Evaluating the quality of e-banking services in the Iranian banking network by using the Servqual model

A Moradi
Senior Students, E-Commerce, Faculty of Information Technology, Islamic Azad University, Tehran Electronic Branch, Tehran, Iran

R Alaie Bhkhsh
Senior Students, Computer Network, E-learning Institute Faran Mehr Danesh, Tehran, Iran

M Shahchra
Assistant Professor of Banking and Monetary Affairs, Tehran, Iran

A Ahmadian
Assistant Professor of Banking and Monetary Affairs, Tehran, Iran

Abstract
Today, the quality of services is an increasingly important factor in the success and survival of the banking sector. Therefore, the discovery of effective factors in the quality of services and the importance of each of these factors is very important from the point of view of customers due to the increasing intensity of competition. Modern commerce requires appropriate tools and infrastructure for expanding economic processes. When we talk about the link between information technology and communication with affairs, the link between information and communication technology and banking is one of the most concrete and obvious points that comes to mind. In this research, the relevant questions were studied, using the conceptual model presented by the correlation-survey method and the class random sampling method. In order to collect information using a questionnaire tool, we surveyed clients of private banks in East of Tehran. The results of the hypothesis test showed that there is a significant correlation between the ease of use of banking services and the enhancement of interoperability as well as the reliability and security of information on the quality of banking services, that is, with the increase of these issues, the quality of e-services is also increased and effective in satisfaction of customers.

Key words: Information and communication technology, Improving the quality of banking services, Sarqual model

Introduction: The movement of industrial societies has begun to the information society and has been accelerating since the early 1900s, so that the pace of this movement in the less developed countries, including Iran, is well represented. Terms like e-government, e-commerce, e-learning, e-community, etc. are familiar to the public. Such a vision will increase the need for the use and application of information technology in different fields, as it seems that information technology is one of the tools that can be achieved with its accurate and fast utilization in today’s enormous arena (Vazifeh doost & et al 5831, p 511). Over the past two decades, the issue of quality of service has been an important topic for scientific research and has been regarded as a key factor in creating service differentiation and creating a competitive advantage (p233. os2003 sant). Banks need to pay more attention to the quality of services that play an important role in attracting and retaining the customer due to their reliance on public deposits and the importance that individuals make for their assets and money. And, on the other hand, the entry of customer-oriented organizations into their competition and their successes makes it increasingly important for the bankers to pay attention to quality issues. The quality of service is relatively young in science and only about three decades of research in this field. Researchers believe that the concept of service quality is ambiguous, complex and inexplicable, because the quality of a product can be measured by objective criteria such as the durability or number of defects in the product, but the quality of service is abstract and obscure. However, improving the quality of services is important because it has a significant impact on reducing costs, increasing the level of satisfaction, maintaining customer care, increasing profitability, and mouth-to-mouth (face-to-face) advertising. According to most experts, the safest way to succeed is being remained in the minds of customers, and this is only achieved through high quality production and services. Awareness of the concept of quality of services and efforts to improve it lead to quality services, and by increasing the quality of services, customer satisfaction can be increased and since the existential philosophy of institutions and organization is to promote the level of welfare and quality of human life, all monetary, financial, credit and banking institutions are working to provide better services to the people. But the important thing that many directors and scholars have in mind is whether such efforts are being made to meet customers’ expectations and their satisfaction. In this paper, considering the importance of the
issue in the banking network of the country, based on theoretical and empirical literature, the quality of electronic banking services with an emphasis on Internet banking has been investigated.

In the first section, we discussed the generalities of the research, and in the second part after the introduction of theoretical literature, the third part of the research methodology is presented and in the fourth part the results of the research and finally the conclusion are expressed. Evaluating the quality of e-banking services in Iran’s banking network has been intensified by using Sarqual’s model in the present era due to the use of competitive technology. Banks need to pay attention to improving the quality of their services and products. In banking, quality does not just mean meeting customer expectations, but going beyond its expectations, which requires the use of technology to improve quality and the quality of services in the banking industry is considered as a key factor. (1998 cheung and ker wal (p.553) Roosta and others (5051)

