The Role of Innovation and Risk Perceived by Customers on the Use of Electronic Banking in the Chaharmahal Bakhtiari Province Mellat Bank's Branches based on Manzano Model

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ABSTRACT

This study examines the role of innovation and risk perceived by customers in using e-banking in the Mellat Bank, in the in the Chaharmahal Bakhtiari province. Despite the large investment banks, the development of capabilities of the letter, many Internet customers have been inactive or irregularly use of Internet banking, and trading complex in the form of a letter, shun. Since customer data channels on the Internet, the cost saving is obvious goals, success in this objective, to provide banking services, is important. Understand the key factors to the adoption of banking, the banking sector remains an important issue for .technology banking, various services can be found, such as ATM machines, electronic funds transfer, online payment of bills, banking and telephone banking Computer . Admission of financial services via the Internet, reflective complex interaction between services Intangible, and through new and innovative, to offer service. Special features including Intangible of Internet financial services, higher levels of complexity and uncertainty, and the risk perception of the customer, all suggest the importance of effective marketing activities to influence and support the decision of customers to adopt electronic banking services are Being innovative means customers wish them to experience different things, and try and buy new products could affect banking adoption. Innovation With modernistic enthusiasm related and risk is an integral part of novelty seeking may be the acceptance of new products, the development of resistance. The purpose of this study is deep banking adoption, and to achieve this goal, the role of innovation and risk perception, as determinants of adoption of banking, is analyzed. In addition, the perception of risk in banking services discussed. The main question of this study focused on the role of innovation and risk perception by customers, the bank will receive electronic services.

KEYWORDS: services, banking services, electronic services, risk, perceived risk, e-banking, innovation

1. INTRODUCTION

Banking operations is one of the most important practical applications of e-commerce And electronic exchange of financial data, is one of the new technologies, in the industry data exchange electronic transmission of financial data.

Electronic exchange of financial data, containing a computer to computer transfer payment order, and the details and gather items using international standards message. Now, in addition to the above, financial instruments and electronic payment instruments, an important part of supporting equipment, e-commerce, are. But other ways of doing business, such as trading, accepting payment or transfer and use of electronic services, the risk will be in, and it is very important that the banks, it is possible to understand and predict risk , and organize your system in the way that, for customers to minimize these risks, and also quota for liabilities and potential losses in mind. (Bashiri & Jonaidi,2011)

Risk Internet banking can prevent the spread and use of the Internet for online banking operations, and thus the benefits of the new electronic channel limit. Researchers believe that innovation, people, it has a significant role in risk aversion or risk that may result in the acceptance of Internet banking, the different people influence (Abbasi, 2002).

Such relationships are of minimal importance, and extensive research in the field of demand, so that existing relationships understood, and applied for optimal results.

2. Statement of the problem

Despite the large investment banks, the development of capabilities letter, many Internet customers have been inactive or irregularly use of Internet banking, and trading complex in the form of a letter,

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shun. Since the customer data, the Internet channel has clear objectives is cost saving, success in this objective, to provide banking services, is important. Understand the key factors to the adoption of banking, an important issue for the banking sector, considered. Technology, banking, various services can be found, such as ATM, electronic funds transfer cash, pay bills online, telephone banking and computer banking.(Davar,1996)

Adoption of financial services via the Internet reflective complex interaction between the intangible and through new and innovative services for the supply of services. Special characteristics of Internet financial services, including the intangible, non-standard and complexity as well as higher levels of uncertainty and risk perception of the customer, all suggest the importance of effective marketing activities to influence and support the decision of customers to accept electronic banking services.

Being innovative means to tend their customers, to experience new and different things and try, and buy new products could affect banking adoption. Risk and the risk aversion of customers, the use of banking services, the impact them. Innovation associated with novelty seeking, novelty seeking and risk is an integral part of that could lead to resistance to the acceptance of new products (Aldas, Manzano et al., 2011).

