



## A STUDY OF CUSTOMERS' PERCEIVED QUALITY IN ELECTRONIC BANKING (CASE STUDY: SADERAT BANK)

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### ABSTRACT

*By increasing growth of electronic banking importance and also the growth of users number from internet banking services, it is required for banks' marketers to have has better understanding from users and internet banking customers. The objective of this study is to examine customers' understanding from services quality in internet banking on Saderat branches in Mazandaran. Population of study is all saderat bank branches customers in which has been selected by Cochran formula and sample size of study is about 384 customers. Study data has been analyzed by structural equation modeling . study findings has shown internet services security does have the most influence on customer understanding from internet banking services and after it the most influence is for confidence to internet services and products variability.*

**Key words:** service quality, internet banking, customer understanding.

### **Introduction:**

Speedy development in the ground of information technology and communication leads to political, economic and social changes. General increase in accessing to internet

leads the possibility of using information technology by special status. In another words, there is so many characteristics and advantages of internet banking like: lacking time and place limitation in using banking services, easily access to required information, saving customer times, outstanding decrease in the cost of using bank services, having variable services and feasible to,...leads to outstanding growth of internet banking services.

Customers before transforming to electronic routes, improve their thought about traditional services quality. Based on this theory, electronic route development has been done by the same traditional business routes and customers do their evaluation based on existing routes. Experimental observes shows positive influence of customers' understanding from traditional routes on developing electronic routes of the same company. Researchers have found customers' experience in the ground of traditional services does have the most influence on their understanding from electronics services quality. Therefore, it is rational we expect feasible understanding of traditional services by customers could leads to their feasible understanding from electronic services. (Yang, et.al. 2011)also m when customers understood feasibly electronic services quality, they would be encouraged to use electronic banking .(yang and et.al.2011)

By increasing growth of internet banking importance and important steps from banks to provide these services in countries and also according to the number of internet banking services, it is required for banks' marketers to have has better understanding from users and internet banking customers. Also, according to bank Saderat strategy for influential compete in internet banking; this point is one of the most important factors in success in direction of achieving competitive advantages in the ground of providing these services by providers systems. Therefore, we compiled this study design to indicate only providing services through internet are not enough. The most important point is customers' understanding from providing qualified services. There is so many factors for approving good services in the mind of customers, these factors includes: web designing, security, confidence, products variability, reliability, cooperation, accessibility, and communication of some factors in which leads to customer understanding about internet banking services quality.

### ***Importance of the study:***

Recent progress in the ground of global information technology has changed the world principally and the amount of this change is so that some experts has known it as industrial revolution and inventing steam machine. Internet and in follow electronic business

has changed communication and information transform procedure drastically. Whereas now people could do their works without physically presence in the work environment and only by using personal computer and modem and these factors provide the ground for facilitating business affairs and buy and sale in which leads to increased competitiveness among companies. The amount of this competition is so that if a company does have less than other company some competitive advantages, then should leave the stage inevitably. Banks are not except as institutes in which are active in different money and financial eras and are encountered to some obstacles and threat in doing their works. They should have some competitive advantages for being succeeded and having access to the market potential opportunities in which internet banking system provide the ground for achieving this advantage.

Information technology development speed leads to drastically changes in the form of money and transforming money systems in banking eras and has provided new concepts as electronic money and electronic transformation. This concept has established new types of banking as the name of “electronic banking” .(sarfarazi and memarzade, 2008)

***Objectives:***

Identifying the relationship between web site designing and customers’ perceived quality in electronic banking

Identifying the relationship between services security and customers’ understating from services quality in electronic banking

Identifying the relationship between accessibility and customers’ understanding from services quality in electronic banking

Identifying the relationship between products diversity and customers’ understanding from services quality in electronic banking

Identifying the relationship between trust and customers’ understanding from services quality in electronic banking

Identifying the relationship between communication and customers' understanding from services quality in electronic banking