The main feature of services that states as follows: • Intolerance • Incompatibility and discontinuity • Incompatibility

Un-savable quality improvement is a measure taken by the organization to increase the efficiency and effectiveness of activities and processes in order to add organizational resources and customers. Improving the quality of banking services is not just a specific program, but quality is a permanent and continuous program. Quality actually begins by knowing who the bank needs in order to improve the quality of its services and maintained by such space administrators. Strengthening quality or improving it, and in the more general sense of managing quality processes, is actually a strategic plan that it requires constant attention of senior executives of the bank. (Nematyan, 5831 p. 15)

In this section, customer perceptions are the factors that affect it. The following figure shows the primary factors that affect customer perceptions of the service. When we point to customer perceptions, we assume that the dimensions of the services and the ways in which exposure to customers are evaluated is similar to that of the internal or external customer of the organization.

Evaluating the quality of e-banking services in the Iranian banking network by using the Sarqual model

Implementing a strategic quality management program requires a clear understanding of the organization's attitude towards the quality of services, customer expectations, perceived quality, quality measures, and quality determinants. Recognition of the above is necessary to improve the quality of services, but it is not enough, but it needs conceptual models that help management to identify shortcomings and plan to implement a strategic quality improvement program (Qobadin et al., 5001, p. 15). In order to investigate and identify the factors affecting the quality of services from the customer's point of view, there is a consensus and comprehensive quantitative and different models for assessing the quality of services such as hysteresis, kano, servowell, QFD and so on. In this regard, the aim of this study is to evaluate the quality of services using Sarqual models. In the following, the components of the quality of service are stated. Many experts have commented on the components of the quality of services. The common factors that these people referred to are: Process quality: Process quality or operational quality is the quality of processes and procedures for producing and serving customers.

Given the nature of the coincidence of production and consumption, service quality is often assessed during service. In the field of financial services, the purpose of the process is the technical and mechanical aspects of the process or the provision of services or any interactions with the employees and the methods of guidance and direction of these interactions by the employees. Output quality: quality of production or technical quality after delivery and formation of service is evaluated. This is what a customer receives from a service organization or something that remains for the customer after the end of interactions.

Physical Quality: Physical Quality means products or supports that support products and services. Financial products have fewer physical dimensions, so alternative physical states are often used to evaluate the quality of services. For example, in the branches you can refer to these physical options. Customers in the branches of the banks evaluate the quality based on the decoration of the branch of furniture and equipment inside the branch of the manner of placing the equipment and comfort of the branch. That is why financial institutions and banks are investing a lot in order to beautify their branches.

Interaction Quality: refers to the relationship and interaction between the customer and the service provider. Interactions may vary in different ways; An example is within the Rood roo Branch or through telecommunications by means of a telephone or Internet interactive means in any form. Banks are required to ensure that their relationship with their customers is effective and efficient.
Quality of the organization: The quality of the organization refers to the image and perceptions of the organization. The quality of the organization is an inalienable aspect of quality.) Venus and Safaityan, 5838 p. 15. Evaluating the quality of e-banking services in the Iranian banking network by using the standard e-banking Servqual model means integrating all the activities of a bank through the use of new information and communication technology based on banking processes that is consistent with the organizational structure of banks that provides the provision of
In other words, electronic banking can be introduced using advanced technologies of communication and telecommunication networks for the transfer of funds in the banking system.

**Table:** comparison of traditional banking with e-banking

<table>
<thead>
<tr>
<th>Modern (electronic) banking</th>
<th>Traditional banking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unlimited market in terms of place and location</td>
<td>Limited market</td>
</tr>
<tr>
<td>Competition of trade marks</td>
<td>Competition between banks</td>
</tr>
<tr>
<td>Presenting wide services</td>
<td>Presenting limited services</td>
</tr>
<tr>
<td>Presenting various services based on need and order of customer and innovation</td>
<td>Presenting services in a special way</td>
</tr>
<tr>
<td>Multi-purpose banks equipped with electronic facilities</td>
<td>Relied on branches</td>
</tr>
<tr>
<td>Focusing on expense and income growth</td>
<td>Focusing on expense</td>
</tr>
<tr>
<td>Earning revenue through wage</td>
<td>Earning revenue through interest</td>
</tr>
<tr>
<td>unlimited in terms of time and 24-hour</td>
<td>Limited to official and working hours</td>
</tr>
<tr>
<td>Existence of a close relationship between banks</td>
<td>Lack of existence of close and related relationship (between banks)</td>
</tr>
<tr>
<td>Due to using computer, usage of paper and human sources extremely reduces</td>
<td>Due to existence of structure based on paper, it needs a lot of human sources.</td>
</tr>
</tbody>
</table>

