

Trends and Challenges of E- Banking Services of Private Commercial Banks in Bangladesh

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Abstract: *E-banking provides users, working with a home computer attached to the network to their bank, with the ability to authorize payments, reconcile accounts, and access a variety of other banking services with the help of ATM, Visa Card, Master Card, Q-cash, E-cash, Ready cash, Mobile, Internet etc. E-banking has a lot of benefits which add value to customers' satisfaction. For collecting the data a highly structured questionnaire was made. The questionnaire was designed into four parts. The statistical techniques used for the analysis were the descriptive analysis, ANOVA analysis and Chi-Square test. There are some associated challenges identified in the study that seems to hinder the success of e-banking services and thus constitute a major concern to both financial institutions and customers. The paper recommends various measures should be put in place to make e-banking system smooth, effective and more secure.*

Keywords: Banking Sector, Challenges, E-Banking, Private Commercial Banks, Online Banking.

1. Introduction

From the last decade or twenty century many innovative devices were introduced and used to conduct the banking services. One of the most recent channels of banking services distribution used in the banking organizations is e-banking. This method of service was established in the mid-1990s, thereafter steadily becoming more important (Rahman 2008; Shamsuddoha 2008). The term e-banking refers to "the provision of information or services by a bank to its customers, via a computer or television" (Allen et al 2001). E-banking is the banking services or activities performed by the banks through the use of computers and other electronic devices like Computer, Mobile Phone, Automated Teller Machine (ATM), Point of Sale (POS) etc. Nowadays, based on service needs and facilities of e-banking markets are categorized and subcategorized into internet banking, mobile banking and related technologies, telephone banking, fax-based banking, ATM-based banking, sales-terminal-based banking and electronic-branches-based banking etc. E-banking has developed and upgraded services that provide customers with the opportunity to gain access to their accounts, execute transactions, and pay bills and/or directly to buy product online via the internet (Daniel 1999). At present there are 47 local private commercial banks in Bangladesh (Wikipedia) and maximum private commercial banks have already introduced e-banking services as well as they are trying to comprise other modern and updated software and electronic means to promote their e-banking services. Though, Bangladesh is in the primary stage of e-banking while the developed countries are in the stage of 'virtual banks', where they have less physical offices; use mainly virtual (online) offices through e-banking. E-banking has brought many benefits to its stakeholders such as, convenient transactions, minimal transactions cost, transformed traditional banking practices into online banking, stay connected to the customers at any place and

any time faster delivery of information from to customers and service providers, innovative products or service at a low fees and it minimizes queue problems.(Gonzalez et al 2008; Singhal and Padhmanbhan 2008; Brodie et al 2007; Williamson 2006; Beer 2006; Cooper 1997; IAMAI's 2006 and Joseph et al 1999). At the same time e-banking has some negative sides that affect both the bankers and customers. Certain negative practices of e-banking are committed by internet criminals and fraudsters due to the ignorance of both bankers and customers (Singhal and Padhmanbhan 2008; Harris and Spencer 2002). Commercial banks in Bangladesh still far behind to avail the maximum opportunities of e-banking and do a little bit to the safeguard of its customers from criminal attacks. Furthermore, our banks treat e-banking technologies as the business secret to getting competitive advantages over other banks; as a result many of these concern matters are unknown to banking people and their customers. From the above discussion it is clear that e-banking is a new banking era for the banking system in Bangladesh. This system has both positive trends and negative sides; and both bankers and customers are not well known about its practices and usefulness. So it is desirable to find out the future trends and challenges of e-banking system. This paper tries to find out what are the services of e-banking are available at present in Bangladesh; what are their future trends and challenges and what can be done to overcome those future challenges.

