The Study of the Effects of E-banking Services Quality on Customers’ Satisfaction and Loyalty (Case Study: Agricultural Bank of Khuzestan Province)

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ABSTRACT: Today, the increasing progress in technology make the service companies like banks provide e-banking services or online banking in order to access the competitive advantage and dedicate much market share for themselves. Because of its crucial role in increasing the organizational profitability and customers’ satisfaction and loyalty, the quality of e-banking services is of great importance in e-banking studies. Therefore, the present study attempts to cast light upon the effects of e-banking service quality on customers’ satisfaction and loyalty in Agricultural Bank of Khuzestan Province (Iran). The statistical population is all of the customers of Agricultural Bank of Khuzestan among which 385 of them were selected for the sample study. The research period is from March-April until May-June 2015. The library and field methods were used for the data collection. This study is of applied and causal-descriptive research and is specifically based on Structural Equation Modeling (SEM). At first, by using the descriptive statistics, the demographic conditions of respondents were determined. Afterwards, by the statistical inference, the hypotheses of the study were investigated. For the statistical analysis, LISREL 8.8 and SPSS Software17 were used. To verify or not to verify the relations between the variables, Confirmatory Factor Analysis (CFA) was used. By and large, the results show that the quality of e-banking services has a direct and positive effect on customers’ satisfaction and loyalty.

Introduction

The Study of the Effects of E-banking Services Quality on Customers’ Satisfaction and Loyalty (Case Study: Agricultural Bank of Khuzestan Province)

During recent decades, the financial services was affected by the radical changes which eventuated in a market with intense competition and little growth in initial demand. In this competitive condition, the information technology is used for providing banking services to the customers in a vast scale. In fact, regarding the information technology growth, especially internet, banking processes have changed from person to person transactions in services into transaction with technology (Bitner, 2000) and traditional banking has been replaced by technology-based banking (including ATM machine, e-banking and telephone banking). As a result, customers’ transaction has changed from face to face transaction into technology transaction.

Because of the changing behavior of consumers due to the increasing use of e-banking services, it is necessary for the banks to increase and improve the quality of online services to provide consumer satisfaction. Because of the complex, dynamic and competitive environment of banking along with the increasing demand of customers, the smallest difference in online services leads to the great industry transference (Beerli et al., 2005). But the main problem is that some of the customers are dissatisfied due to the quality of e-banking services (Ganguli, S. & Roy, S.K. (2010). This issue has produced a big challenge for the bank managers to access customers’ satisfaction and loyalty which is very important for firm performances (Hallowell, 1996). Therefore, considering the key factors influencing on customers’ satisfaction and loyalty by regarding the usage of e-banking is important. Due to the fact that the role of services quality was proved as a strong predictor for satisfaction and loyalty (Kassim, N., & Abdullah, N. A. 2010), thus the importance of studying customers’ perception in related to services quality in E-banking is increased.
Conducting studies about understanding the customers’ perception related to the quality of e-banking services have always been overlooked. Although there are a few studies about the quality of services, customers’ satisfaction and loyalty in Iran (Gilaniniya and Mosaviyan 2009, Yaghobi and Shakeri, 2008), but the relationship between dimensions of e-banking quality and customers’ satisfaction and loyalty have always been ignored.

The effects of e-banking can improve the customers’ satisfaction and loyalty and this matter provides invaluable insight for the managers to focus on those services which are of great importance. In this applied study, the relationship between the influential factors and variables on customers such as their satisfaction, quality of services of online banking were taken into account. Furthermore, the effects of e-banking services quality on customers’ satisfaction and loyalty in Agricultural Bank of Khuzestan is also treated.

Conceptual Framework and Literature Review

The researchers attempted to identify the dimensions of technology-based services. Parasuraman et al., (2005) developed a measure for evaluating the e-banking quality so-called E-S-QUAL. This measure has four dimensions of usefulness, performance, security and system access. Van Riel et al., (2001) identified the dimensions of auxiliary mediator, main services and auxiliary services as main the dimensions of technology-based services quality in business and internet-based works. Moreover, Ganguli, S. & Roy, S. K. (2010) provided four dimensions of technology security and information quality, availability, reliability and customers’ services as the dimensions of technology-based services quality. Parasuraman et al., (2005) also developed a measure for improving e-services quality (E-Kesk-Qual) which includes accountability, compensation (reward) and interaction. Ease of use, relationship, content, confidence, customization and reputation are the other aspects that were identified for measuring the quality of technology-based services.

