STUDYING THE EFFECT OF TRUST AND QUALITY OF ELECTRONIC SERVICES ON CUSTOMER SATISFACTION
(CASE STUDY: CUSTOMERS OF MELLAT BANK IN RASHT)

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ABSTRACT
The aim of this study is to investigate the impact of trust and quality of electronic services on customer satisfaction. The nature of this research regarding the purpose is applied and considering the method of data collection, it is descriptive of correlational-survey type. Study population is composed of customers of branches of Bank Mellat in Rasht whose number is unlimited. Cochran's formula was used to determine the sample size, which was estimated as 384 people and the data collection tool is questionnaire. For testing the hypotheses and analyzing structural relationships between variables, confirmatory factor analysis and structural equation modeling were used along with Spss and Amos software. The study findings show that in connection with the first hypothesis of the study, quality of electronic services has a significant positive impact on customer satisfaction in MellatBank in Rasht. In connection with the second hypothesis,

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quality of electronic services through trust has a positive and meaningful impact on customer satisfaction in Mellat Bank in Rasht. About the third hypothesis, trust has a significant positive impact on customer satisfaction in Mellat Bank in Rasht. Results showed the verification of the primary and secondary purposes.

**Keywords:** Electronic service quality, Customer satisfaction, Trust

1. **INTRODUCTION**

Today, due to the competitiveness of the banking industry and the lack of product differentiation, quality of service is known as a competitive advantage and has a direct impact on customer satisfaction. Knowing the organization's image among customers and the relations between them while revealing the strengths and weaknesses of an organization, paves the way to adopt appropriate strategies and improve the level of performance (Ghaffari et al., 2012, p. 41).

With the increase of competition areas in the banking system of Iran, using appropriate models, banks must constantly monitor their performance and type of their service and assess the quality of their services compared to competitors. In this regard, banks can greatly guarantee their success through their competitive advantage and strengthening them in competition with competitors. A lot of effort done by researchers experts and managers of business organizations to promote performance management tools and to develop customer-centered approach shows that customer satisfaction is currently one of the most important factors in determining the success of organizations (Salehi et al., 2011, p. 128).

Electronic service quality is a determinant in the effectiveness of e-commerce, and thus studying customers’ assessment of the quality of the Internet services and quality dimensions that are more important to them become a significant issue. In the banking industry, e-banking and providing services through electronic means such as the Internet are considered as urgent needs for banking networks in developing countries (Lee and Wu, 2011).
Quality of services and customer satisfaction are two core concepts, which are in the center of marketing and business theory. The relationship between the behavior and the quality of the services has proven its importance in the management and marketing (Hutchinsona et al., 2009). Trust is a key factor that determines the outcomes in different parts of the process and is as a kind of glue that holds relationships together. In e-commerce structure, customers who do not trust an e-business will not be loyal to it, even if they are generally satisfied with it (Kundu & Datta, 2015, p. 22).

2. PROBLEM STATEMENT
After purchase, the customer starts to evaluate it, his behavior after purchase, such as the decision to purchase again, is clearly dependent on his assessment of vendor performance in the provision of goods and services, and to evaluate the performance of a company, customers often evaluate the quality of services provided by it (Osanloo and Khodami, 2011, p. 2). The use of e-services is to raise the level of service to the customer, and actually, it seeks to examine the impact of e-services on customers' perception of the whole service (Ghaffari et al., 2012, p. 43). Satisfaction is the result of the customer's judgment on to what extent the characteristics of a product or service are able to meet customer expectations at an optimum level (Orel and Kara, 2013, p. 4).

The results of several studies show that the quality of services is a prelude to customer satisfaction, and there is strong positive relationship between service quality and customer satisfaction. Studies conducted have shown the impact of trust as a mediating variable in enhancing the customer satisfaction from the quality of electronic services.