2. Literature Review

E-banking is the most recent mode or delivery channel of banking services through electronic devices that enable business-to-business (B2B), business-to-customer (B2C) banking transactions; at present this service is extended to customer-to-customer (C2C) transactions via banks. To get a better understanding of e-banking trends and challenges, the researchers think that one should have a clear idea on e-

banking. The definition of e-banking varies amongst researchers partially because e-banking refers to several types of services through which a bank customer can request information and carry out most retail banking services via computer, television or mobile phone (Daniel 1999; Molls 1998; Sathye 1999). On the other hand, (Burr 1996) describes e-banking as an electronic connection between the bank and customer in order to prepare, manage and control financial transactions. (Saidul Hasan et al 2010) said, e-banking is a form of banking where funds are transferred through an exchange of electronic signals between a financial institution, rather than an exchange of cash, checks or other transactions are conducted. (Hock Bee 1999) state that the terms PC banking, online negotiable instruments. In brief, e-banking is not a banking product or service; rather it explains the way banking, Internet banking, telephone banking or mobile banking refers to a number of ways in which customer can access their banks without having to be physically present at the bank branch. Therefore, e-banking covers all these ways of banking business electronically. Adaptation of electronic technology able the banks to improve customer service level and tie their customers closer to the bank result in strong and expanded customer base (Baten 2010). The application of e-banking has been proven as an effective way to reduce the costs of operation for the financial institutions and hence increase bank revenue and become more convenient for customers (Halperin 2001). E-banking has automated the traditional banking services and ensures easy maintenance of customers' money (Baten 2010). Baten also said e-banking increased comfort and twenty four hours' time saving transactions, quick cash withdrawal without Cheque and continuous access to account information; can check multiple accounts at the click of a button; better fund management; and customized bank services through personal banking, virtual banking, on line banking, home Banking, remote e-banking, and phone banking. E-banking makes banking services (transactions) easy, faster and any time. Everything has both positive and negative sides; e-banking is not an exception of the probate. E-banking in Bangladesh experience several infrastructural, institutional, and regulatory constraints such as inadequate availability of reliable and secure telecommunication infrastructure, absence of a backbone network connecting the whole country, poor ICT penetration in the banking sector, lack of skilled manpower and training facilities, absence of supportive policies, guidelines, rules and regulations relating to c-transactions and the like (Rahman 2010). Basically, there are certain negative issues (challenges) that vulnerable the e-banking practices such as internet criminals or hackers, fraudsters and identity thieves (Titu and Rahman 2013) attempt to steal customer information through various methods such as phishing and pharming; an increased concern about privacy and security of customers' information (Feinman, et al 1999; Fatima 2011) as a result of the fragility of information collected and held electronically and transferred via computer (Singhal and Padhmanbhan 2008; Harris and Spencer 2002); and quality of service delivery - including both delivery speed and delivery reliability (Furst, et al 2000). Other challenges are fund transfers make it very easy for criminals to hide their transactions; there is inaccessibility to e-banking due to poor internet penetration, customer inflexibility to new technology, low educational

level, poor knowledge on computer literacy and internet services; language, cultural & logistical barriers; different legislations and information overload to customers (Williamson 2006; Singhal and Padhmanbhan 2008; Masocha et al 2011; Harris and Spencer 2002). E-banking is one of the most demanded and latest adopted technologies in the banking sector of Bangladesh (Shamsuddoha 2008) and almost 50% of the customers shifted from traditional banking to online banking system (Qureshi et. al 2008). The core reason of this shifting is perceived usefulness, security and privacy provided by e-banking. In Bangladesh, e-banking is increasing continuously (Sattar & Rahamna 2013) but still not up to the mark as compare to other developing countries like Malaysia, Thailand, and India and so on, because our customers have not enough knowledge regarding e-banking (Baten & Kamil 2010). E-banking services functionally have been available in Bangladesh since 2001 (Baten 2010; Saidul Hasan et. al 2010). As an internet based technology, e-banking is new and a quite unfamiliar to many people in Bangladesh due to different levels of experience in the internet and digital environments (Saidut Hasan et al 2010).

From the above literature reviews and other relevant research studies, it is obvious that about all researchers tried to explore the nature of e-banking, its products & features, and challenges of our country perspective. The researchers think that the trends of using e-banking products and services have yet totally uncovered and the identification of an association between trends of using e-banking products and e-banking challenges is a significant one for our banking sector. To achieve the research objectives and drawing a conclusion, the researchers have developed three hypotheses.

H₀₁= Trends of e-banking services are not increasing significantly.

H₀₂= Challenges in e-banking services of private commercial banks are increasing gradually.