The aim of this study is deep banking adoption. To achieve this goal, the role of innovation and risk perception, as the extension of the acceptance of banking, is analyzed, and the perception of risk in banking services, discussed. The main question of this study focused on the role of innovation and risk perception by consumers in retail banking are received, will be. (Aghayi,2006)

3. The importance and necessity of research

Gain insight about innovation and risk perception of banks in receipt of electronic services, which is necessary, administrators and researchers that, in recent years, and after understanding the benefits of cost and profitability of banking, pay attention to the abundance of have been paid. (Aghili Kermani ,2002) One of the requirements of this study, the need for in-depth study of Internet banking adoption is that, given the importance of Internet banking can be a major impact on the prevailing conditions on the field in terms of function and structure of banking, have left. (Bagheri,2012) What adds to the importance of this study, is the lack of research, innovation, consumers and the risk perceived by customers in e-commerce, online banking, and in particular to build together. The fill this research gap could be an important step in the direction of research Enriching banking, is.

4. Theoretical framework

Innovation is considered to be the independent variable, the different types of risk, including the risk of privacy, the risk, social risk, safety risk and operational risk, as well as the use of cassava-have. Memberships and risk are recognized as dependent variables, the risk of the variable The influence of innovation, and the impact on users. The theoretical framework of the research, from the study, entitled "The role of innovation and risk perceived by customers in the use of banking", in 2011 by Ladas Manzano and colleagues who, in the country of Spain, and as the main have been used. According to the research results, innovation customers an important factor in reducing the risk perception of banking services, have been introduced.
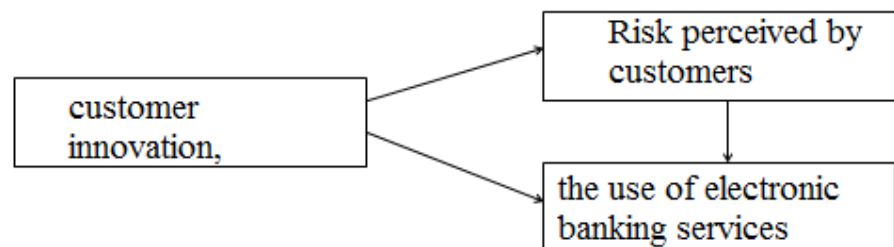
Source (Manzano et al., 2011: 60)

5. Hypotheses

The research hypotheses are:

Hypothesis 1: Perceived risk clients in the banking, the use of banking, impact.

H2: customer innovation, the use of banking services, impact.

Hypothesis 3: Innovation customers, reduce risk perception of banking, is.

6.Research Methods

By conducting research, in fact, a series of activities that help determine that information regardless of where, how and with what tools There are not collected. In general, research methods in behavioral science can be both criteria, objective research and data collection, divided. Study of the cross, in the cross field of branches, and in terms of the nature of the application.

7. Statistical sample

The study of all the elements that belong to the group defined, and the sample size of the collection is actually collected during the investigation. However, sometimes, due to the large size of the study population was not possible, however, to examine all elements of society, provides a more accurate and complete information. The population used in this study, including customers and employees of Mellat Bank, are in the chaharmahal and bakhtiari province.

In this study, the structural equations method is used, the sample size in this case is calculated.

$5q \leq n \leq 15q$

Here q, the number of measured variables.

$18 \times 5 \leq n \leq 18 \times 15$

$90 \leq n \leq 270$

8. Data collection method

In this study was to gather the required research, field study questionnaires were gathered. In general, in order to gather the opinions of the population under study used a questionnaire, a questionnaire in this study used the questionnaire Manzo et al., In Spain as the main source of this study were extracted, the questionnaire consists of 18 questions concerning the relationship between the models.

9. Validity and reliability

9.1 Validity

The validity of the term was not legitimate and lawful means S, D and reliable means to be correct. The purpose of the narrative is that, by measurement, can measure the traits and characteristics (Khaki, 1999: 288).

The questionnaire used in this study, the key research paper has been extracted.

9.2 Reliability

To assess the reliability and validity of the questionnaire (20 questionnaires), Cronbach's alpha coefficient (formula) is used. Validity refers to the extent to which the process of systematic and random measurement error is lacking in both. Criterion validity refers to the extent to which the process of predicting the results of the study deals (Venus et al, 1996: 145).