It is expected that the quality of electronic services be affected by electronic trust, because it represents the confidence of customers to the site and the system. Previous studies have shown a significant relationship between trust and satisfaction and have introduced trust as the most important factor of customer satisfaction (Kundu and Datta, 2015).
Therefore, the question that arises is, “Do trust and the quality of electronic services lead to increase of customer satisfaction in Mellat Bank branches in Rasht or not?”

**Theoretical framework of the research and hypotheses**

In the present study, the conceptual model is derived from Kanda and Datta, 2015 (Figure 1-1) that depicted a significant positive relationship between electronic service quality, trust, and customer satisfaction. In this model, the quality of electronic services is as the independent variable, trust is as the mediating variable, and customer satisfaction is as the dependent variable.

![Fig.1. Conceptual model of the research (Kundu and Datta, 2015, p. 29)](image)

The first hypothesis: electronic service quality affects Mellat Bank customers' satisfaction in Rasht.

The second hypothesis: electronic service quality affects Mellat Bank customers' satisfaction in Rasht through trust.

The third hypothesis: Trust affects Mellat Bank customers' satisfaction in Rasht.

**The review of the literature**

**The quality of electronic services**

Zeithaml et al. (2000) provided the first official definition of quality of web-based services that defined the quality of electronic services as the degree to which a shopping website facilitates the efficient and effective delivery of goods and services. Lee et al. (2002) define the quality of a web-based service as, “The extent to which web-technologies-based services facilitate the instant communication of purchase and delivery of products/services.”
According to Santos (2003), the quality of electronic services must be defined as the assessment and the overall judgment of the excellence and quality of electronic services supplied to consumers in the virtual market. This definition is consistent with the definition of service quality, and providing a superior consumer experience in all aspects of service delivery through the organization’s website (Carlson and O’Cass, 2010). Enhancing the quality of electronic services on the web can make the companies more effective and attractive and help them achieve higher levels of customer satisfaction (Gronroos et al., 2000).

**Trust**

Creating electronic trust is as the first step and foundation for the formation of an electronic interaction. The reason for the importance of trust in electronic discussions and interactions is due to higher level of uncertainty of economic transactions of e-commerce compared to traditional commerce and the inability of using many of the strategies of traditional commerce world for building trust in e-commerce.

Economic transactions on the Internet have numerous risks, these risks are either associated with technology infrastructure in exchange of information (uncertainties associated with the system), or in connection with the factors involved in online transactions (uncertainty related to the transaction). Trust in electronic activities is more important than other exchanges, because in electronic activities, uncertainty and risk are inevitable and the parties are absent in the exchange process.

The Internet environment has all these features that increase the uncertainty and there is no possibility to see the other party, and due to the importance of trust in the Internet environment, trust is the major factor in the growth of electronic commerce (Eastlick and Lotz, 2011), and particularly e-banking (Jowkar et al., 2013, p. 4). In this paper, the intended dimensions in relation to trust include a good reputation for website and internet banking services, good banking history, clear information provided, and accuracy of information provided by the bank.

**Customer satisfaction**
Electronic satisfaction is defined as the customer satisfaction with the experience of previous purchases from a specific e-commerce company (Anderson and Srinivasan, 2003), and according to Lee and Wu (2011), customer satisfaction refers to the extent to which the customer is satisfied and happy with his online shopping experience (Hasangolipour et al., 2012, p. 64).

Customer satisfaction provides numerous benefits for the company, in fact, higher levels of customer satisfaction leads to increased loyalty. Moreover, satisfied customers are most likely to speak of their experiences with others. This is especially true in Eastern cultures that social life is structured in a way that more social connections with other people are very important. Customer satisfaction is a key factor in shaping the customer's immediate willingness to buy.

Today, organizations have found that customer satisfaction guarantees the existence of the organization. The importance of this issue is to an extent that customer satisfaction is the most important factor in lengths of quality such as European Foundation for Quality Management (EFQM) (Sedghi et al., 2012, p. 20). In this research, about customer satisfaction variable overall satisfaction with the services of Internet banking, information and transaction sections of Internet banking and improving the satisfaction of banking operations are discussed.