### ***Literature Review:***

#### ***Electronic banking***

Electronic banking principally provides possibility of customer access to bank services by the aid of secure mediator and without physically presence. (Sanayeie, 2001) if we are to define it: bank services through general computer network in access in which does have high security(internet or intranet)however, electronic banking does have so many levels , but what separates electronic banking from others is existence of software and hardware systems for processing financial information. In other words, electronic banking is the best integration of all activities of a bank through applying new information technology in which prepares providing all required services of customers. But what all experts have commonality is using hardware, software, and network technologies correctly and integrated of all activities and customer concentrating. (Agarwal, 2012)

Today, using electronic banking is more than advantages and is requirements, because figurative electronic banks are active through internet and are able to provide more speedy services, fuller, exact and feasible to customers in the entire world. Second, slowness due to traditional system leads golden opportunities for attracting customer by banks would be lost and by abolishment of paper methods of interchanging business documents in developed countries, the possibility of interchanging these documents to developed countries would be lost in practice. We are using instruments like electronic money, electronic cash, and electronic money bag, types of credit cards, debtor cards, cost cards, self-paying apparatus, and sale station system in electronic banking .(khan, 2008)

#### **Types of electronic banking**

In general, we divide electronic banking in these types:

1. House banking: banks' customers could have access to the central computer information of banks in internet or intranet through personal computers and then do their banks' operations. In other words, house banking includes doing almost all banks' operation through personal computers existing in houses and by the aid of transmission cables.
2. Remote banking: speed in remote banking from 1980 and after, by the aid of mobiles has been begun in the world, this growth in fact along with developing wireless networks and

mobile and capability of mobile in connecting to internet has led customers to have access to their account in banks in remote places and could do their banks' operations and created new phenomenon as remote banking.

3. Internet banking: internet banking is doing all banks' operations through web site established by bank in internet. This type of banking is general and includes all explained matters as before, including remote banking and house banking. (Mojhdehi and et, al2006)

4. Call bank: currently, banks are installing electronic board call bank on central computers of internal network and concentrated in order to prepare possibility of auto-answering to customers. Customers could receive bill and be informed of their account asset through establishing call communication to call bank.

5. Mobile banking advantages: bank services have been provided by mobile is the future generation of electronic banking. Banks has established continuous access possibility for customer satisfaction. advantages of providing services through mobile to customers has advantages for banks like: decreasing management costs, personnel cost, lack of branches in different places, customer satisfaction, providing bank services in different hours of night and day, providing bank services in all points of country, the possibility of use in all covered places, facilitating transportation and using mobile than computer, lack of requirement of connecting to internet by general methods, better speed and security than internet environment, easily working and learning in comparison to computer and internet.(hafman, 2002)

Mobile banking does have so many advantages for Iran. Whereas, Iran is the 17<sup>th</sup> country in the world in which the most part of it is mountains and there live so many population, in recent years there was so many tries to develop communication roads and developing communication cables in these regions, but accessing to these region are very hard due to winters by high snowing and raining. If mobile banking in country level develops, in addition to so many advantages for banks and customers and help by saving in the ground of money print and other costs helps in country economic development and answer so many requirements of villagers residing in mountain regions and remote one and decreases their referring to banks' branches.

**Service quality definition from expert view:**

Parsemen said:” service quality is the degree and direction of differences among understood and customers' expectation from services. “

Gronerus,” understood service quality is the result of evaluation procedure in which customer do among expectation from services and understood services.

Zithmal and et,al has indicated” services quality as the amount of differences among expectation or customers’ request and their understanding.” Parseman and et,al definition of services quality includes the differences among customers’ expectation before encountering to services and their received understanding .

Palmer (2001) has recognized two rows approaches for defining service quality in which is based on meeting requirements and is based on customers’ characteristics. This approach could be related to understand services quality by customers and in this case, quality could be defined by customers. It occurs when organization provides services for meeting customers’ requirements. Gronus (1984) has defined service quality as the differences among service expectation and understand providing standard. Technical quality and performance are the two basic indicators of quality. Technical quality is almost measurable aspects of received services mediated by interaction to organization. Its sample is expectation time in checking calculator and reliability of public transportation services. In this case, services include interaction among users and providers of services and recognizing the method of providing technical quality. This view is related to the service performance quality and could not be measured like technical quality elements.

