The Role of Influential Perceptual Dimensions on the Client's Use of Internet Banking Services: A Case Study in Pasargad Bank

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Abstract

The aim of the present research is to study the role of the influential perceptual dimensions on the client's use of internet banking services of Pasargad Bank branches of Tehran. For this purpose, 384 of the clients of the branches of this bank in Tehran have been selected by using stratified random sampling method and the research questionnaires were distributed among them. The influential factors on acceptance of these services by the clients were studied in terms of four dimensions of efficiency, individual, social and security and for testing the proportionality of the research questionnaire, the exploratory factor analysis were used. The results indicated that the indices under study relatively represent the dimensions of the study. Hence, during the fitting the structural model, the effect of each of these dimensions were studied on the use of internet banking services, the results of which indicate that the efficiency and security dimensions have a significant effect ($p<0.01$) on the use of internet banking services while other dimensions such as individual and social dimensions in comparison to the efficiency dimension which were measured in terms of two concepts of usefulness and convenience and security, do not have a significant effect ($p<0.01$) on the use of internet banking services.

Keywords: Internet banking, convenience, efficiency, security

Introduction

Technology advances has transformed the world fundamentally and have changed the way people behave and act in their commercial and per-sonal affairs (Bandura, 2002). Specifically, during the past two decades, the banking industry has invested a significant amount of resources in using the information technologies. In response to the privatization, development of the global networks and the increase of the level of incomes, the banking industry have made use of novel technologies in terms of service provision which is known as electronic banking and the aim of it is to achieve and maintain strategic advantages (Joseph and Stone, 2003). The technology of electronic banking refers to those financial activities which are performed with the use of electronic technology. One of the applied concepts in provision of electronic banking services is internet banking (Florian Marin and Alsajjan Charles, 2009).

There are very different attitudes regarding the values of the electronic banking for organizations and includes improvement of the mental image of customers, retaining customer, continuous commitment between the banks and the customers, competitive advantages based on the obtained efficiency from different domains and the increased customer services. In spite of the emergence of these innovative electronic banking technology systems which have been designed for increasing our welfare and facilitating our daily activities, customers show a kind of time delay in accepting them and the number of the customers who are using these services hasn't increased as expected (Flavian, et al., 2004) and still millions of people are not using electronic banking and are not expected to use it in a near future also (Wang, Lin, & Tang, 2003).

Electronic banking which is also known as internet banking is defined as the provision of services and products of modern and traditional banking directly to the customers through electronic networks and through interactive communication

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(Mioveng ko et al., 2012). Internet banking includes systems which provides the customers, individuals or companies in financial institutions with the access to accounts, transactions or information inquiry regarding the financial services and products through a public or private network including internet and the customers with the use of an intelligent electronic device such as Personal Computer, Personal Digital Assistant, ATM machine, Kiosk or Interactive Voice Response (IVR) to access internet banking services. Cho and Cho (2000) have named five fundamental services related to internet banking including viewing bills, transferring funds between accounts, application for credit cards and ordering checkbooks for faster provision of services that local and foreign banks can provide to their customers (Sipior & Ward, 2008).

Perumal and Shanmugam (2004) state that in case of using internet banking the average cost of the bank transaction will increase from 1.07 to 0.27 dollar. This reduction in expense may be due the nature of internet banking which has a fixed cost. In comparison to the traditional banking services which are having variable costs and with increasing the branches the number of employees and the working hours will as well increase. The nature of internet banking not only limit it to the time (24/7 access) and personal access but at the same time has access to all the customers networks. Internet banking has the ability to provide a solution for providing costly banking services (Abbas Nejad and Mehrnoosh, 2006).

As far as it is related to the environment of electronic banking, it is the infrastructures of information technology which play an important role in implementation of electronic banking. The broad scope and capacity of the services and products provided by the electronic banking to the customers, who always demand high quality services and products, is so much important (Stamoulis et al., 2002).

Additionally, with the banks becoming electronic and the possibility of telecommunication, the banks can provide a greater variety of services to their customers throughout the day and night- including depositing and obtaining bank credit, services related to the transactions outside the bank, between the customers of the banks and also the banking services related to the outside of the country. Through this the banks can decrease the need of the customer — both Individuals and entities —

to carry and keeping money considerably (Guru, 2005).

