E-Banking and Customers’ Satisfaction in Bangladesh: An Analysis

Jannatul Mawa Nupur*

E-banking can provide speedier, faster and reliable services to the customers for which they are relatively happy. E-banking services not only can create new competitive advantages, it can improve its relationships with customers. The purpose of this research is to understand the impact of variables of e-banking on customer satisfaction in Bangladesh. The study period is from 2006 to November, 2009 because customers enjoyed the e-banking services newly during this period. Five service quality dimensions namely reliability, responsiveness, assurance, empathy, and tangibles have been established based on the SERVQUAL model and the literature review. These variables have been tested in e-banking to explore the relationship between service quality and the customer satisfaction. The data were gathered through survey interview by a structured questionnaire with 250 customers. The study shows that these factors are the core service quality dimensions for customer satisfaction in e-banking. The study also explores that reliability, responsiveness and assurance have more contribution to satisfy the customers of e-banking in Bangladesh.

Key words: E-banking, Customer satisfaction, SERVQUAL Model.

1.0 Introduction

Growth of Electronic banking in a country depends on many factors, such as success of internet access, new online banking features, household growth of internet usage, legal and regulatory framework. E-banking can offer speedier, quicker and dependable services to the customers for which they may be relatively satisfied than that of manual system of banking. E-banking system not only generates latest viable return, it can get its better dealings with customers. The rationale of this research is to recognize the impact of variables of e-banking on customer pleasure in Bangladesh.

Ali and Akter (2010) argued that a transitional period in the banking sector of Bangladesh has been passing through since shifting from the traditional banking system to the online banking system. These comments indicate that gradually electronic banking is gaining its importance in Bangladesh. Customers’ liking is necessary for the banking sector to elevate profitability, business expansion and accomplishment. Now-a –day’s banking sector is modernizing and expanding its hand in different financial events every day. At the same time the banking process is becoming faster and easier. In order to survive in the competitive

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field of the banking sector commercial banks are looking for better service opportunities to provide their customer. The paper has been undertaken mainly to find out whether e-banking can satisfy the customers or not.

1.1 Research Questions:

Research questions which the study will try to get answer are given below:

i) What are the major service quality dimensions to satisfy the customers in e-banking?
ii) What are the policies will be followed to ensure the quality of services for customer satisfaction?

2.0 Literature Review

Pikkarainen, Karjaluoto, and Pahnila, (2004) defines internet banking as an ‘internet portal, through which customers can use different kinds of banking services ranging from bill payment to making investments’. With the exception of cash withdrawals, internet banking gives customers access to almost any type of banking transaction at the click of a mouse (De Young, 2001). Indeed the use of the internet as a new alternative channel for the distribution of financial services has become a competitive necessity instead of just a way to achieve competitive advantage with the advent of globalization and fiercer competition (Flavián, Torres, & Guinaliu, 2004; Gan, Clemes, Lim, & Weng, 2006). Banks use online banking as it is one of the cheapest delivery channels for banking products (Pikkarainen et al., 2004). Such service also saves the time and money of the bank with an added benefit of minimizing the likelihood of committing errors by bank tellers (Jayawardhena & Foley, 2000). As Karjaluoto et al. (2002) argued that ‘banking is no longer bound to time and geography. Customers over the world have relatively easy access to their accounts, 24 hours per day, and seven days a week’. The author further argued that, with internet banking services, the customers who felt that branch banking took too much time and effort are now able to make transactions at the click of their fingers. Robinson (2000) believes that the supply of Internet banking services enables banks to establish and extend their relationship with the customers. There are other numerous advantages to banks offered by online banking such as mass customization to suit the likes of each user, innovation of new products and services, more effective marketing and communication at lower costs (Tuchilla, 2000), development of non-core products such as insurance and stock brokerage as an expansion strategy, improved market image, better and quicker response to market evolution (Jayawardhena & Foley, 2000).