In several studies the relationship between the customers’ satisfaction and loyalty were taken into account e.g. Andreassen, T.W. and Lindestad, B. (1998). The effects of the quality dimensions on the customers’ satisfaction and loyalty were studied as well by Ndubisi, N.O. and Wah, C.K. (2005), Krepapa et al., (2003), Ganguli, S. & Roy (2010). The review of literature shows that the services quality in e-banking refer to security and customization, user satisfaction, no error, on time, ease of use, accuracy and fast performance, on time and exact accountability. In general the model and structure of this research is based on marketing studies.

![Figure1. The Proposed Model](image)

**Services Quality and its Concept in E-banking**

Quality of services is an important factor for the customization and increased productivity and is influenced by customers’ satisfaction and loyalty. Numerous studies have been conducted on the concept of services quality (Gronroos, 1982; Parasurman, 1988). Some of them such as Bolton & Drew, J. H. (1991); Parasurman, (1988) believed that the services quality concept is a vague concept and in spite of many discussions about it, achieving the comprehensive definition for services quality is difficult. However, they acknowledge that services quality is a dynamic and multidimensional concept and is a combination of past and present shopping experiences. It seems that there is an agreement between them indicating that services quality is an attitude about overall judgment on services superiority. Lewis, R. C., & Booms, B. H. (1983) defined services quality as a measure of compatibility in different levels of services with customer expectations. Parasurman (1985) defined services quality as stable compatibility with customer expectations and understanding of the customer expectations of special services. Moreover, Gronroos (2000) defined it as a measure and disagreement between customer perceptions of services and his/her expectations. So it can be said that services quality is defined as the consequence of effective measures of the service sector and occurred when customers obtained services beyond their expectations (Parasuraman et al., 1988).
In e-banking research, new dimensions were found such as services autos, relationships between customers, information access, content, mass customization and ease of use (Doll, W.J. & Torkzadeh, G. (1988); Peterson et al. (1997). As the customer attempted to use and adapt to new technologies, their perception about services quality was influenced by the given technologies. Elahvari et al., (2005) identified five aspects of services quality which were as follows: ATM quality, telephone banking quality, customer perception related to the main services and customer perception about price. Yang et al., (2004) introduced reliability, accountability, and adequacy, ease of use, security and product basket for online e-banking quality. Van Riel et al., (2001) determined the user interface, main services and services supplement as important aspects of e-banking quality on internet businesses. Other aspects for measuring services quality in e-banking are as follows: website appearance, ease of use, relationships, design and content, reliability, efficiency, support, communication, security, motivation, functions, storage capabilities, services, confidence, customizing store policies, reputation and empathy (Madu, C.N. and Madu, A.A.2002; Santus, 2003).

**Customers’ Satisfaction and Loyalty**

During the last four decades, satisfaction was considered as one of the most important theoretical and practical subject for most of the marketers in this field (Jamal, 2004). Although there are several studies on customers’ satisfaction, there is no comprehensive definition in theoretical literature. Generally, there are two different perceptions for customers’ satisfaction: cumulative satisfaction and exchange satisfaction (Olsen & Johnson 2003). Cumulative satisfaction means that customers’ satisfaction is not only based on recent shopping experiences, but also customer evaluation on all of his/her shopping experiences (Johnson, M. D., & Fornell, C. 1991). Exchange satisfaction refers to customers’ satisfaction of product evaluation based on recent experiences (Oliver 1997). Today, cumulative satisfaction is used in most customers’ satisfaction research (Gupta, S. & Zeithaml, V. (2006). Cumulative satisfaction has more influence in the banks performances and services and is necessary for predicting the behavior of customer shopping (Parasurman et al., 1998). By considering these two perceptions, there are many definitions for customers’ satisfaction.