Generally, Customers for using a new banking technology first will consider its ease of use and in case they perceive ease of use in it then they will use it considering its usefulness. Therefore, increasing the customer's perception of ease of use of each of the services and creating the perception of usefulness of them will have the highest role in the acceptance of internet banking (Bount, 2006). Hence, in order to increase the customers' intention of use of the internet banking services, such systems should be designed which hare east to use and in addition to that will be useful for the customers and in the meantime using them will have some advantages for the customers (Cheng et al., 2006). All of these can affect the customer's perception. Although, a customer is under the influence of his/her perception and act as per it and his/her perception can determine his/her behavior, the studies of the author has revealed that so far no research has been conducted regarding the effect of the perception of the customer on the use of internet banking services by him/her. Therefore, in the present research we seek to study the role of the influential dimensions of perception in the clients' use of internet banking services in the branches of Pasargad Bank in Tehran. For clarification of the topic at hand a number of studies conducted in this field will be mention below and following it, the conceptual model of the research will be defined and the methodology, findings and the conclusion of the research will be discussed as well.

Research background

Shaemi Barzaki et al. (2012) in their study with the title of "the classification factors of Web Qual variables based on the Kano model for evaluating the customers' satisfaction from internet banking services" have found that the bank under study has a weak performance in some of the characteristics of electronic services quality such as information, perceived ease of use, innovation, Emotional attraction and proper communication which are among the necessary characteristics and attraction, are weak in terms of service provision and the managers should establish proper strategies for covering the gap in their services quality.

Seyyed Javadin and Yazdani (2012) in a paper with the title of "studying the effective factors

on clients' intension to use the internet banking services (case study of Saman Bank)" have found that the model of technology acceptance is a proper model for describing the behavior of using internet banking services and that in fact the individual's perceptions regarding the ease of use of the internet banking services and the usefulness of these services as well as self-efficiency of the person in using computer have direct relationship with intention to use of these services.

Taghavifard et al. (2010), in their study with the title of "the effective factors on using the internet banking services by customers (a case study of Mellat Bank)" have found that the variables of trust, ease of use and the obtained benefits have a large impact on the individuals' attitude in performing the behavior under study (using internet banking) and on one hand, these factors have a direct role in the intended behavior of the individual in using the internet banking services and on the other hand the attitude and mental norms in the intention of the individual have positive and direct effect on using the internet banking services. The factor of trust is considered to be one of the primary factors and is influential in enhancing the intention of the individual for performing the given behavior.

Shira et al. (2010) in their paper, "studying the acceptance of electronic banking in China" have found that electronic banking, facilitated though various technologies of e-commerce have helped the commercial banks to maintain their position in the competition field through efficiency achievements, reducing the expenses and costs of their transactions and improving their customer services. However, in spite of its advantages, the developing countries are still lagging in terms of welcoming (accepting) electronic banking comparing to the developed countries.

Ritei Agaroval (2009) in his study " the perspectives of the customer regarding the electronic banking in an emerging economy" has found that customers regarding the usage of electronic banking services are under the influence of their type of bank account, age and job and believes that the highest efficiency is related to the balance (equilibrium) of the search services among the electronic banking services and also believes that security and trust are among the most important factors affecting the customer satisfaction. In the meantime he believes that the low speed of transactions is the most important concern of the customers when using electronic banking.

Considering the above mentioned the research conceptual model can be defined as per figure 1, adopted from the article by Hyun & Linsey (2012):
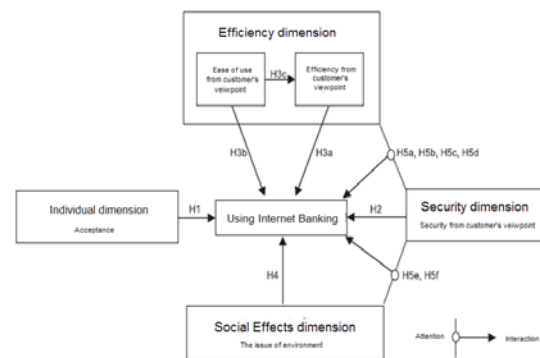

Figure 1. Research conceptual model.

Methodology

The present research is applied from aim viewpoint; is descriptive from method viewpoint and is survey from conduct viewpoint.

Research population and sample

The population of the present research includes all the customers using internet banking of the branches of Pasargad Bank in Tehran and the sample for study has been selected by using stratified random sampling method and the size of sample were calculated by using the above mentioned formula and is equal to 384 individuals.

Data collection instrument

Questionnaire is one of the common tools and a direct method for collecting the data required for research. Questionnaire is a set of questions that the responders is required to provide an answer for it and these answers form the data needed by the researchers. With the use of the questionnaire's questions the researcher can study the knowledge, interest and mental attitude of the individual (Bazargan et al., 2007).

In the present research for gathering the data of the theoretical part of the research, bibliographical methods (such as books, articles, theses and online sites) have been used and for studying the individuals in the sample of the research the author-made questionnaire adopted from the article of Yun and Stage (2012) has been used. The structure validity of this questionnaire has been tested with the use of actor analysis tests and the reliability of it has been

tested with the use of Cronbach's alpha test which is equal to 0.76 which indicates to a good reliability of the questionnaire.