The relationship between the quality of electronic services, trust, and satisfaction

It is expected that the elements of quality of electronic services directly affect the trust (Grönroos, 2001); because they show signs of trust that lead to ensuring the site and system for customers. In a review of studies on online trust, Grabner-Kraeuter (2002) interpreted electronic quality characteristics as trust, such as beliefs of trust, and the desire to re-purchase, as a confidence-building desire.

In addition, Kraeuter et al. know the intentions of websites as a part of trust and suggest that guiding architecture and designing elements have a direct impact on trust. Geffen in studying the effects of perceived e-service quality in customer trust confirms SERVQUAL model and introduces three dimensions: being tangible, having the same feeling, and integration, the last one ensures sustainable accountability and has a significant effect on trust while the tangibility
and having the same feeling do not have such an effect. Harrington and Vion found that electronic trust is related to user-friendliness and efficiency aspects.

The researchers have revealed a positive correlation between satisfaction and trust (Kundu and Datta, 2015, p. 28). The researchers have also found that trust is the most significant characteristic of customer satisfaction (Pavlou and Fygenson; Ribbink et al; Kim et al., 2004; Kim et al., 2008). Parasuraman et al. (1985) suggest that a conceptual model of service quality highlights the point that overlap between standards of service quality and customer standards may reduce the gap of quality of the services performance, and increase customer perceived value on quality of the systems. Conceptually, this could lead to higher customer satisfaction. According to analysis of literature, it is reasonable to believe that the consent of the online service providers can be positive when the gap between the perception and expectation of internet banking is small (Kundu and Datta, 2015, p. 27).

3. RESEARCH METHODOLOGY

This study is applied regarding the purpose and the method of data collection is descriptive of correlational-survey type. The population of this research is unlimited including Mellat Bank branch customers in Rasht (including 21 branches), and questionnaire with definite answers is used to collect the data and convenience non-probability method is used for sampling.

To determine the sample size, due to the large number of population, Cochran' formula is used for unlimited community.

The sample obtained by Cochran's formula is 384 people and the analysis is done based on this number of samples.

In this study, a standard questionnaire is used to collect data that includes questions 1 to 30 in the questionnaire.

Quality of electronic services (independent variable) was measured by 22 items and trust (mediator variable) and customer satisfaction (dependent variable) each of which were measured using four items. In Table 1-1, the number of items used for each variable and the sources used
are listed. To determine the class of the study population, five descriptive questions (gender, age, education, marital status and history of using e-services) are designed at the beginning of the questionnaire. Based on previous research in this area, five-option Likert scale (very low, low, medium, high, very high) was used to measure all the variables (Table 1).

Table 1. Combination of the questions based on the research variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number of questions</th>
<th>Question Number</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of electronic services</td>
<td>22</td>
<td>1 to 22</td>
<td>Parasuraman et al. (2005)</td>
</tr>
<tr>
<td>Trust</td>
<td>4</td>
<td>23 to 26</td>
<td>Bauer et al. (2005)</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>4</td>
<td>27 to 30</td>
<td>Kanda and Datta, (2015)</td>
</tr>
</tbody>
</table>

Data analysis

In this study, descriptive statistics and describing the demographic characteristics of the study sample (gender, age, education, and the history of using e-services) were dealt with, and then by using inferential statistics, mean tests of a population, Pearson correlation test, SPSS software, confirmatory factor analysis, and structural equation modeling along AMOS software research hypotheses were tested. To test the hypotheses, Amos Graphics software was used. Thus, first by using confirmatory factor analysis, research measurement models were assessed and tested. At this stage, while investigating the significance of each factor loadings in measurement models, convergent validity was also examined. Then in the second stage, data were fitted to structural equation model through multiple regression. To review research models, six indicators, Chi-square, normalized Chi-square, incremental fit, comparative fit, Tucker-Lewis and the square root of estimation errors, were reviewed and evaluated. Moreover, for
calculations related to determining the range of values of the variables in the population, one sample t-test was used.