Stewart (1999) claimed that the failure of the internet in retail banking is largely attributable due to the lack of trust consumers have in the electronic channels. Provision of infrastructural facilities is another factor that could lead to quicker diffusion of innovation. Hiltz, Johnson, & Turoff (1986), for instance, found that computer mediated communication is less personal and socioemotional than face to face exchanges. Tomiuk and Pinsoneault (2001) concurred that the lesser degree of
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‘richness’ and ‘sound presence’ of e-banking environment will affect banks’ ability to create a trusting relationship between their customers and employees. On the other hand, for those customers whose relationship is primarily based in efficiency of services, e-banking will be an attractive alternative. There are also several other theories relating to consumer behavior what may explain the rate of adoption and degree of acceptance of internet banking. Interestingly as Doll, Raghunathan, Lim and Gupta (1995) also claimed that product information content on the web design and layout are also important factors that affect customer satisfaction. Mattila and Mattila (2005) also claimed that security has been widely recognized as one of the main barriers to the adoption of internet is dependent upon the availability of internet service and interestingly on a number of several other social and psychological factors as well. In the banking industry, bank-corporate customer relationship remains a key issue as businesses devote to keeping a higher competitive advantage in the market (Kandampully & Duddy 1999). The relationship between banks and corporate customers is the most important factor in the success of new financial services (Easingwood & Storey 1993). Internal organizational elements like innovative culture, technology readiness for corporate clients’ employees, and top management support for business were used to explore the relationship subsequently for solving problems pertained to resources limitation within SMEs. Eventually, few empirical studies had examined the influence of internationalization and corporate e-banking on firm performance (Annavarjula & Beldona 2000; Sung 2006).

Routray (April 2008) mobile and wireless communication devices are becoming enablers for organizations to conduct business more effectively and efficiently. One of the most effective applications is mobile banking (m-banking). The increased flexibility and mobility feature of wireless ATM and its bandwidth on demand function is motivating a large number of carriers towards deployment of the WATM networks. Oghenerukevebe, (December 2008) internet banking provides alternatives for faster delivery of banking services to a wider range of customers. The increasing popularity of internet banking, have attracted the attention of both legitimate and illegitimate online banking practices. Criminals focus on stealing user’s online banking credentials because the username and password combination is relatively easy to acquire and then relatively easy to use to fraudulently access an internet banking account and commit financial fraud. To alert users, many banking sites are now including Security Indicators (SI) to their sites. Hua (2009) conducted an experiment to investigate how users’ perception about online banking is affected by the perceived ease of use of website and the privacy policy provided by the online banking website. In this study, it also investigates the relative importance of perceived ease of use, privacy, and security. Perceived ease of use is of less importance than privacy and security. Security is the most important factor influencing user’s adoption. Wise and Ali (2009) argued that many banks in Bangladesh want to invest in ATMs to reduce branch cost since customers prefer to use them instead of a branch to transact business. The financial impact of ATMs is a marginal increase in fee income substantially offset by the cost of significant increases in the number of customer transactions. The value proposition however, is a significant increase in the intangible item ‘customer satisfaction’. The increase translates into improved
customer loyalty that in result in higher customer retention and growing organization value. Internet banking is a lower-cost delivery channel and a way to increase sales. Internet banking services lies in the increased retention of highly valued customer segments.

3.0 Rationale of the study

The study will show how the e-banking services satisfy the customers. The study will also explore that to enjoy the e-banking services a lot of service characteristics should be ensured first by the service provider. Then customer will adopt the systems properly. This research study has done to provide some service quality variables that are liable to satisfy the customers by rendering right services.

4.0 Objectives of the Study

The main purposes of this study are-
   i) To know the performance of e-banking activities of commercial banks in Bangladesh.
   ii) To analyze the customer satisfaction level in e-banking in Bangladesh
   iii) To find out the problems in e-banking activities to satisfy the customers in Bangladesh.
   iv) To identify the e-banking benefits from customer’s point of view.
   v) To provide some recommendations.

5.0 Methodology of the study

Data Source:
The study is mainly based on the primary data source and the secondary also. For general concept development about the short survey in primary sources and questionnaire used for collecting data about the customer satisfaction in e-banking of commercial banks in Bangladesh.

Sampling Plan
This study tries to focus on 31 “Quality Characteristics” which were previously found significant by various studies with few uniquely appropriate characteristics. The respondents who are using e-banking 0-3 years are considered as sample. This using period is planned because if the consumers enjoy the services for the long time from any bank they may be biased to their banks. This period is enough for experiencing the e-banking services. Our total study population was 100,000 and so 400 sample size was taken. The customers were selected by random sampling method.
**Hypothesis:**

**Ho (Null hypothesis):** There is a relation between customer satisfaction in e-banking and reliability, responsiveness, assurance, empathy, and tangibles.