The purpose of the narrative is that the measure of a character, and character of the measure (Khaki, 2003: 228).

The validity of the standard used, and after initial preparation of a number of experts in population, and teachers provided the reforms are carried out, and then final confirmation and distributed.

In this formula:

$$r_a = \frac{j}{j-1}\left(1 - \frac{\sum S\,j^2}{S^2}\right)\beta$$

r_a= Coefficient of reliability

j = Number of questions

$s\,j^2$= Variance of the answers given to the question of j

s^2 = Variance of the questionnaire responses

In this study, to evaluate the validity of the questionnaire, the Cronbach alpha coefficient was used. Using software from SPSS, Cronbach's alpha coefficients were calculated.

Cronbach's alpha values obtained for 0/973 questionnaires that indicate that this questionnaire is a very high reputation. Alpha values obtained for the dimensions of the questionnaire, as shown in the table below.

Table 1. Cronbach's alpha values

Cronbach's alpha values	number of questions	Dimension	Row
0.945	10	perceived risk	1
0.933	5	customer innovation	2
0.891	3	use of electronic services	3

10. The method of analyzing data

In this study, to investigate the relationship between the components of the model, structural equation modeling was used. The research of structural equation modeling, in order confirmatory factor analysis is used. Using software to analyze the assumptions used might structural model that excellent relations between the variables described. In this process, initially considered to be a higher hierarchy, in which some variables may be a potential cause of other variables. However, it certainly cannot be disabled. In other words, the variables, so the variable that is at the level of the hierarchy may be lower due to the changing times, but is unlikely to lower variable, because it is highly variable.

Structural equation modeling, multivariate analysis is a powerful technique, and in certain cases a number of other methods, the multivariate analysis.

This technique multivariate analysis with latent variables, and excellent modeling and structural analysis of covariance was also named one of the methodological advances, promising behavioral sciences.

Structural equation model, in fact, represents a combination of path diagram, and a confirmatory factor analysis. Path diagrams major role in the structural modeling play. These diagrams such as flowcharts computer that variables that indicate the excellent lines, are connected with the show. There are changes in other variables. All independent variables that have an arrow to the target variable. Weight ratio is above the arrow.

Note that, in addition to displaying linear equation relations with arrows, chart the course of the structural equation, with several other aspects as well. First, the variance of independent variables to know, so we cannot test the structural relations model. Variance-in charts, with the use of curved lines without arrowheads found, is shown. Such lines are considered as wires.

Second, some variables in the form of a circle (or oval), and some of them are square (or rectangular), are displayed. Oval or circle represents the latent variables and rectangular or square display the measured variables. A common model LISREL, is composed of two parts:

10.1 Measurement Model:

The confirmatory factor analysis model to measure or determine that, how latent variables or constructs an imaginary, visible in the form of a greater number of variables, were measured. In research that aims to test a particular model, the relationship between the variables of structural equation modeling analysis, or models is excellent. The data model, the covariance matrix, and correlation and is a set of regression equations, variables are developed. The covariance parameters measured, analyzed.

10.2 Structural model:

An analysis of the structure or function of the excellent relations between latent variables are identified. In other words, the measurement model parameters $(\theta\delta \quad \theta\varepsilon \quad \lambda y \quad \lambda x)$ Questions relating to the validity and reliability of variables observed, response and structural function, the parameters $(\gamma \quad \varphi \quad \psi \quad \beta)$ Questions related to the strength, or record an excellent relationship (direct, indirect and total), between lies and the amount of variance explained in the model answers.

The LISREL model, the researcher provides the possibility that, in a model to assess measurement errors, and structural parameters, to meet together. The LISREL, in comparison with other techniques such as regression test and ANOVA which specifies the relationship between selected variables, more

capabilities, and the analysis stops on the route. Because the path analysis process consists of successive separate stages that is based on multiple regression, analysis-by LISREL While online and enabling Unlike LISREL path analysis, since it can measure the total error between observed by lies; it will assume it has been observed that size, with equal amounts of latent variables (when in fact this assumption is incorrect).