H₀₃= There is no association between challenges of e-banking and trends of using e-banking products or e-banking challenges do not affect the trends of e-banking.

3. Objectives of the Study

The main objective of the study is to locate the application, trends and challenges of e-banking practices of the private commercial banks in Bangladesh. To emerge the main objective, the study highlights the following specific objectives:

- 1) To know about the e-banking services offered by the selected private commercial banks
- 2) To identify major components of e-banking and their applications
- 3) To assess the trends and challenges of e-banking services of commercial banks in Bangladesh.

4. Methodology of the Study

To collect primary data a research questionnaire was designed based on previous empirical literature. The questionnaire was pre-tested and redesigned through personal interviews with bank managers by undertaking the pilot study

work (Aaker et al, 2001). There are 47 local private commercial banks operating in Bangladesh (Mizan et al., 2013). The researchers cover 15 banks located in Sylhet division. In this research sample size was 75 and each respondent was selected on a random basis but in some cases snowball sampling method also used to get a more reliable response. From each bank, five respondents were selected wherein the researchers tried to get three males and two females. There are some banks which have no female employees as a result the researchers could not fulfill the quota. All data collection procedures were designed to ensure the secrecy. The secondary data were collected from various sources such as online journals, conference papers, working papers, different publications of Bangladesh bank and Bangladesh Institute of Bank Management (BIBM), information from the internet and other relevant publications.

5. Empirical Analysis and Results

Table 1: Respondents Demographic Information

Variable	Category	Frequency	Percentage
Gender	Male	53	70.66
	Female	22	29.34
	Others	00	00.00
Age	22 – 30 years	44	58.67
	30-40 years	26	34.66
	40 -50 years	05	06.67
	50- Above years	00	00.00
Marital Status	Married	43	57.33
	Unmarried	32	42.67
Level of Education	Graduate	13	17.33
	Post Graduate	61	81.33
	Banking Diploma	01	01.34
Job Position	Officer	44	58.67
	Senior officer	28	37.33
	Manager	03	04.00
	AVP/VP	00	00.00

Source: Compiled by Authors on the basis of field Survey

In terms of demographic findings, (70.66%) of respondents were males, and the remaining (29.34%) were females. In terms of the age group of respondents, it is interested to note that (58.67%) of them are 22-30 years, whereas (34.66%) fell into the (30-40) years age group, whereas (06.67%) fell into the (40-50) years age group, As for the educational levels of those customers, the majority (81.33%) were post graduate holders, and only (1.34.1%) have banking diploma degree. Most of the data were collected from the officer (58.67%) and senior officer (37.33%).

Table 2: Services of e-banking

No	Products	Yes	No	Percent
1	Debit Card	75	0	100.0
2	ATM	75	0	100.0
3	Credit Card	66	9	88.0
4	Mobile Banking	65	10	86.7
5	Automated Clearing House	68	7	90.7
6	Traveler Cheques	23	52	30.7
7	Wire Transfer/Telephone Transfer	40	35	53.3
8	Internet Banking	61	14	81.3
9	SWIFT	58	17	77.3
10	Easy Pay Machine	20	55	26.7
11	Chip Card	10	65	13.3

12	Smart Card	19	56	25.3
13	Creditor Automated Payments System (CAPS)	21	54	28.0
14	Electronic Fund Transfer	69	6	92.0
15	Any Branch Banking/Online Banking	74	1	98.7

Source: Compiled by Authors on the basis of field Survey.

From the above table(02), Debit card, Credit Card and online branch banking are highly usable e-banking products in Bangladesh, so the concerned authority of banks should give utmost care to minimize threats or challenges of these three products. Beside this, bank authority or Bangladesh bank should raise awareness and knowledge among bank customers regarding the products that are still less usable

Table 3: Trends of e- banking products and services

SN	Trends of e- banking products and services	Mean	SD	Rank
1.	Cash Withdrawal from ATM	3.92	1.14	6
2.	Use of SWIFT	4.64	0.58	1
3.	Facilities of Q-Cash	3.71	1.27	7
4.	Use of Electronic Fund Transfer	4.45	0.84	4
5.	Use of Mobile Banking	4.05	1.06	5
6.	Use Internet Banking	3.76	1.39	9
7.	Use of online banking	4.65	0.63	3
8.	Debit Card operation	4.71	0.49	2
9.	Use of traveler Cheques	2.72	1.37	8
10.	Credit Card operation	3.80	1.37	8