In academic literature, customers’ satisfaction is defined as a function of the difference between past experiences and current perceptions based on shopping (Churchill, G.A. J. & Surprenant, C. 1982). Jamal and Nasser (2003) defined customers’ satisfaction as a feeling or attitude in the customer related to one service or product after using it. Customers’ satisfaction can be defined as evaluating one product or service based on customer needs and perceptions (Oliver 1980). As such, customer satisfaction is the customer perception of meeting his/her expectations after using the product which influences future behavior (Adamson et al., 2003). It can be said that customers’ satisfaction obtained while banking is based on customers’ expectations. Levesque and Medagoll (1996) show that customers’ satisfaction and retention is critical for banks. They conclude that services quality, services features, investigating complaints and situational factors are determining factors for customers’ satisfaction in banking. Moreover, Armstrong and Seng (2000) analyzed customers’ satisfaction factors in the banking industry.

**Customer Loyalty**

Customers’ satisfaction and loyalty is not exchangeable to each other (Oliver 1991, Bloemer, J. M. M., & Kasper, H. D. P. 1995). Customers’ loyalty is feeling of interest, belonging and commitment to it. A loyal customer is one who retain with same provider in spite of marketing activities of competitors, recommend to friends and relatives to buy goods or services and express positive attitude about services to others (Ehigie, B. O., & Taylor, M. 2009). Moreover, customers’ loyalty was defined as customer desire to service. Generally accepted concepts on customers’ loyalty are from behavioral and attitudinal approach (Motas and Rosa 2009). Behavioral approach is based on some aspects of buying and repeats buying in future. There are some examples in this area: amount and number of purchase, change brand of purchased product and time interval between two purchases. Attitudinal approach on the other hand emphasize on understanding and emotional aspects of loyalty and include measures that evaluate customer attitude related to particular brand or collection of one brand and possibility of purchase same product in future. These two approach are not different and when they are coming with one another, show better form for loyalty concept. Attitudinal approach is focused on consequences of buying pattern of customer and this is true in brand loyalty.

However most of researchers believe that loyalty concept is incomplete without attitudinal approach and behavioral differences are not sufficient for describing cause of loyalty behavior. Customer might to buy some brand (goods or services) because there is no other alternatives brand not loyalty. Attitudinal approach is indicator of loyal customer and help to predict customer loyalty duration (Jacoby, J. & Chestnut, R.W. 1978). Regarding two approaches, it can be said that customers’ loyalty to bank technology is more important than other areas because customer encounter with more options.

**Relationship Between E-banking Quality and Customer Satisfaction**

In many studies, aspects of services quality were considered as predictors for customers’ satisfaction (Dabholkar et al., 2000). Cronin and Taylor (1992) show that customer services in four services industries have positive effects on
customers’ satisfaction (banking, laundry, pest control and prepared foods). Until now, the relationships between perceived services quality and customers’ satisfaction were studied in different industries. For example, research was done in industries such as banking (Ganguli and Roy 2011), restaurants (Gilbert et al., 2004), hospitals (Andaleeb, 1988), travel agencies (Bittner, 1990) and online services (Kim and et al., 2001, Van Riel et al., 2001). Most of the research found significant relationships between services quality and customers’ satisfaction (Ganguli and Roy, 2011, Spring et al., 1994). Similarly, Ranaweera and Neely (2003) show that services quality is the start of customers’ satisfaction. In the banking field, most of the research conducted by Bie and Chiao (2006) identified significant relationships between services quality and the general satisfaction of customer. Zhou et al., (2004) report that the reliability of bank services quality has a considerable effects on customers’ satisfaction. Ganguli and Roy (2010) supported the effects of technology-based services quality on customers’ satisfaction and loyalty. Accordingly, the supporting hypotheses in this paper can be inferred by this hypothesis:

H1: E-banking services quality has positive and significant effects on customers’ satisfaction.

Effects of Customer Satisfaction on Customer Loyalty

Research shows customers’ satisfaction is one of the most important prerequisites for customer loyalty (Szymansky & Himard 2001). Lio and Shung (2010) show positive and significant effects of satisfaction on customers’ loyalty. Moreover, Santouridis, I., & Trivellas, P. (2010) claimed that customers’ satisfaction has positive and significant effects on customer loyalty. Eakuru, N. & Mat, N.K. N. (2008) proved positive and direct effects of customers’ satisfaction on customers’ loyalty in Thailand. Considering the conducted research, we present the following hypothesis:

H2: Customer satisfaction has positive and significant effects on customers’ loyalty.

