Knowledge=.77, Commitment=.73, Internet speed=.88 and Support center=.62. Considering the last column of this table which shows p-value related to independent variables coefficients being significant hypothesis, Culture.011, Coordination.000, Strategic management.039, Job rotation .028, Knowledge.001, Commitment.000, Internet speed. .005 and Support center.038. Because all of these p–values < 0.05, as a result, it can be concluded that all of these coefficients are significant. In the second column,this table shows standard error and the third column shows the critical value, which is attained through dividing the coefficient astimation by the standard error.

Table 3. Regression coefficient of independent variables in Tejart bank

			Estimate	S.E.	C.R.	P
e-commerce	<---	Culture	.910	1.166	.552	.011
e-commerce	<---	Coordination	.694	1.024	.450	.000
e-commerce	<---	Strategic management	.711	1.086	.752	.039
e-commerce	<---	Job rotation	.842	1.248	.716	.028
e-commerce	<---	Knowledge	.777	1.452	.364	.001
e-commerce	<---	Commitment	.736	1.755	.256	.000
e-commerce	<---	Internet speed	.880	1.322	.741	.005
e-commerce	<---	Support center	.625	1.104	.359	.038

Structural equation

In this article, independent variables like Culture is shown by X_1, Coordination X_2, Strategic management X_3, Job rotation X_4, Knowledge X_5, Commitment X_6, Internet speed X_7, Support center X_8 and the dependent variable of e-

commerce is shown by Y. According to the regressional coefficients,the linear regressional model beging fitted to data, is as follows:

$$y = 0.37 + .91\ x_1 + .69x_2 + .71\ x_3 + .84x_4 + .77\ x_5 + .73\ x_6 + .88\ x_7 + .62\ x_8 .$$

Standardized Regression Weights

The standardized coefficients of independent variables have been shown in the graph below.

Table 4. the standardized coefficients of variables

			Estimate
e-commerce	<---	Culture	.934
e-commerce	<---	Coordination	.722
e-commerce	<---	Strategic management	.743
e-commerce	<---	Job rotation	.820
e-commerce	<---	Knowledge	.759
e-commerce	<---	Commitment	.701
e-commerce	<---	Internet speed	.911
e-commerce	<---	Support center	.657

As h·s obvious from the table above, the variables are of Culture has the most impact and Support center has the least impact on the variable of e-commerce.

Comparing the independent model and the proposed model

In order to examine the suitability of the model, the following criteria are used. The nearer values of these criteria to 1, the more suitable the model will be. The independent model is a kind of model in which theres no relationship among variables, being called a basic model.

Table 5. comparing the suggested and independent model in Tejart bank

RMSEA	AGFI	GFI	CFI	IFI	RFI	NFI	
0.081	0.822	0.814	0.790	0.712	0.705	0.771	proposed model
0.000	0.000	0.000	0.000	0.000	0.000	0.000	independent model

The values of the table above proves the suitability of the model.

K_2 of the suggested models

The following table shows the K_2 value for the suggested model.

Table 6. K2 of the suggested model in Tejart bank

CMIN	DF	CMIN/DF	P
22.974	21	1.094	0.010

For this model, χ^2 =22.974, degrees of freedom = 21 and sig = 0.010, and because sig <0.05,its concluded that the regressional model being fitted among dependent and independent variables is significant and suitable.

CONCLUSION

***The main hypotheses**:*

H_1: The security of e-commerce in the banking field, there is a positive and significant impact.

Results indicate a significant relationship between the variables and hypotheses that suggest and this model has been applied in electronic commerce and there is a significant relationship between security and the use of e-commerce and the hypothesis is confirmed.

Sub-hypotheses:

H_1. Culture has a significant positive impact on security in e-commerce.

According to the achieved results; There is a significant and positive relationship between culture and e-commerce with a sig of .011 and a regression coefficient of .91.Therefore,it can be stated that theres a strong relationship between e-commerce and culture, and the regression coefficients between the two stated variables is direct

(positive). As a result, it can be said that culture influences e-commerce and in customers point of views; the more the culture, the better the. E-commerce, therefore, the hypothesis is accepted.

H_2. Coordination has a significant positive impact on security in e-commerce.
According to the achieved results; There is a significant and positive relationship between coordination and e-commerce with a sig of .000 and a regression coefficient of .69.Therefore, it can be stated that theres a strong relationship between e-commerce and coordination, and the regression coefficients between the two stated variables is direct (positive). As a result, it can be said that coordination influences e-commerce and in customers point of views; the more the coordination, the better the. E-commerce, therefore, the hypothesis is accepted.