**Source:** Hassani et al 1387 – p19

Evaluating the quality of e-banking services in the Iranian banking network by using the Sarcual model, including the research done in this area, can be mentioned: the quality of Internet banking services and its consequences on the satisfaction of e-customers and loyalty of customers. (University 2017 Muslim Saud King Amin).

The purpose of this research is to evaluate the quality of Internet banking services and its consequences on customer satisfaction and customer loyalty. The Dimensions of the Quality of Electronic Services and its Effect on Electronic Customer Satisfaction in Internet Banking Services, 1951, al et Zavareh This research was evaluated using the SERVQUAL-E scale for creating e-service quality (SQ-e) for Internet banking services. Quality of Service and Customer Satisfaction in Selected Banks in Rwanda in 1951 The purpose of this research was to determine the relationship between quality of service and customer satisfaction in the Bank. Rwanda du re ai Popul, of branches. This is based on descriptive and cross-sectional research designs. The aim of this study was to find the relationship between the quality of service of the e-service (ie service quality, information quality and system quality) and customer satisfaction among the customers of a government bank in Dhaka, Bangladesh. Customer satisfaction On the quality of services in the private banking sector in Bangladesh in September 1951 customer satisfaction is essential for the success of service companies such as the bank. Quality of service has become a customer satisfaction aspect. Customer Service Perception and Customer Satisfaction in Pakistan’s Islamic Banks: SERVQUAL Model November 1951 The purpose of this study was to determine the relationship between quality of service and customer satisfaction among Islamic banking customers in Pakistan. This study uses a modified SERVQUAL model introducing a unique dimension of compliance in the service industry. Quality of Service and Customer Satisfaction in the Banking Industries of October 1951 D.Ph, Ackah David. Dr. This research is a view towards the quality of services and customer satisfaction in the banking industry.

The evaluation of the quality of banking services in Iran’s banking network by using Servqual Arsali et al. (1955), entitled “Investigating the Relationship Between Quality of Service and Customer Satisfaction in the Bank of Greece”, showed that there is no significant relationship between expectations and perceptions of customers in the dimensions of service quality, tangible, reliable, trustworthy and empathic. But there was a significant relationship between customer service quality and customer satisfaction, as well as between customer satisfaction and oral advertising. Also, the results showed that the comparison between branches reliability dimension other than other dimensions has a greater effect on customer satisfaction. In a 1955 study on internet banking and Jordanian customer satisfaction, Mr. Al-n Eddi and his colleagues examined variables that were wide-ranging. In this research, the relationship between all independent variables was positively associated with dependent variables. Fin 2011 (in an e-service research study using statistical methods showed that some of the quality of service are nonlinear
relationships with customer satisfaction. The first research on the quality of electronic services by Gonaris and Dimitriadias in 1998, which examines the quality of services provided by electronic banking websites. Lewis Caslow 1991 Study of the role of customer satisfaction and trustworthiness on website loyalty. In this research, two variables such as usability, loyalty, satisfaction and trust were investigated through correlation analysis and chi-square test.

The effect of the quality of electronic banking services on the agility of a bank of Hooman Pourmohammad, Mostafa Zandi, Hassan Farsjiani in 5931. In this study, the quality of services in a service organization can increase customer satisfaction as a result.