Theoretical relationships between services quality aspects and customers’ loyalty was supported in different studies (Caruana, A., & Malta, M. 2002; Collier, J.E. & Bienstock, 2006). Shung and Lio (2010) show that electronic services quality aspects have positive and significant effects on customer loyalty. Santouridis, I., & Trivellas, P. (2010) claimed that services quality aspects, including customer services, pricing structure and payment systems have positive and significant effects on customer loyalty. They proved that customer satisfaction has a mediator effect in this regard. Most of the research concluded that services quality aspects have positive and direct effects on customer loyalty. Caruana, A., & Malta, M (2002) supported that services quality aspects have both direct and indirect effects on customer loyalty through customer satisfaction. Ganguli and Roy (2010) suggested that aspects of technology-based services in banking have positive and direct effects on customer loyalty. Considering the above discussion, the following hypothesis is presented:

H3: E-banking services quality has positive and significant effects on customer loyalty.

Methodology

Due to the fact that the relationship between variables is explored by Factor Analysis (Sarmad et al., 2012), in the present study, the methodology is based on applied research and the data collection is a descriptive and of correlational, analysis of correlation matrix or covariance type. The statistical population include the customers of Agricultural Bank of Khouzestan. In this study, the branches of Agricultural Bank were divided into three main groups: urban, rural and central. Thus, the customers were different regarding to demographic, education and occupation level. Therefore, according to stratified sampling method, the sample was selected. Because the statistical population is unlimited, the sample size is 380 participants by Morgan Table. 420 questionnaires were distributed among the sample because some of them might be returned or missed (by regarding the percent of the subjects in statistical population) and eventually, 410 questionnaires were collected among which 385 questionnaires were usable.

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>Frequency %</th>
<th>Number of Branches</th>
<th>Classification of Branches</th>
</tr>
</thead>
<tbody>
<tr>
<td>154</td>
<td>40%</td>
<td>37</td>
<td>Urban</td>
</tr>
<tr>
<td>107</td>
<td>28%</td>
<td>27</td>
<td>Rural</td>
</tr>
<tr>
<td>124</td>
<td>32%</td>
<td>29</td>
<td>Central</td>
</tr>
<tr>
<td>385</td>
<td>100%</td>
<td>92</td>
<td>Summation</td>
</tr>
</tbody>
</table>

Because of research hypothesis, field method was used. Questionnaires were developed based on the review of literature in e-banking marketing. In questionnaires, e-banking services quality was measured based on the suggested items by Ganguli and Roy (2010). Instead of exchange satisfaction, general satisfaction and cumulative satisfaction were analyzed by Aydin & Ozer (2005). Measured items in customer loyalty variable were extracted from Kim et al., (2004). All items were evaluated by 5-Item Likert Scale (completely agree, completely disagree).

Reliability and validity of instrument for the data collection and content validity were supported by experts. Advisory opinions were collected and used for editing and completing questionnaires. Reliability was confirmed by Cronbach Alpha and
the results was 0.803 for e-banking services quality, 0.819 for customers’ satisfaction, 0.860 for and -0.862 for customers’ loyalty and collection of variables.

**Data Analysis**

410 questionnaires were returned from 420, the response rate was 98%. 358 questionnaires were completely filled and we used them in our analysis. Most of respondents were male and range of age was 40-50 (34%) and most of them were married and had bachelor degree.

**Estimation and Measurement Patterns Test (Confirmatory Factor Analysis)**

The measurement model is based on the pre-experimental information about the data structure that can be in a form of theory or hypothesis, one certain classifier design for items or some test in agreement with objective features of form and content, clear experimental condition or knowledge to previous research on vast data. Confirmatory Factor Analysis is the most useful method among the different methods for studying the internal structure of marker collection that estimate parameter and testing hypothesis regarding to underlying factors for relation between markers (Human, 2009). In this paper, three factor models were tested for e-banking services quality, customers’ satisfaction and loyalty. The results of CFA is summarized in Table 2.