Service quality is the most isolated structure; so many conceptualization of service quality is related to isolated expectation of users in relation to quality. Consumers judge service quality based on the amount of conformity among provided services conformed by their expectation. When providing services, it is required to consider what is not separated from service characteristics. Providing services by providers and receiving it by customers is usually done spontaneously. But these characters usually exist .the method of doing services for all groups is very clear and therefore provider of services could not hide any errors or lack of services. In addition, when customers are involved in the procedure of receiving services, therefore we should consider other factors, too. Service providers do have low control on customers’ services experiences or does not have any direct control. As a result, customers’ contribution in receiving services in performance quality of services is very important.

Service quality indicates quality understanding is more important than service reality. How a person feel after buying product or using services is directly related to their expectation about the type and level of services they expect. This result is in the era of approving or not approving service quality, in this case, the amount of expectation from quality by approved or not approved services experience is influenced by customers’ understanding. This approach has been introduced by the name of understood quality model for the first time on 1982 by Gronus.

In recent years, there were so many studies for evaluating consumers from services, customer satisfaction views. So many of these studies has been reported in literature.(for example, founil, 1992)the first attention is in relation to customer satisfaction and service quality .)Oliver, 1993) it has been imagined satisfaction and or not satisfaction of customer is personal judge in which by considering two classes of problems has been occurred. In the one hand, quality and received advantages is mediated by provided services. In other hand, we have costs and so many tries by consumers for receiving services. Customer satisfaction is the result of equilibrium among these two problems.(Howard and shat, 1969)it is the same as results has been achieved by parseman, zithmal and Berry on 1994 and in another one considering literature, has been reported level of customer satisfaction is function of personal evaluation by customers from services quality, production quality and price. Isolated decision making is concentrated on costs, pricing and how their relation to quality and strategies has been used in so many studies. (chihoo, 2009)

Boulding and staelin(1993) has concluded in their study that service is associative procedure and evaluation of general levels of total quality system in provider company, therefore expectation mediated by encountering could not be measured , this shows expectation are stable. These researchers has postulated past expectation influence on persons understanding from real services directly.

Therefore, service quality is mediated by expectation directly and increasing customers' expectation from companies provided leads to increased expectation from quality. These observances shows managers could influence on services quality expectation by managing expectation directly.

### ***Internet banking services:***

Today, the method of providing services in banks by developing internet network and accessibility for all has been changed. Electronic cash transformation system through instruments like cards and codes has been started in which provide the possibility of accessing to personal accounts. Venus, Mokhtaran (2001) in general, banking has passed 4 durations: using coins, paper paying systems like check, electronic paying system like cards, information institute covered by internet network are stages has been passed by paying system in banking. Today, almost countries are passing the third and fourth duration. It means the most parts of banking operations have been done through electronic system and internet one. The cause of it is increasing use of electronic business and applying communication technology and information.

Because money and financial interchange are not separated from business interactions, then along with developing global electronic business volume, money and financial institutes are using communication and information technologies in order to support and facilitate electronic business. In conclusion, in recent decade's electronic paying system are substituted by traditional paying system. In this case, banks are moving to electronic banking and new financial services providing has have important role in increasing electronic business volume.(kahzadi, 2000) electronic banking is necessary instrument for survival and changes banking system in the world drastically. Today, by switching on mouse, bank services have been provided in few minutes to customers. Also, customers are selecting different sellers for meeting their financial requirements in which electronic banking has been strategic arms for banks. (Hasanzade and Sadeghi, 20002)based on research has been done by Farster, 20%european are using internet banking services in which this ratio has been doubled than two years before and has been forecasted to reach 130 million persons on 2007. (sahout, 2003)

Electronic banking services have been provided in different methods in which we could mention to: electronic banking, house banking, mobile banking, self paying, point selling, internet banking. Call banking includes providing financial services through communication apparatus in which customers could do their bank interactions by telephone.