Ho $= \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$

**Ha (Alternative Hypothesis):** There is no relation between customer satisfaction in e-banking and reliability, responsiveness, assurance, empathy, and tangibles.

Ha $= \text{At least one } \beta \text{ is not zero.}$

Hypothesis, Variables, Constructs and Operational Definitions are given in Table: A in Appendix.

**Questionnaire Design and Pretest:**
The respondents responded to questions under each variable on five point Likert Scale with “Strongly Agree” dictating the highest level of satisfaction, “Strongly Disagree” as the highest level of dissatisfaction. Some demographic questions were also asked for more interpretation of responses. The developed questionnaire has been pre-tested with a few customers to ensure the quality of the questions.

**Model:**
The author has used the customer satisfaction as the dependent variable and the five dimensions of service quality are namely reliability, responsiveness, assurance, empathy, and tangibles as the independent variables. The author has run the OLS Regression model to determine the significance level of the variables for the customer satisfaction in e-banking. The basic model was as follows:

Customer satisfaction in e-banking $= f(\text{reliability, responsiveness, assurance, empathy, and tangibles})$.

Basically, $CSEB = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + e$

Where,

CSEB $= \text{Customer Satisfaction in E-Banking}$

$X_1 = \text{reliability}$

$X_2 = \text{responsiveness}$

$X_3 = \text{assurance}$

$X_4 = \text{empathy}$

$X_5 = \text{tangibles}$

There $\alpha$ is constant and $\beta$s are coefficients to estimate, and $e$ is the error term.

Customer satisfaction in e-banking is dependent variable and reliability, responsiveness, assurance, empathy, and tangibles are independent variables.

**6.0 Analysis and Findings**

A total of 400 questionnaires were distributed to the respondents. The author discarded incomplete questionnaires and considered 250 questionnaires containing all information. Finally sample size was 250 in suitable form which was 62.5% of the total respondents. Out of the total respondents 27% are in between 20-30yrs and 25% are 30-40yrs. The male was 75% and the female was 25%. 30% are graduate clients, 26% are business people, 25% are service holders, 31% customers’ monthly
income is 10,000-20,000tk and 21% are within 20,000-30,000tk. After analyzing the online banking services in all private commercial banks in Bangladesh several questions were asked to the different respondents related to the online service & their expectation about it. The following information was gathered which is helpful to observe the customer satisfaction about online banking services. 250 respondents are valuable customers of online banking services. Few demographic & variable questions were asked for taking swift concept about customer satisfaction.

Table 01: Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELIABILITY</td>
<td>250</td>
<td>3.7731</td>
<td>.44376</td>
</tr>
<tr>
<td>RESPONSIVENESS</td>
<td>250</td>
<td>3.8708</td>
<td>.38469</td>
</tr>
<tr>
<td>ASSURANCE</td>
<td>250</td>
<td>3.9625</td>
<td>.50176</td>
</tr>
<tr>
<td>EMPATHY</td>
<td>250</td>
<td>3.9063</td>
<td>.44824</td>
</tr>
<tr>
<td>TANGIBLE</td>
<td>250</td>
<td>2.8375</td>
<td>.46323</td>
</tr>
<tr>
<td>OVERALL CUSTOMERS' SATISFACTION</td>
<td>250</td>
<td>3.9333</td>
<td>.55058</td>
</tr>
</tbody>
</table>

Source: SPSS regression results of the field work

Table01 shows the mean value depicting the overall customers’ satisfaction. As far as this descriptive statistics is concerned, customers’ satisfaction on E–Banking is above satisfactory level (with a mean value of 3.93 on a 5 point Likert scale). The table also suggests that the main factors on which the customers of E-Banking are generally satisfied. As far as the mean values are concerned, customers are fairly satisfied on RELIABILITY, RESPONSIVENESS, ASSURANCE and EMPATHY. This satisfaction comes from quick services, affordable service charge, easiness of depositing and withdrawing money, discontinuous function of server, ATM booths, A/C statement over SMS/e-mail services, error free records. The customers are less satisfied on equipment, physical facilities, appealing materials etc. However a regression analysis is to run to identify those means are above the neutral level of satisfaction and to explain the variables affecting the level of satisfaction in e-banking in Bangladesh.

The overall regression model and its ANOVA are summarized as follows:

Table 02: Model Summary

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.626</td>
<td>0.392</td>
<td>0.385</td>
<td>0.59705</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), TANGIBLES, EMPATHY, RELIABILITY, ASSURANCE, RESPONSIVENESS.