In this process, initially considered to be a higher hierarchy, in which variables may be longer because of the possible variables. However, it certainly can not be disabled. In other words, the variables in such a way that, at the level of this hierarchy is variable, it may be due to changing times lower than it is, but it is unlikely, due to lower variable above.

The methodology of structural equations, two sets of coefficients between latent variables are estimated:

First (γ), the path coefficients of gamma represents a latent variable exogenous and endogenous latent variables.

The second beta (β) representing the path between an endogenous latent variables, and other endogenous variables.

The statistic T, denotes the relationship between latent variables is significant, as a result of analysis of structural equations, calculated and obtained. If the statistic T, between greater than 1.96, the null hypothesis that the lack of correlation between the two latent variable rejected, and alternative hypotheses about the relationship between latent variables, will be accepted.

11. Analyze data

To analyze this research hypothesis, and according to the model, in conjunction with the factors in the model, the other is the structural equation.

Variables that are defined in the model, independent variables in the equation are dependent on other equation, and this is an interdependence and interrelatedness, created in the form of equations. Thus, should all the equations are simultaneously considered.

These equations in the equation is that, given the interface between latent variables in the model are determined, and the establishment of their standard regression coefficients (path, the same B), is calculated.

According to the model presented in Chapter III, structural equation (4-1) is obtained.

γ_{ij} : Structural analysis of exogenous variables as endogenous variables

β_{ij} : Structural analysis of endogenous variables

1)$RISK = \gamma_{11}INNOVATION + \xi$

2)$USAGE = \gamma_{12}INNOCATION + \beta_{11}RISK + \xi\backslash$

For the creation of hidden variables, some of which are measured variables, they are also forming equations with latent variables. These equations are called equations measure, and every latent variable are as follows.

Equations to measure the relationship between measured variables (markers) with latent variables, standardized regression coefficient B indicated by, and at the end of a sentence disturbing equations (error), and the variance is also explained.

Measurement equations, each latent innovation variable ($INNOVTON$) (independent variable)

$Q11 = \lambda_{11}^x \times \text{INNOVTON} + \delta_{11}$

$Q12 = \lambda_{21}^x \times \text{INNOVTON} + \delta_{21}$

$Q13 = \lambda_{31}^x \times \text{INNOVTON} + \delta_{31}$

$Q14 = \lambda_{41}^x \times \text{INNOVTON} + \delta_{41}$

$Q15 = \lambda_{51}^x \times \text{INNOVTON} + \delta_{51}$

Measurement equations, each risk factor ($RISK$) (dependent variable)

$Q1 = \lambda_{11}^Y \times RISK + \varepsilon_{11}$

$Q2 = \lambda_{21}^Y \times RISK + \varepsilon_{21}$

$$Q3 = \lambda_{31}^{Y} \times RISK + \varepsilon_{31}$$
$$Q4 = \lambda_{41}^{Y} \times RISK + \varepsilon_{41}$$
$$Q5 = \lambda_{51}^{Y} \times RISK + \varepsilon_{51}$$
$$Q6 = \lambda_{61}^{Y} \times RISK + \varepsilon_{61}$$
$$Q7 = \lambda_{71}^{Y} \times RISK + \varepsilon_{71}$$
$$Q8 = \lambda_{81}^{Y} \times RISK + \varepsilon_{81}$$
$$Q9 = \lambda_{91}^{Y} \times RISK + \varepsilon_{91}$$
$$Q10 = \lambda_{0,1}^{Y} \times RISK + \varepsilon_{10,1}$$

Measurement equations, each latent variable application of electronic services (USAGE) (dependent variable)

$$Q16 = \lambda_{12}^{Y} \times USAGE + \varepsilon_{12}$$
$$Q17 = \lambda_{22}^{Y} \times USAGE + \varepsilon_{22}$$
$$Q18 = \lambda_{32}^{Y} \times USAGE + \varepsilon_{32}$$