Integrated Model for Improving the Quality of Electronic Banking Services through Continuous Quality Assurance and Periodic Satisfaction of Customers in Summer 5801 Seyed Ebrahim Abtahi Faculty Member of Computer Engineering Department of Sharif University of Technology

Evaluating the Quality of Banking Services in Iran’s Banking Network by Using the Servqual Model Evaluation of the Effect of Perceived Quality of Electronic Banking Services on Satisfaction and Commitment of Customers of Saderat Bank, Tehran Province, 5808 Sani Mahmood Kalei, Dr. Shadan Vahabzadeh, Assistant Professor, Islamic Azad University, Tehran Branch North,

(Corresponding Author)
Evaluating the Quality of Services in Electronic Banking Daryoush Faridollah Dehghan Tazerjani, Associate Professor and Member of the Faculty, Yazd University, MSc in Business Administration, Yazd University. In this research, effective components on the quality of electronic banking services were identified.

A conceptual model for explaining the key factors affecting the quality of Internet banking services provider systems (Survey on Mellat Bank) (based on the presented models and the results of the analyzes conducted by Divanderi, Abedi and Nasrzejadeh in 5801 among the factors affecting the quality of service provider systems Internet banking, ease of use of systems, has the highest rating.

Hosseini Hashemzadeh (5809) The title of the study “Factors Affecting Customers Satisfaction of the Industry and Mine Bank” was carried out. The results of the research showed that the quality of service variable (including its five dimensions) had the most impact on customer satisfaction and then, Customers’ attitude towards bank employees, their assessment of bank rules and regulations, customer education and customer base, respectively, explain changes in customer satisfaction variable (Hosseini Hashemzadeh, 5809: 33) Samadi and others (5833) A study entitled “Investigating the effect of quality of services on customer satisfaction of the National Bank of Tuiskeran city” based on Servqual model, Hedieh Rajab Hosseini, in her dissertation, entitled “Assessing the Role of Information Technology in Support of Quality Management System for Improvement in Tarbiat Modares University” Qualitative Performance “attempted to investigate the impact of information and communication technology on quality management, which had an impact on information technology on the quality of the organization.

Evaluating the Quality of Banking Services in Iran’s Banking Network by Using the Servqual Model. Servqual Survey Methodology is one of the most popular methods of measuring services, which was created by Parasuraman Bri vitzimal in 5031.

Until then, they had managed to find self-service findings such as credit card insurance, roadside telephony insurance companies and road transport companies. Servqual is a method that can be used to analyze gaps in the quality of service an organization offers to customers in relation to its needs.) Parasuraman T2005T45)

The most important benefit of Servqual is that it cannot only measure the quality of a particular firm’s services, but also the quality of the service. It can therefore be customized to troubleshoot problems in a way that customers can answer to their main rivals, as well as the reasons for this priority.

From the other hand, one can ask for a rigorous questionnaire that also responds to the measurement of the quality of the service and the position it poses. The search for quality of service is a method that is proposed by Parasuraman to analyze the gap between customer expectations and their outcomes. The construction of the construction of Servqual is based on the fact that the estimation of the customers’ demand in these countries creates a sense of dissatisfaction with their satisfaction and anticipation. Several statistical analyzes revealed the existence of our correlation between the items that simultaneously represent several dimensions of the original ten dimensions. Particularly, the existence of these correlations has led to the integration of the seven last dimensions into two broad dimensions, called empathy and assurance (albeit other aspects, apparent devices, credentials and willingness to respond in the process of reforming and subscribing remained unchanged)

Thus, although Servacul has only four distinct facets, these five dimensions have all the characteristics of the first ten dimensions. By integrating some dimensions and forming two new dimensions, a redefinition of five dimensions is required. Five dimensions of the quality of services are described below.

Tangibility: The touch of functionality includes the availability of work facilities and communication tools. All of these visual dimensions provide a consideration for the customer to evaluate its quality. For example, the welfare
facilities in the organization’s physical environment are all-inclusive access to services.

Reliability: Trust means the ability to perform services in a secure and credible way, in such a way as to meet customer expectations. For example, customers who visit a restaurant will have such demonstrations as promptly ordering and maintaining the environment and so on. The other is the reliability of the operation of the obligations. That is, a service provider offering meals at the time when the service is offered is a way to offer a service and costs. Evaluating the quality of banking services in Iran’s banking network by using the responsivenes model

Responsiveness: means the willingness to cooperate and help the customer. After service quality, emphasis is placed on showing sensitivity and awareness of the requests for customers’ questions and complaints. An example in a bank If the referral is in trouble with the current account opening and asking the relevant employee for help. The length of time that you should wait to resolve the problem will reflect the level of personnel liability.