In house banking, banks through establishing internet station and introducing to customers, communicate with them and provide their services through this network to customers. In addition, in this case, customers could communicate easily by the aid of internet and global network of web to their banks and without physically presence do their activities.

By the aid of mobile, we could do so many banking operations like examining remained cash in different accounts, stop paying check, money interchange from one account to another one. Based on experiences on banking affairs, mobile is safer than telephone. In banking method through cable TV, by the aid of remote control system and selecting TV canal related to bank, customers could do so many banking operations through telephone and follow up. (Hasanzade, et, al.2002)



Another new method in electronic banking is using self-paying system. Doing so many bank affairs through self-paying system is possible. Because, person should have his card and enter secret number, he should be present in place, the security matters has been ignored, too.

### ***Hypotheses:***

H1; There is significance relationship between web site designing and customers' perceived quality in electronic banking

H2; There is significance relationship between services security and customers' perceived quality in electronic banking

H3; There is significance relationship between accessibility and customers' perceived quality in electronic banking

H4; There is significance relationship between products diversity and customers' perceived quality in electronic banking

H5; There is significance relationship between trust and customers' perceived quality in electronic banking

H6; There is significance relationship between communication and customers' perceived quality in electronic banking

### ***Methodology***

. From gathering data and information and analyzing is descriptive and explorative one. The basic instrument for gathering information in this study is questionnaire. In order to measure stability, by the aid of achieved data from questionnaire, the amount of confidence coefficient has been accounted by cronbach alpha coefficient methods which cronbach alpha coefficient for the questionnaire is 0.893. Population of the study is all saderat banks' customers in Mazandaran province. Sample size of study is about 384 customers in which have been selected by convenience method.

In order to measure sample volume adequacy and covariance matrices sameness test, we have used of KMO and Bartlet tests. In order to test study hypotheses, the researcher have used structural equation model.

### KMO and Bartlet test

Table1: KMO and bartlet test

KMO		0.890
bartlet	Chi- square	5567.17
	Freedom degree	300
	Meaningful level	0.000

### *Analyzing approved load factor of study variables*

Researcher should help in analyzing approves factor and approves questionnaire questions are evaluated correctly the study dimensions. We have done factor analysis of independent variables influential on customers' understanding from electronic banking services in general mode.

As a whole, in approved factor analysis , we call the relation among dimensions and questions factor loads in which in standard estimating, all factor loads should be larger than 0.6. as we have seen in diagram 40-4, all factor loads are larger than 0.6.then we could say these dimensions has been evaluated by their questions.

Study variables	
website	website
etemad	trust
amniat	security
ertebatat	communication
dastresi	accessibility
t.mahsol	Product diversification
edrak	Perceived quality