According to the proposed equations and solve these equations, the method of maximum likelihood, the amount of each of the coefficients in the form of (4.2), and the interpretation of each of the values in the following tables.
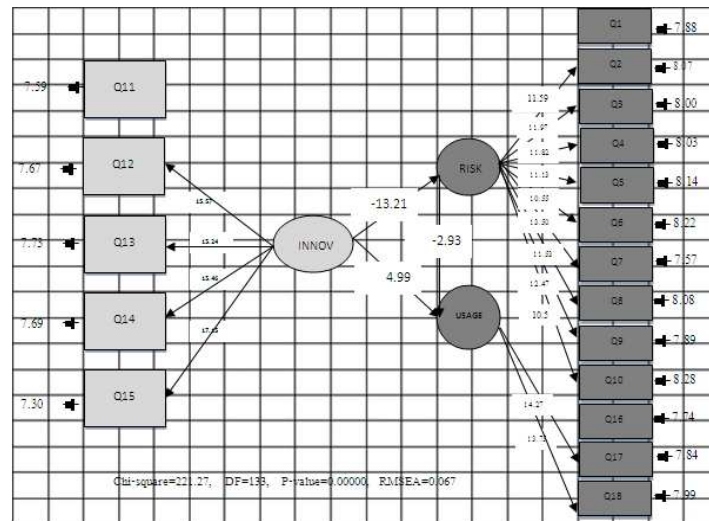
Figure 1. Shows the t-statistic for each coefficient

In order to assess the significance of each coefficient, T test is used, the values of these tests are shown in Figure 2.
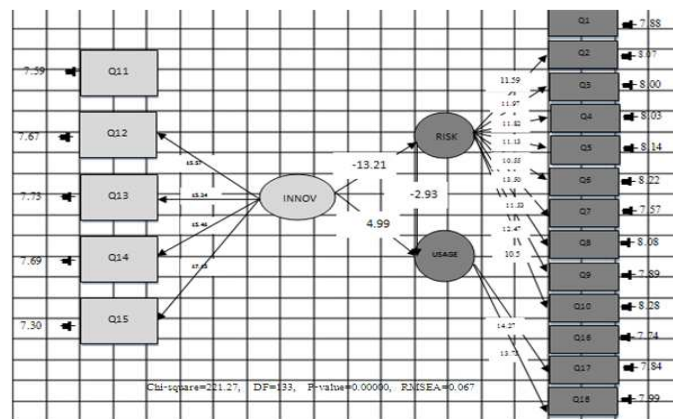
Figure 2. The estimated value of the Path

The output is an SEM as follows:

1)$RISK = -0.93\ INNOV$ (-13.21)

2)$USAGE = 0.65 INNOV - 0.38\ RISK$

                        (-2.93)   (4.99)

     For example, according to equation 1 is observed that, for every one unit increase in innovation, perceived risk customers, 0/93 unit decreases.

     Equation 2 shows that, for every one unit increase in perceived risk customers, 0/38 electronic banking application reduces unit, and an increase in customer innovation, increase the use of e-banking unit 0/65 .

12.test research hypotheses

12.1 first hypothesis test

"Perceived risk clients in the banking, electronic banking usage has an impact."

In fact, the claim that, when expressed as a statistical assumption, as the following:

H_0 : Perceived risk of customers in banking, banking usage, no effect.

H_1 : Customer perceived risk in banking on the use of banking, impact.

2)$USAGE = 0.65 INNOV - 0.38\ RISK$

              (-2.93)   (4.99)

The structural equation above, the path coefficient between perceived risk of customers, and the use of

banking – 0/38which, according to the T1/96 ⟵2/93 significance level 0/05, the null hypothesis is rejected . The researchers claim is approved by 95%.

12.2 The second hypothesis test

"Customers innovation, the use of banking services, the impact is."

H_0 : Customer innovation, the use of banking services affect

H_1 : Customer innovation, the use of banking services, influence

 2)$USAGE = 0.65 INNOV - 0.38\ RISK$

       2.93)   (4.99

The structural equation above, the path coefficients among customers, innovation, and use of banking

services 0/65, which, according to the T1/96 ⟵ 4/99 significance level0/05, the null hypothesis is rejected, As a result, the researchers claim is approved by 95%.

12.3 third hypothesis test

"The innovation our customers reduce risk perception banking, it is."