Assurance: Assurance and guarantees represent the competence and ability of the employees to induce a sense of trust and trust in the customer towards the organization. This is especially important services that are of higher risk. Examples of healthcare services are very important given the sensitivity of the lives of people.

Empathy: means that with respect to the spirits of individuals, each and every one of them will be treated in a special way so that customers are convinced that the organization understands them and is important to the organization. (Martins & Martinez, 1959, p. 89). These five dimensions are expressed in such a way that there are ten more recent ones. Some examples are as one of the five main dimensions of self-governance and the relationship between them and their perception. Also, the inclusion of self-sufficiency is perceived as an accessibility and integrity.

Graph 1 – five main dimensions of services quality

As stated, the purpose of this paper was to evaluate the quality of electronic banking services in Iran’s banking network by using the SERVQUAL model. To this end, the research hypotheses were founded as follows:

1- We are looking to examine the increasing ease of use of web-based banking and increasing interoperability to determine if these will affect the quality of Internet banking services?
2- Will the quality of Internet banking services increase with increasing information capability and security?
3- Do responses, confidence and empathy affect the quality of banking services?

The validity and reliability of the instrument is a good test, and should have a number of desirable features, such as the objectivity, ease of implementation, practicality, and reliability. The most important of these features are validity and reliability. (Momeni, 1983 p. 191). The instrumentation tool is standardized to the two standardized categories and has appropriate reliability and validity. Hence, the researchers use them with confidence, but the tools provided do not have such certainty and the researcher must ensure its validity and reliability. (5899 p. 511). Parasuraman and colleagues emphasize in their research that the tool of service quality scale is a reliable scale of service quality. In fact, one of the most important advantages of SERVQUAL service quality model is its validity and reliability in a wide range of service areas such as banks, insurance companies, hospitals, stores, universities and etc.

However, the use of this tool in some services should be subject to modifications in this tool, however, the quality of service is still the best option for cross-sectional research and modeling in different service sectors. The validity and reliability of this tool have been confirmed in previous studies, and it can be argued that the SERVQUAL questionnaire is a standard tool.

Information analysis method: Statistical analysis is performed to extract the results for analysis and between the stages of data collection and analysis of the results. In this research, raw information obtained from the questionnaire was coded for ease of definition for soft computing of 19 spss. Independent and dependent variables were determined. In the descriptive statistics, age, sex, occupation and education, and the level of familiarity with the components of the CT I were questioned that its frequency tables were examined that will be presented in the next chapter. In relation to the research questionnaire, because of the quality of the research, the questions are considered nonparametric and Kendall’s b-tau test has been used and to check that there is a meaningful relationship in the correlation between the variables for the quality of the service. We also used Pearson’s r test to investigate the relationship between positivity and / or negative correlation.
All statistical calculations of the research were done by the researcher and statistical consultant and by the 19SPSS software. In this research, considering that all three hypotheses are of a communicative type, in the hypotheses of correlation, the correlation coefficients are used to measure the relation of independent and dependent variables. As a result, the independent and dependent variables for each hypothesis were first defined. Of course, all variables in this study were non-parametric and non-numerical or qualitative. To examine the non-parametric variables of the Kendall’s b-tau has been used. The Pearson’ Rs test is also used to determine whether this correlation is positive or negative. In these three hypotheses both direct and dependent variables are non-parametric. For this purpose, we must use the correlation of Kendall’s b-tau. In these tests, the spss20 software should be used. In this research, linear regression is not used because it is a prediction, and in this research we seek to associate two variables, so we should use the correlation coefficients for this purpose. The research report and review of each hypothesis are presented as general tables and tables of hypothesis proofing. We are looking at increasing the ease of use of the web site and increasing interoperability to determine if these will affect the quality of Internet banking services during the research and the results of Sig were below 9/99 and 9/995 so there is a relationship. The Kendall Tao beta coefficient is 995/9 which shows that the first hypothesis is meaningful and increases with increasing ease of use of the bank web site and increasing the interactivity of the quality of Internet banking services. Depending on the fact that the correlation coefficient Pearson’Rs is 9.511 and is in the positive direction. The Effect of Increasing Ease and High Interoperability on the Quality of Internet Banking Services