Table2: the meaning of study variables

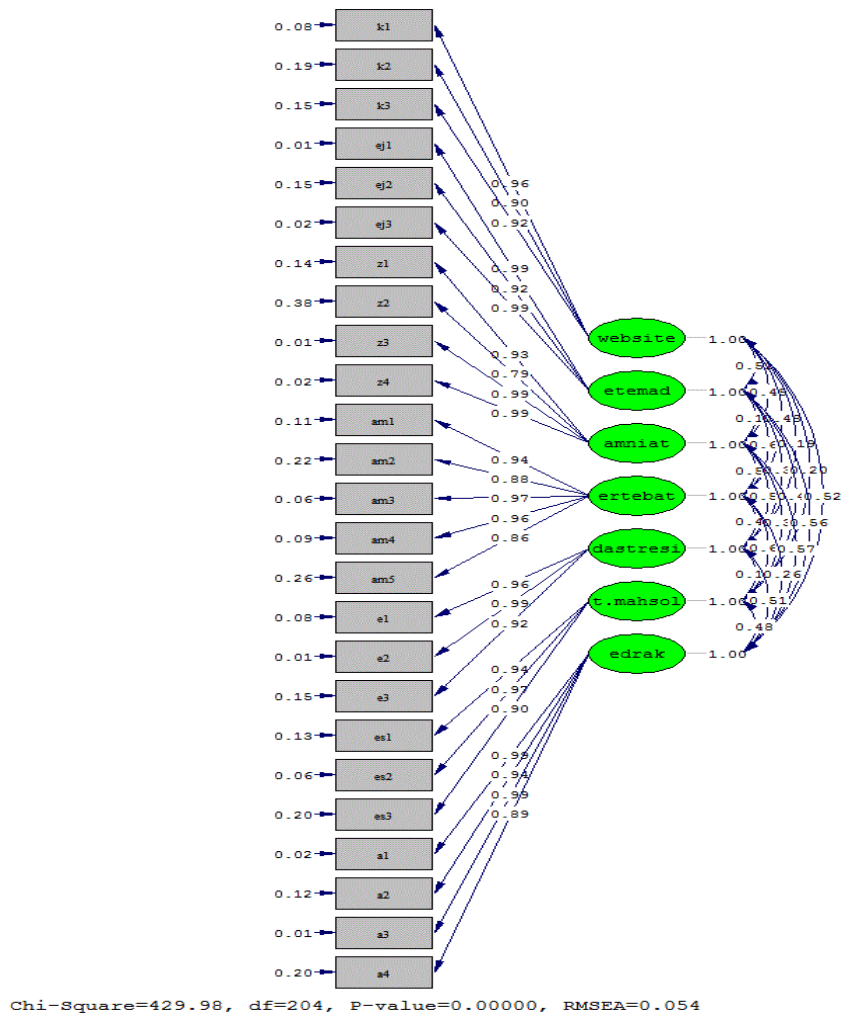


Diagram1: approved factor analysis in standard mode

### Approved factor analysis in meaningful mode

According to the test statics of load factor meaningfulness, we observe this static is larger than critical one 1.96 and we conclude any questions of questionnaire determine meaningfully any choosers of questionnaire meaningfully.

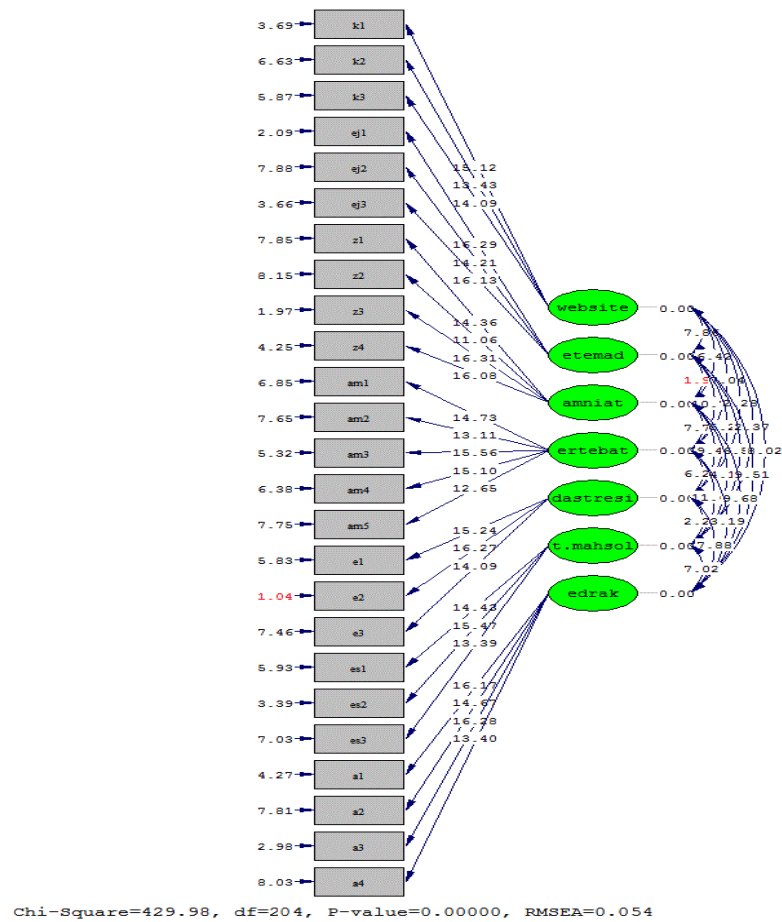


Diagram2: approved factor analysis in meaningful mode

AGFI	GFI	RMSEA	DF	Chi-Square	factor
0.093	0.091	0.054	204	429.98	Approved factor loads