Research findings

The descriptive findings of the research indicate that 59.9% of the research sample of male and 40.1% are female and that 64.7% of them are married and 35.2% are single. From education point of view, 25.2% have associate degree and lower, 54.7% have bachelor degree and 20.1% have master degree.

In order to perform the research hypotheses tests, fitting the structural equations between the questionnaire's dimensions and the latent variable of internet banking has been used. For performing each hypothesis test after presenting the schematic models of the equations, the results of the estima-

tion of the model coefficients and the goodness of fit of the fitted models have been presented in table. The variables used in the structural equation have been defined in the following manner.

Table 1: Coding manner of the research variables

Variable	Symbol
Usefulness from customer's viewpoint	USEF
Ease of use	REW
Acceptance from customer's viewpoint	ACC
Environmental issues from customer's viewpoint	ENV
Security from customer's viewpoint	SEC
Use of internet banking	IB
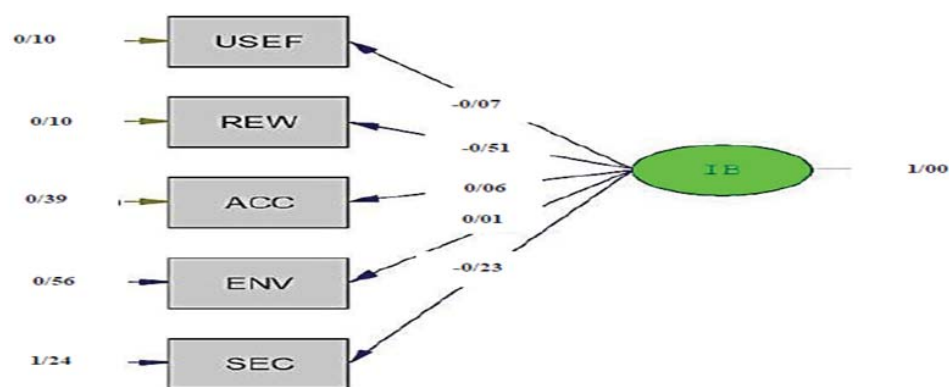
Chi−Square=5.46, df=6, P−value=0.48666, RMSEA=0.000

Figure 2. Regression coefficients of the research structural model

The significance level of chi-square test performed for testing the goodness of fit of the structural mode fit between the variables which has been obtained to be larger than the first type error of 0.05 (P-Value = 0.486) indicates that the fitted model is saturated and there are no other relations which can be effective on the model improvement and with the use of this mode in a significant way the effective factors on using internet banking can be explained.

The value of the Root Mean Square Error (RMSE) is obtained to be equal to zero which indicates to the acceptable error level of the fitted model. Considering the appropriateness of the fitted structural model, the obtained results from the impact of the factors under study on using internet banking have been explained.

Figure 3 presents the standardized effect coefficients of the variables. Based on the absolute magnitude of these coefficients the level of the effect of the research variables on the use of electronic banking services can be ranked in the following way:

1- Ease of use
2- Security
3- Usefulness
4- Acceptance
5- Environmental issues

However; for testing the research hypotheses, the estimated statistics of t-student have been used for determining whether the effect coefficients are significant and as it is seen in graph 4, among the research variables three factors of usefulness, security and ease of use at the level of first type error

of 0.05 have significant effect on the use of internet banking. Since the absolute value of the test for these three variables is larger than the critical value in the t-distribution table, which is approximately equal to 2, hence the null hypothesis of this test indicating to the lack of effect of these three variables at the error level of 0.05 is rejected. However, as we can see the environmental and acceptance variables comparing to the three variables of usefulness, security and ease of use in terms of efficiency dimension are not effective on the use of internet banking services.
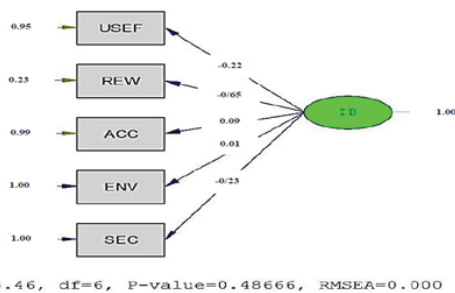

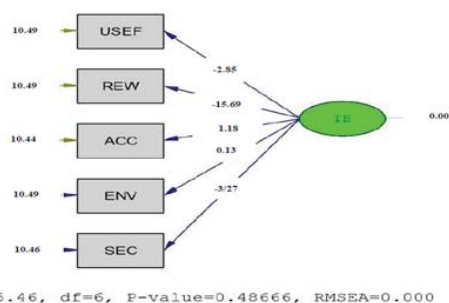**Figure 3. Standard regression coefficients of the structural model**