Table 3- Investigating the Effect of Increasing Information Capability and Security on the Quality of Internet Banking Services

<table>
<thead>
<tr>
<th>Value</th>
<th>Asymp. Std. Error</th>
<th>Approx. T</th>
<th>Approx. Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>182</td>
<td>0.06</td>
<td>3.34</td>
<td>.001</td>
</tr>
<tr>
<td>225</td>
<td>0.06</td>
<td>3.45</td>
<td>.003</td>
</tr>
<tr>
<td>177</td>
<td>0.07</td>
<td>2.69</td>
<td>.005</td>
</tr>
</tbody>
</table>

At this stage, we examine the effect of increasing the information security capability and the quality of internet banking services. During the general review on dependent and independent variables, the second hypothesis has been taken. The results of the two questions examined for the first question is 5.08% and the second question is 1/5%. In the obtained report and the survey conducted according to the table, if Sig is equal to or greater than 91.99, the results obtained in Sig are equal to 91.9. Therefore, in the second hypothesis, there is a significant correlation, and by increasing the capability and the security of information the quality of banking services is increasing and there is direct relationship. Considering that Pearson’Rs coefficient is 9.19l, so the correlation is significant and in the positive direction, that is, the more independent variable increases, the dependent is affected and increased, and vice versa, i.e., the variables are the same. As a result, if the information capability and security of the variable is increased, service quality increases as a dependent variable.

Table 4- Investigating the impact of responsiveness, creating confidence and empathy in increasing the quality of banking services

<table>
<thead>
<tr>
<th>Value</th>
<th>Asymp. Std. Error</th>
<th>Approx. T</th>
<th>Approx. Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,143</td>
<td>0.06</td>
<td>2.61</td>
<td>.010</td>
</tr>
<tr>
<td>0,170</td>
<td>0.06</td>
<td>2.57</td>
<td>.015</td>
</tr>
<tr>
<td>0,149</td>
<td>0.07</td>
<td>2.33</td>
<td>.026</td>
</tr>
</tbody>
</table>

Conclusion and recommendations:
In this study, 242 people, 114 were male and 114 were female. Among the respondents, the highest frequency is for those with a Master’s degree of 70 with 28.9% and the lowest rate for those with a degree of education under diploma are 16 with 6.6%. Among respondents, the highest frequency is related to 55 individuals who are private employees with 22.7% and the lowest unemployed with 27 and 15.3% respectively. The number of 54 respondents
in the age range of 30 to 35 has the highest frequency, and 9 people over 50 years of age have the lowest frequency with a percentage of 3.7%. Among the respondents, 74 people with the most frequency were familiar with computer with the percentage of samples (38.6%) comprised the sample size, and the lowest frequency was related to the ATM with 22 and 9.1%. Of the 242 people, 54 selected familiarity with the telephone and 69 people selected familiarity with the Internet.

The results of the hypothesis test showed that there is a significant correlation between the ease of use of banking services and the enhancement of interoperability as well as the capability and security of information on the quality of banking services, that is, with the increase of these cases, the quality of electronic services also increased and is effective in satisfaction of customers. Considering that the dimensions of responsiveness, reliability and empathy are the most important dimensions of the quality of services in this bank, it is recommended that the National Bank officials and decision makers pay attention to these dimensions and, with better internal marketing, to improve the quality of interactions in the provision of services and remove weaknesses in the provision of services to customers who use the bank’s electronic banking services.

Considering that the dimensions of reliability and empathy are of medium to low importance, and with the diversification of banking services and, consequently, the increasing number of visitors to this bank, the National Bank should make arrangements for servicing faster by increasing the number of its employees. Considering that ICT utilizes to provide customers with the best of service to customers who use modern technologies to maximize their satisfaction for further use. Such services will be provided, and oral communications will improve the bank’s reputation.
Reference:


12. Roosta Ahmad, Venus Davar and Ebrahimi Abdolhamid, 1915, Marketing Management, SAMT publication