Table3: measurement goodness test result

The ratio of k square (429.98) to the freedom degree (204) is less than 3 and shows this model does have good measurement. Also, the indicators of GFI and AGFI shows mode capability in determining the relation among variables and has been evaluated more than experimental amount of 0.9 and shows model good capability in recognizing the relation among these variables. RMSEA error model is evaluated equal to 0.054. As a result, approved factor analysis is good from error measure view.

## General model measurements (structural equations measurement)

As we have mentioned before, in order to test study hypotheses, we have used of measuring structural equation model .below figures shows general models of electronic banking acceptance in standard and meaningful mode.

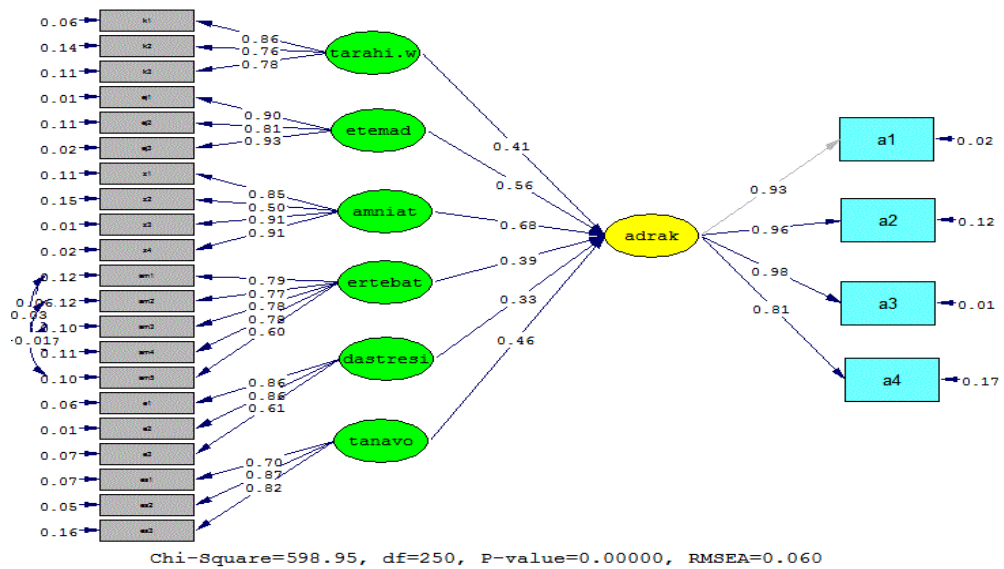


Diagram5:measuring general model in standard mode

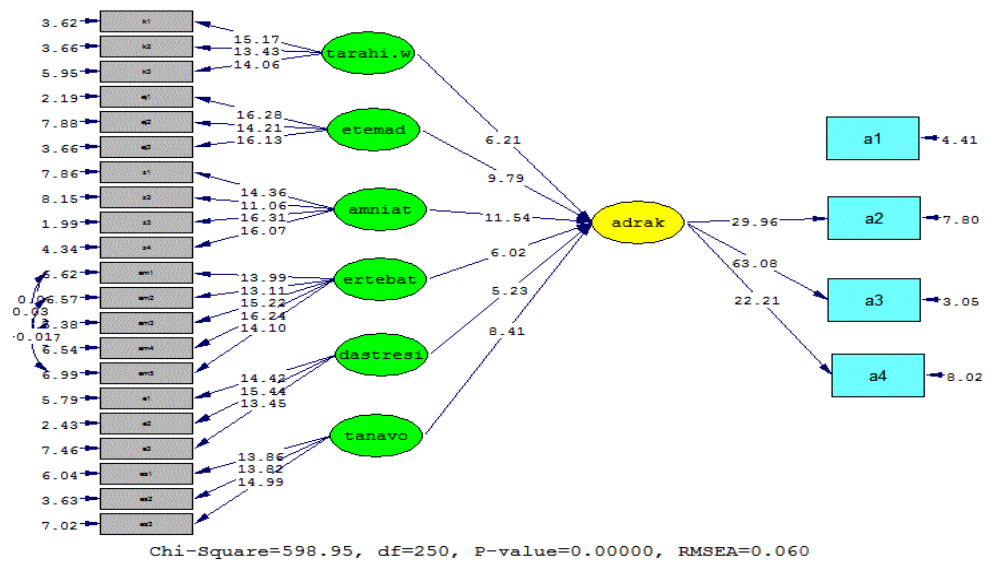


Diagram6: general model measurement in meaningful mode

According to diagram 6 of meaningful test static in load factors shows these statics are larger than critical amount of 1.96 and structural model measurement is meaningful.

AGFI	GFI	RMSEA	DF	Chi-Square	factor
0.91	0.90	0.060	250	598.95	General model measurement

Table4: measurement goodness test result

Chi- square static ratio(598.95) to freedom degree(250) is less than 3 and shows this model does have good measures. Also, indicators of GFI, AGFI shows the capability of model in determining the relation among variables and are larger than experimental amount of 0.9 in which shows feasible capability of model in recognizing the relation among these variables. Error measures of RMSEA is evaluated equal to 0.060 in which is less than 0.08 then model measures is very good and study structural model is good from error measures. At last, evaluated communication among these factors are based on discussion theories.

### Hypotheses results

Hypothesis result	T-VALUE	coefficient	hypothesis	
approve	6.21	0.41	There is significance relationship between web site designing and customers' perceived quality in electronic banking	Hypothesis1
approve	11.54	0.68	There is significance relationship between services security and customers' perceived quality in electronic banking	Hypothesis2
approve	9.79	0.56	There is significance relationship between trust and customers' perceived quality in electronic banking	Hypothesis3
approve	8.41	0.46	There is significance relationship between products diversity and customers' perceived quality in electronic banking	Hypothesis4
approve	5.23	0.33	There is significance relationship between accessibility and customers' perceived quality in electronic banking	Hypothesis5