Figure 4. Significant t-statistics values of the variables in the structural model

In table 2, a summary of the findings of the research structural model has been represented. As it is seen in this table, the estimated regression impact factors are not as expected. Considering the simultaneous measurement of the effect of the variables on the use of internet banking services, it seems that estimation of the regression coefficients have been under the influence of the other impact factors of the research variables and have acted in an inverse direction. On one hand, the use of internet banking services has been studied as a latent con-

cept and hence the signs of the impact factors in this model cannot be a proof of the inverse effect of these variables on the latent concept and we are only concerned with the significance or non-significance of their effects.

Table 2: Impact factors estimation and significance statistics of the effective factors one the use of internet banking services

Variable	Impact factor	Standard-ized impact factor	t-value
usefulness	-0.07	-0.22	-2.85
Ease of use	-0.51	-0.65	-15.69
Acceptance	0.06	0.09	1.18
Environmental factors	0.01	0.01	0.13
Security	-0.23	-0.23	-3.27

Table 3 shows that it is accepted that RMSEA is smaller than the determined level of 0.05 at the first error level of 0.05 and considering the significance level of 0.83 and therefore, the error level at the result of fitting the model is significantly small. On the other hand, the goodness of fit of the index, GFI, is larger than 0.9 and is equal to 0.963 and both this value and the adjusted value of it (AGFI = 0.947) also confirms the goodness of fit of the model. As a result considering all the model goodness of fit indices the assumption of the appropriateness of the model for determining the relations between the dependent and independent variables can be accepted.

Table 3: Estimation of the model's goodness of fit indices

Index	Estimation
GFI	0.963
AGFI	0.947
RMSEA	.000
P(RMSEA<0.05)	0.83

Conclusion

Reviewing different studies emphasizes on the issue of low usage of electronic banking and its services as well as the limited number of studies regarding this issue which is apparent. These studies have indicated to the effect of technology on bank-

ing industry and have performed some comparisons in this regard. The prominent role of efficiency affects the use of computer and acceptance of technology and is completely clear. The sensitivity of the efficiency of the electronic banking services have been confirmed for primary trainings. The perceived ease of use as an introduction in technology acceptance is considered in the model of technology acceptance and is known as a fundamental and primary factor in the use of electronic banking.

The primary trainings of electronic banking affects the customer's recognition of the efficiency of the electronic banking and eventually with the mediating role and effect of the other variables such as security, acceptance and environmental factors affects the acceptance and use of electronic banking. The perceived ease of use also has an effect on the use of electronic banking services and eventually affects the acceptance and use of electronic banking. In fact, if using electronic banking becomes easy so many people will use it. Different studies have shown that preliminary trainings and ease of use can affect the technology acceptance and different studies have tested these variables separately. Ease of use is a personal belief that shows the interaction of the person with the technology and is separate from the perception weight and refers to the ease of the person for interacting with one artificial product and specific software (Agrawal and Karahana, 2000). It appears that the ease of use and the attitude of the users towards the other factors such as security and ... are inherently interrelated and different studies have confirmed the effect of these factors on ease of use and have found that the effect of ease of use on the intention of individuals for using technology is positive and have so much of importance.

Davis (1989) state that while ease of use is the level that is perceived by people as using a system without putting effort and self-efficiency is a judgment of a personal belief toward the ability of performing a duty or task, even if individuals are not aware of the ease of use of a certain type of technology they may have a correct understanding of their own abilities for using a computer technology, i.e., what is called computer self-efficiency. In fact, ease of use affects individual's self-efficiency, because when the person who is using technology feels that a certain type of technology is complicated and complex and using it is difficult they perceive it as difficult to use and on the other hand, if the customers perceive that using electronic bank-

ing is useful and perceive that it is not easy to use, they will not adopt the given technology (Curran and Meuter, 2005).

Regarding this, one of the approaches that the banks can adopt for increasing the acceptability of electronic banking is that first facilitate the use of services for the customers to in turn increase the acceptability of electronic banking and the use of it. Second they can make use of the newly increased self-efficiencies so that the customers will put trust in electronic banking and start using it. If the aim of electronic banking is to achieve a given expected level of influence in market, therefore the researchers and experts are required to put more emphasis on preliminary studies regarding the acceptability and the use of electronic banking.

Regarding the other dimensions with potential effect on the use of internet banking services we can refer to the model used in the present research. As we can see the other dimensions in comparison to the dimension of efficiency, don't show a significant effect on the use of electronic banking services which can be as a result of the over-effect of efficiency on the use of these services comparing to the effect of the other variables.

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