H_3. Strategic management has a significant positive impact on security in e-commerce.
According to the achieved results; There is a significant and positive relationship between Strategic management and e-commerce with a sig of .039 and a regression coefficient of .71.Therefore,it can be stated that theres a strong relationship between e-commerce and Strategic management, and the regression coefficients between the two stated variables is direct (positive). As a result, it can be said that Strategic management influences e-commerce and in customers point of views; the more the Strategic management, the better the. E-commerce, therefore, the hypothesis is accepted.

H_4. Job rotation has a significant positive impact on security in e-commerce.
According to the achieved results; There is a significant and positive relationship between job rotation and e-commerce with a sig of .028 and a regression coefficient of .84.Therefore,it can be stated that theres a strong relationship between e-commerce and job rotation, and the regression coefficients between the two stated variables is direct (positive). As a result, it can be said that job rotation influences e-commerce and in customers point of views; the more the job rotation, the better the. E-commerce, therefore, the hypothesis is accepted.
H_5. Knowledge has a positive and significant impact on the security of e-commerce.
According to the achieved results; There is a significant and positive relationship between knowledge and e-commerce with a sig of .001 and a regression coefficient of .77.Therefore,it can be stated that theres a strong relationship between e-commerce and knowledge, and the regression coefficients between the two stated variables is direct (positive). As a result, it can be said that knowledge influences e-commerce and in customers point of views; the more the knowledge, the better the. E-commerce, therefore, the hypothesis is accepted.

H_6. Commitment has a significant positive impact on security in e-commerce.
According to the achieved results; There is a significant and positive relationship between commitment and e-commerce with a sig of .000 and a regression coefficient of .73.Therefore,it can be stated that theres a strong relationship between e-commerce and commitment, and the regression coefficients between the two stated variables is direct (positive). As a result, it can be said that commitment influences e-commerce and in customers point of views; the more the commitment, the better the. E-commerce, therefore, the hypothesis is accepted.

H_7. Internet speed has a significant positive impact on security in e-commerce.
According to the achieved results; There is a significant and positive relationship between internet speed and e-commerce with a sig of .005 and a regression coefficient of .88.Therefore,it can be stated that theres a strong relationship between e-commerce and internet speed, and the regression coefficients between the two stated variables is direct (positive). As a result, it can be said that internet speed influences e-commerce and in customers point of views; the more the internet speed, the better the. E-commerce, therefore, the hypothesis is accepted.

H_8: Support center has significantly positive effect on the security of e-commerce.
According to the achieved results; There is a significant and positive relationship between support center and e-commerce with a sig of .038 and a regression coefficient of .62.Therefore,it can be stated that theres a strong relationship between e-commerce and support center, and the regression coefficients between the two stated variables is direct (positive). As a result, it can be said that support center influences e-commerce and in customers point of views; the more the support center, the better the. E-commerce, therefore, the hypothesis is accepted.
Proposals for research: proposals according to the results of research and testing hypotheses, and offers practical suggestions for research is classed form.
Practical suggestions:

- Culture: a reward system based on justice and equality toward new ideas for the design of secure systems.
- Coordination: Group and team spirit among employees, creating a continuing education program.

- Strategic management: hiring people with the knowledge and ability to identify the purpose of national education policy.
- Knowledge: Creating a platform for discussing new ideas, information and knowledge about the day, transfer the required knowledge to decision makers and ensuring that the use of knowledge, knowledge management and organizational culture in general spread.
- Commitment: ease of use, services to meet customer needs, strong coverage, making sure the client's electronic security systems.
- Job rotation, employees, and establish jobs to be applied as follows and comments from the staff, to ensure the continued growth of individual skills by assigning new responsibilities that a higher level of supervision is needed.
- Internet speed: Website promotion by speeding up page load, creating space for questions and answers or advice on legal matters or facilities between banks and customers.
- Support center: Design of electronic systems that users can easily make use of it, as part of the design guide Web Page in the purchase, improvement of electronic systems and create a safe space.

***Research proposals**:*

- Examine the relationship between perceived risk, e-CRM to the security of electronic space.

The relationship between trust and reputation aiming for bank customers trust to the security of electronic gadgets.

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