In relation to the gender of the respondents in the study group, 56.3% of the subjects (n = 216) were male and 43.8% (n = 168) were women. In relation to the age of the study subjects, 20.3% were less than 20, 25.3% were 20 to 30 years, 51.9% were 31 to 40 years, and 2.9% were 41 years or more of age. In connection with the education in the group examined, 36.2% of the subjects had diploma or lower, 18.5% percent had associate's degree, 20.8% had bachelor's degree and 24.5% had master's degree or higher. In connection with the history of use of electronic services in the group studied, 29.4% percent of subjects have 1 to 10 months, 18% of the subjects have 11 and 24 months, 33.9% have 25 and 36 months and 18.8% of participants have 37 to 48 months history of using e-services. In terms of marital status, 59.9% of the participants are single and 40.1% of participants are married.

The first hypothesis: electronic service quality affects Mellat Bank customers' satisfaction in Rasht.

The resultant fit indices do not confirm the models at this level of confidence, so the model needed adjustment. From among the proposed amendments by the software, establishing four correlations between error parameters was sufficed, after making the above adjustments, fitness indexes confirm this model at 99% level of confidence (Table 2).

<table>
<thead>
<tr>
<th>Indices</th>
<th>P</th>
<th>CMIN/DF</th>
<th>IFI</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>First hypothesis before adjustment</td>
<td>0.000</td>
<td>2.780</td>
<td>0.71</td>
<td>0.68</td>
<td>0.70</td>
<td>0.077</td>
</tr>
<tr>
<td>First hypothesis after adjustment</td>
<td>0.351</td>
<td>3.041</td>
<td>0.90</td>
<td>0.82</td>
<td>0.90</td>
<td>0.068</td>
</tr>
</tbody>
</table>
Standardized regression coefficient for this hypothesis is 0.56 with a 0.000 P value related to this regression coefficient, which is smaller than 0.05, it can be concluded that this hypothesis is accepted with 0.99% level of confidence. In other words, with 0.99% level of confidence quality of electronic services has a significant positive effect on customer satisfaction in Mellat Bank in Rasht. This hypothesis is confirmed (Table 3)

Table 3. Regression coefficient (the result of testing the first hypothesis)

<table>
<thead>
<tr>
<th>Hypothesis number</th>
<th>Hypothesis</th>
<th>Regression coefficient</th>
<th>Critical value</th>
<th>P</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The quality of electronic services</td>
<td>0.56</td>
<td>-</td>
<td>0.56</td>
<td>0.00</td>
</tr>
</tbody>
</table>

The second hypothesis: electronic service quality affects Mellat Bank customers' satisfaction in Rasht through trust.

The resultant fit indices do not confirm the models at this level of confidence, so the model needed adjustment. From among the proposed amendments by the software, establishing two correlations between error parameters was sufficed, after making the above adjustments, fitness indexes confirm this model at 99% level of confidence (Table 4).
Table 4. Overall fit indices for analysis of the structural equation models of the second hypothesis

<table>
<thead>
<tr>
<th>Indices</th>
<th>P</th>
<th>CMIN/DF</th>
<th>IFI</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second hypothesis before adjustment</td>
<td>0.000</td>
<td>2.780</td>
<td>0.71</td>
<td>0.68</td>
<td>0.70</td>
<td>0.077</td>
</tr>
<tr>
<td>Second hypothesis after adjustment</td>
<td>0.351</td>
<td>3.041</td>
<td>0.90</td>
<td>0.82</td>
<td>0.90</td>
<td>0.068</td>
</tr>
</tbody>
</table>

Standardized regression coefficient for this hypothesis is 0.58 with a 0.000 P value related to this regression coefficient, which is smaller than 0.05, it can be concluded that this hypothesis is accepted with 0.99% level of confidence. In other words, with 0.99% level of confidence quality of electronic services has a significant positive effect on customer trust in Mellat Bank in Rasht. This hypothesis is confirmed (Table 5).