approve	6.21	0.39	There is significance relationship between communication and customers' perceived quality in electronic banking	Hypothesis6

### *Conclusion and suggestions:*

Study findings has shown security understood by Saderat banks customer in Mazandaran branches does have the most influence on persons' understanding from electronic banking services quality. Also, this factor along with having confidence to internet banking services does have the most role and influence on persons, view about electronic banking services quality. According to customers view on Saderat bank branches in Mazandaran , this bank should attract customers view about security and confidence for understanding and accepting and using electronic banking , security points on using internet banking from banks for customers should be explained and also emphasizes on security of using internet banking services on banks' site.

1. Trust factor is the most important and influential on persons' view, mental manner and the amount of understood advantages of special behavior and requires planning and considering some problems. Also, in order to increase customers' confidence, there is some suggestions and approaches for in which could be used in bank managers' planning.
2. We should provide enough confidence and reliability to Saderat banks' customers in Mazandran branches about maintaining personal information and privacy on internet banking like transitional banking.
3. About required security in internet banking for interchange and transformation of cashes, we should provide enough reliability to Saderat banks' customers in Mazandaran branches.
4. Required information for increasing knowledge and confidence coefficient of Saderat banks customer in regard of technology used in internet banking should be provided.
5. We should assure Saderat bank customers in Mazandaran braches and acknowledge them the coefficient of error in internet banking is zero.
6. in order to increase Mazandaran Saderat bank branches' customers, we provide acknowledge and adequate confidence in regard of code security and passwords ad protocol and affairs has been provided.

Banks pay more attention to the advantages of using electronic banking services like doing easier, low cost, more speedy and reliable of financial interaction and also emphasize on these advantages as the most influential factors on peoples view to using electronic banking services.

Banks in their advertisement provide good image of those who use of electronic banking and new technologies and in this case influence on understood image of potential addresses. Banks could provide conditions (as figurative or physically in some selected branches) for testing electronic banking.

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