<table>
<thead>
<tr>
<th>Index</th>
<th>DF</th>
<th>Chi-square</th>
<th>P</th>
<th>RMSEAE</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-Services Quality</td>
<td>54</td>
<td>142.11</td>
<td>0.000</td>
<td>0.057</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>2</td>
<td>6.83</td>
<td>0.033</td>
<td>0.079</td>
</tr>
<tr>
<td>Loyalty</td>
<td>0.000</td>
<td>0.000</td>
<td>1</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Source: research conclusion

The results of the estimation show that the selected model is appropriate. Regarding LISREL output, lowest rate of $\chi^2$ show that there is a minor difference between concept model of research and observed data. This variable is equal to 0. In addition to $\chi^2$, if RMSEA is less than 0.1, the model has a better fitness. This value is less than 0.1 for research variables which show that the model is proper.

Moreover, it was suggested statistically that the factors which have regression weight (factor loadings) more than 0.40 are significant and accepted (Nonally & Bern Stain, 1994). The results of the Confirmatory Factor Analysis besides to P index was studied for factor loading acceptability test related to each item. Factor loading of all items were above 0.40 and T-value was above 1.96. Thus, it can be concluded that items appropriately tested the research variables.

**Investigating the Fitness of Suggested Model of Research**

After considering and confirming the model of fitness measurement, the suggested model was studied. The value of chi-square is 751.05 and the significant level is 0.000 that show the fitness of suggested model is acceptable. Moreover, all the fitness indices are placed in the fitness range and therefore the studying model has an acceptable fitness.

**Testing Hypothesis**

After studying and confirming the pattern for hypothesis significance test, two indices of T critical value was used. Based on the significance level 0.05, critical value must be more than 1.96 (lower parameter will not be included in the pattern). Moreover, the values smaller than 0.05 for P value show that there is a significant difference between regression weight and 0 value in 95% level.

<table>
<thead>
<tr>
<th>Satisfaction - Loyalty</th>
<th>Services Quality - Loyalty</th>
<th>Services Quality - Satisfaction</th>
<th>Relation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\beta$</td>
<td>$\gamma$</td>
<td>$\gamma$</td>
<td>Parameters</td>
</tr>
<tr>
<td>0.58</td>
<td>0.44</td>
<td>0.47</td>
<td>Structure Coefficient</td>
</tr>
<tr>
<td>7.0</td>
<td>2.4</td>
<td>2</td>
<td>T</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>7.1</td>
<td></td>
</tr>
<tr>
<td>7.05&gt;1.9</td>
<td>2.43&gt;1.9</td>
<td>7.12&gt;1.9</td>
<td>Comparison With Critical Value</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Significant</td>
<td>Significant</td>
<td>Significant</td>
<td>Significance Level</td>
</tr>
</tbody>
</table>
By considering the critical value and the significance level, the results show that e-banking services quality has positive and significance effects on customer satisfaction which means that H1 is accepted. The positive and significance effects of e-banking services quality on customer loyalty (H3) is accepted as well. Moreover, it was determined that customer satisfaction has significant effects on customer loyalty (H2).

Conclusions and Suggestions

The present research aims to study the effects of e-banking services quality on customers’ satisfaction and loyalty. To this end, one questionnaire with thirty questions was written based on the Likert scale and given to 385 participants. The data analysis was performed after data collection. The results show that e-banking services quality has positive and significance effects on customer satisfaction, which is in accordance with the findings of Ganguli and Roy (2010). These results show that the more simple the use of technology, the more the services will be reliable, free of error and risk. Furthermore, the customers will understand the advantage of technologies like fast banking transactions and unlimited accessibility.

Moreover, the results show that e-banking services quality has positive and significant effects on customer loyalty which is in accordance with the findings of Ganguli and Roy (2010). Lastly, it is determined that customer satisfaction has significant effects on customer loyalty which is parallel to the findings of Shang and Lio (2010) and Santouridis & Trevellas (2010). The findings of this research can be useful for banks in establishing their e-banking services. Since the effects of e-banking services quality on customer satisfaction and loyalty are considerable, bank managers should attempt to provide programs for improving the quality of services and evaluate customer expectations and perceptions to increase technology-based services, while developing insight in using technology through variables such as ease of use and reliability. Banks can actualize this goal with coherent marketing plans and proper designs for banking systems based on e-banking.

References

Gilaniany Sh, Mosaviyan SJ. 2009. Identification the effective factors on customer desire in using E-banking services. Journal of beyond the management, 11 (3), 103-133