Source: SPSS regression results of the field work
Table 03: ANOVA

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>90.299</td>
<td>6</td>
<td>15.050</td>
<td>42.219</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>140.094</td>
<td>393</td>
<td>.356</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>230.392</td>
<td>399</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), TANGIBLES, EMPATHY, RELIABILITY, ASSURANCE, RESPONSIVENESS.
b. Dependent Variable: CSEB

Source: SPSS regression results of the field work

From the ANOVA Test it shows the table Sig. value 0.05 is greater than the calculated Sig. value 0.000. It reflects the null hypothesis at 5% level of significance. It means there was a significant correlation between dependent variable and independent variables. Therefore customer satisfaction level depends on quality dimension in different private commercial banks in Bangladesh. But it does not mean that all factors of service quality have significant correlation with customer satisfaction level.

The overall predictability of the model is shown in the table 02 above. The adjusted R square value of .385 indicates that the model explains roughly about 38% of the factors responsible for quality in E-Banking. The ANOVA table shown under table 03 depicting significant F values implies that the model and data are well fit in explaining customer satisfaction in E-Banking. Based on the data found in the table 04 below, it can be interpreted that the independent variables such as reliability, responsiveness and assurance have strong impact on customer satisfaction; hence, the other two variables empathy and tangibles were dropped from the final analysis based on (99% level of significance).
Table 04: Regression Coefficients Analysis of the model

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>-.185</td>
<td>.263</td>
<td>-.703</td>
<td>.482</td>
</tr>
<tr>
<td>RELIABILITY</td>
<td>.254</td>
<td>.060</td>
<td>.186</td>
<td>4.259</td>
</tr>
<tr>
<td>RESPONSIVENESS</td>
<td>.402</td>
<td>.071</td>
<td>.280</td>
<td>5.684</td>
</tr>
<tr>
<td>ASSURANCE</td>
<td>.266</td>
<td>.056</td>
<td>.248</td>
<td>4.735</td>
</tr>
<tr>
<td>EMPATHY</td>
<td>-.325</td>
<td>.197</td>
<td>-.264</td>
<td>1.651</td>
</tr>
<tr>
<td>TANGIBILITY</td>
<td>.064</td>
<td>.193</td>
<td>.054</td>
<td>.332</td>
</tr>
</tbody>
</table>

Source: SPSS regression results of the field work

From the above findings we can develop the following regression model:

\[ \text{CSEB} = -0.185 + 0.254 \times X_1 + 0.402 \times X_2 + 0.266 \times X_3 \]

Where:

\[ X_1 = \text{Reliability} \]
\[ X_2 = \text{Responsiveness} \]
\[ X_3 = \text{Assurance} \]

Coefficient analysis shows the relationship between dependent variable and each independent variable. According to Sig. value reliability, responsiveness and assurance has significant correlation with customer satisfaction level. Here, table Sig. value is 0.05 which is greater than calculated Sig. value 0.000, 0.002 respectively. But the calculated Sig. value of responsibility, reliability and assurance are greater than the table Sig. value. So, these factors have some impact on service quality but it is not significant.

Here, \( X_1 \) (Reliability) = 0.186 i.e, 100% change in reliability leads to 18.6% change in customer satisfaction level.
\( X_2 \) (Responsiveness) = 0.280 i.e, 100% change in responsiveness leads to 28% change in customer satisfaction level.
\( X_3 \) (Assurance) = 0.248 i.e, 100% change in assurance leads to 24.8% change in customer satisfaction level.
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7.0 Concluding Remarks

From the statistical analysis it is observed that there is a relation between customer satisfaction in e-banking and reliability, responsiveness, assurance, empathy, and tangibles as such null hypothesis is accepted and alternative hypothesis is rejected. A number of private commercial banks are operating their activities in Bangladesh. Many banks can perform their activities by e-banking system. Robinson (2000) comments are supported by the research as supply of internet banking services enables banks to establish and extend their relationship with the customers. The study further indicates Easingwood & Storey’s (1993) comment that the relationship between banks and corporate customers is the most important factor in the success of new financial services.