Table 5. Regression coefficient (the result of testing the second hypothesis)

<table>
<thead>
<tr>
<th>Hypothesis number</th>
<th>Hypothesis</th>
<th>Regression coefficient</th>
<th>P</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>The quality of electronic services</td>
<td>Trus t</td>
<td>0.58</td>
<td>-</td>
</tr>
</tbody>
</table>
The third hypothesis: Trust affects Mellat Bank customers' satisfaction in Rasht.
The resultant fit indices do not confirm the models at this level of confidence, so the model needed adjustment. From among the proposed amendments by the software, establishing two correlations between error parameters was sufficed, after making the above adjustments, fitness indexes confirm this model at 99% level of confidence (Table 6).

**Table 6.** Overall fit indices for analysis of the structural equation models of the third hypothesis

<table>
<thead>
<tr>
<th>Indices</th>
<th>P</th>
<th>CMIN/DF</th>
<th>IFI</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Third hypothesis before adjustment</td>
<td>0.000</td>
<td>1.780</td>
<td>0.71</td>
<td>0.78</td>
<td>0.80</td>
<td>0.077</td>
</tr>
<tr>
<td>Third hypothesis after adjustment</td>
<td>0.251</td>
<td>2.067</td>
<td>0.90</td>
<td>0.82</td>
<td>0.90</td>
<td>0.068</td>
</tr>
</tbody>
</table>

Standardized regression coefficient for this hypothesis is 0.72 with a 0.000 P value related to this regression coefficient, which is smaller than 0.05, it can be concluded that this hypothesis is accepted with 0.99% level of confidence. In other words, with 0.99% level of confidence trust has a significant positive effect on customer satisfaction in Mellat Bank in Rasht. This hypothesis is confirmed (Table 7).

**Table 7.** Regression coefficient (the result of testing the third hypothesis)

<table>
<thead>
<tr>
<th>Hypothesis number</th>
<th>Hypothesis</th>
<th>Regression coefficient</th>
<th>Critical value</th>
<th>P</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Customer satisfaction</td>
<td>Trust</td>
<td>0.72</td>
<td>-</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total effect</td>
<td></td>
<td>0.72</td>
<td>confirmed</td>
</tr>
</tbody>
</table>
4. CONCLUSION

Thus, it can be stated that high quality electronic service is an essential strategy for achieving customer satisfaction and ultimately success and probably is more important towards the low price and presence on the web (Zithamel et al., 2002). Through better compliance with the attitude and expectations of customers in the target market, electronic service provider organizations should improve their main function to create a positive evaluation of the quality of the services they provide (Rowland and Freeman, 2010). In a review of studies on online trust, Grabner-Kraeuter (2002) interpreted electronic quality characteristics as trust, such as beliefs of trust, and the desire to re-purchase, as a confidence-building desire. In addition, Kraeuter et al. know the intentions of websites as a part of trust and suggest that guiding architecture and designing elements have a direct impact on trust. The researchers have also found that trust is the
most significant characteristic of customer satisfaction (Pavlou & Fygenson; Ribbink et al; Kim et al., 2004; Kim et al., 2008). Thus, creating electronic trust is as the first step and foundation for the formation of an electronic interaction. The reason for the importance of trust in electronic discussions and interactions is due to higher level of uncertainty of economic transactions of e-commerce compared to traditional commerce. Moreover, due to the importance of trust in the Internet environment, trust is the major factor in the growth of electronic commerce (Eastlick & Lotz, 2011), and particularly e-banking (Jowkar et al., 2013, p. 4).

Due to the results of research in the field of e-banking services, it is suggested that banks adopt a policy and mechanisms to improve services electronically. For example, the bank can increase ATMs, increase options and services offered on the website, e-service training to people in general and customers in particular, adopting encouraging policies for customers to receive training and use services of electronic government.

5. REFERENCES


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