H_0 : Innovation, customers, reduce risk perception banking, is not.

H_1 : Innovation, customers, reduce risk perception banking, is.

1)$RISK = -0.93\ INNOV$

(-13.21)

The structural equation above, the path coefficient between client innovation and risk banking 0/93,

which, according to the T1/96 13/21, null hypothesis is rejected at significant levels05/0, as a result, researchers claim, is confirmed by 95%.

13-Confirmatory factor analysis of measure models:

The first hypothesis, "the perceived risk of customers in the banking, the use of banking influence."

Interpretation of results: The analysis was carried out determined that the perceived risk has a significant negative impact on the adoption of Internet banking is one of the channels. The higher the level of perceived risk is less negative impact on the adoption of internet banking is less. According to the research, the perceived risk is an important deterrent in internet banking application is introduced. In this study, risk analysis, test assumptions, the various components of risk provides the opportunity, so that the relative effect of each risk, evaluate. It also, it is important to indicate the perceived risk, is the multi-dimensional nature, and all aspects of the Order of internet banking, are equally effective. Thus, researchers and administrators can focus solely on their significant aspects such as privacy, risk, performance risk, social risk and safety risks are concerned, and of little importance, such as the risk of their time, were of secondary importance.

The research was carried out by the Aldas- Manzano et al., This theory has been put forward and approved. The alignment of the results may be a sign of uncertainty, in generalization of these results is that the risk perceived by customers, the negative impact on the use of electronic banking, leaves.

According to the study, labor, et al., In 2008 it became clear that risk factors are hindering the adoption of Internet banking services, as well as in the study of the hip and colleagues, conducted in 2001 found that behavioral intention to adopt Internet banking, to by factors of attitude and behavior control, influence is that, according to the results of the current study we found that the risk perceived negative impact on the adoption of Internet banking.

Other researchers on this theory, have proved. These results indicate the importance of risk in the use of Internet services, especially in Internet banking.

The second hypothesis, "customer innovation, the use of banking services, the impact is."

Interpretation of results: The definition of innovation which, in the review of the literature referred to obtain such a result, it is not unexpected. Bobby innovation for the way the world is considered a new technology, more innovation and more people, it is about products, services and channels of communication, and exchange of new interest. Direct and positive effect on innovation, the adoption of Internet banking is similar to the results in previous studies not just about new products, technology, or shopping on the Internet, but have been introduced in the field of Internet banking. Innovative new technology as Early Adopters can play the role of opinion leaders, and positive messages to others on the use of new technologies, and thus declare, inductor of acceptance among users' Non-users or less. Develop positive oral propaganda, it can be spread by internet banking, among other sectors of society. Bank managers can, from their ways that strengthen innovation related to internet banking, are among the consumers.

Aldas- Manzano and colleagues, in their study have confirmed the hypothesis. Their individual innovation, as one of the important components of Internet banking has been introduced, and its relation to the use of electronic banking services, positive and important.

According to research Sorayayi et al, Advances in technology, new ways of managing everyday banking, especially through the Internet channel is created, based on the findings of the present research, innovation could have an important positive impact on the banking Internet is. The similarity of results could be yet another proof of the role of innovation in the application of new products and services.

The third hypothesis, "customer innovation, reduces the risk perception of banking, it is."

Interpretation of results: The definition of innovation implies, those who risk behavior show innovation. According to this research, it appears that the level of risk in innovation, higher than other

individuals. The risk of people easier than others, there are more prepared to deal with the risk are. By mentioning these points, it is clear that perceived risk in Internet banking, partially offset by the individual innovation. Innovation can be a useful predictive factor in the adoption of Internet banking services. The managers of the banks could be innovative customers in their advertising efforts, targeted and, as mentioned, the positive development of people, including the ability to include the perceived risks of Internet banking, the benefit be.

Aldas- Manzano and colleagues, in their study confirmed this hypothesis. Other studies also implied or implicit, have demonstrated the existence of such a relationship. What is this alignment of returns that can be said with more certainty, individual innovation will play an important role in reducing the perception of risk in the banking, play?

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