E-banking is a much talked issue for last few years in Bangladesh and currently gaining patronization for the country by the Bangladesh Bank which is a central bank. However, it is still in the growing stage. Many enthusiastic merchants started e-commerce activities in Bangladesh but due to lack of support from the banking industries. E-bank fund transfer in Bangladesh is allowed only through clearing house which requires at least two working days to be settled the transaction. E-banking payment will also facilitate the customers to pay their utility bills through ATM, Online banking or SMS banking systems from anywhere anytime even from office / residence at mid-night or holidays. Tomiuk and Pinsoneault’s (2001) e-banking environment observation is supported by the study.

Gradual process for implementing e-banking, new policies, rules and regulations are being enacted by the Bangladesh Bank. Wise and Ali’s (2009) observation regarding customer relationship management through automated banking system should be considered by the policy makers. By stepping into new and aggressive strategy of e-banking, it can make a difference in Bangladesh banking sector. By constantly reviewing its e-banking systems, policies, process, and prices of its products and services, ensuring various facilities, use of modern technology and establishing a bond with the customers, it could reach in leading position. On the basis of the literature review we go for quantitative test. Empirical results and analysis of the findings proves that the null hypothesis is accepted and the alternative hypothesis is rejected which was stated earlier.

8.0 Recommendations

Some recommendations are given below:
- E-banking services should try to mobilize more deposit schemes through better marketing and incentive measures.
- E-banking system should be more flexible.
- E-banking should develop their communication among branches.
- ATM booths should be increased.
- The decision making process should be faster.
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- SME section of e-banking should be more flexible.
- E-banking service should be according to the customer expectation and satisfaction.
- E-banking services have to resolve the entire problem very quickly that customer face in the online transaction.
- The bank should arrange the demonstration programs for the clients to enjoy the services properly.
- Government should be pioneer to develop the IT infrastructure in Bangladesh.

9.0 Limitations of the study and further agenda for research

There are some limitations for conducting this research are given below:

- Many respondents have a little knowledge about the e-banking services in Bangladesh.
- They have not enough time for responding to the questionnaires.
- Only urban areas of Bangladesh have considered.
- Customer satisfaction of particular bank has not dictated.

In future, research may be done through doing survey on larger number of customers of the banks and try to understand their satisfaction level on the basis of proxy determinants as level of satisfaction is a cardinal approach. Moreover, currently transition period is going on due to the change of the system from the manual to the electronic banking system. At least after 2/3 years if the level of satisfaction is measured then it will be better to identify whether any structural breakthrough happened among customers of the banks in case of introduction of electronic banking in the country.

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http://en.wikipedia.org/wiki/Checking_account#Checking_accounts
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### Appendix

**Table: A Hypothesis, Variables, Constructs and Operational Definition**

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Constructs</th>
<th>Operational definition</th>
</tr>
</thead>
</table>
| Hypotheses 1: Bank has the ability to deliver on the promise | Reliability | Q1- speedy and quick service  
Q2- Bank charges for using online facilities  
Q3- easiness of depositing and withdrawing money from any branch  
Q4- easiness of transferring money from any bank to any other account of your bank  
Q5- continuous and ordered functionality of equipment such as computer, printer etc  
Q6- ordered and continuous functionality with the server of your bank  
Q7- sufficient number of ATM booths  
Q8- Charges of using your bank’s ATM booths  
Q9- Charges of using another bank’s ATM booths  
Q10- account statement through SMS/ E-mail services  
Q11- reputation of bank  
Q12- sincere interest in solving problem  
Q13- maintaining error free records. |
| Hypothesis 2: Bank has the willingness to help the clients | Responsiveness | Q14- Availability of customer representative on on-line for response to your queries  
Q15- Employees’ prompt service  
Q16- employees’ responsiveness to customer request  
Q17- employees’ willingness to help customers  
Q18- employees’ availability for providing assistance to customers  
Q19- informing customers’ when services will be performed  
Q20- educating customers |
| Hypothesis 3: Bank has the ability to inspire trust and confidence in the clients | Assurance | Q21- the behavior of employees instills confidence in customer  
Q22- feeling of safety in transaction with the bank  
Q23- highly skilled employees  
Q24- highly experienced employees. |
| Hypothesis 4: Bank treats the customer as individual. | Empathy | Q25- Employees’ personal attention to customer  
Q26- individual attention of bank to customer  
Q27- keeping best interest at heart. |
| Hypothesis 5: Bank has the ability to represent the service physically | Tangibles | Q28- modern looking equipment  
Q29- visually appealing physical facilities  
Q30- smart employees  
Q31- visually appealing materials associated with service. |