Source: Compiled by Authors on the basis of field Survey

In today's challenging banking industry, it is very essential to measure the trend of e-banking services provided by Bangladeshi commercial banks because this technology in our country is a new one and people are not well familiar with it. To measure the trends, the researchers designed the above table on the basis respondents' opinion and ranked the trends in terms of coefficient of variance. The table depicts that in terms of mean score Debit Card operations service occupies the 1st rank with mean of 4.71 followed by use of online banking services 4.65 and Cash Withdrawal from ATM smoothly 4.64, Use of Electronic Fund Transfer 4.45, Use of Mobile Banking 4.05, Use of SWIFT 3.92, Credit Card operation 3.80, Use Internet Banking* 3.76, Inquire Exchange Rate with 3.48, Bill payment with 3.46, Corporate Banking with 3.36 and Fixed Use of traveler Cheques 2.72.

Ho₁: Trends of e-baking service are not increasing significantly.

Table 4: ANOVA Analysis

ANOVA					
Source of Variation	SS	df	MS	F	P-value
Rows	264.41	74	3.57	3.90	2.52E-21
Columns	251.66	9	27.96	30.54	8.63E-45
Error	609.63	666	0.915		
Total	1125.7	749			

Source: Calculated data by using Microsoft Office Excel 2003

The above table provides, the calculated value of F=3.90 is greater than the table value of F=1.306859 that indicates the null hypothesis is rejected. Thus, we can conclude that at 5% level of significant, the trend of using e-banking

products/services by customers is increasing and statistically significant.

Trends of e-banking products in Bangladesh:

Table 03, gives a picture of e-banking trends of private commercial banks in Bangladesh which is gradually increasing over the period. The recent trends of e-banking products and services are given below according to their importance to the customers.

- 1) Most of the customers of private commercial banks depend on Debit and Credit Card operations, and the number of Debit and Credit Card users is increasing day by day.
- 2) There is a huge trend to use the electronic fund transfer.
- 3) The customers of private commercial banks can withdraw their cash from ATM smoothly and effectively, and its growing trend is mentionable.
- 4) The use of any branch banking has dramatically increased recent years.
- 5) In both developing and developed countries, the internet is growing rapidly as a strong and popular medium of communication (Azam 2007). OECD (2001) indicated that there is a strong positive correlation between Internet usage and e-banking usage. The researchers' survey table also indicates the use of internet banking is increasing day by day.

Table 5: Challenges of e-banking services

SN	Challenges of e-banking services	Mean	Standard Deviation
1.	Slow response of internet connection	3.64	1.09
2.	Internet connection break down	3.61	0.88
3.	Lack of IT resources/infrastructures	3.36	1.26
4.	Availability of power backup	3.75	1.01
5.	Poor customer's knowledge on IT & E-Banking	4.04	0.96
6.	Employee's insufficient IT knowledge	2.91	1.09
7.	Software trouble	3.24	1.08
8.	E-banking service charge	2.88	1.14
9.	Hidden cost in e-banking	2.60	1.13
10.	Security breach	3.01	1.07
11.	Insufficient IT support from Central Bank	2.96	1.17
12.	Problems from cash counting machine	2.68	1.14
13.	Lost/theft of electronic card	2.88	1.09
14.	Delay of issuing electronic card	2.71	0.96
15.	Credit Card payment difficulty	2.56	0.96

Source: Compiled by Authors on the basis of field Survey

Banks especially private commercial banks are working hard to provide better services to their customers through e-banking. However, there are some challenges (as mentioned in literature review) which make the e-banking ineffective sometimes. To find the present challenges associated with e-banking services provided by the selected banks, the researchers have placed a high structures questionnaire containing fifteen challenges before the respondents in order to mention their opinions concerning challenges in the e-banking services. The above table shows these fifteen challenges associated with e-banking system in private commercial banks in Bangladesh. Among these challenges, most of the respondents believe that Poor customer's knowledge on IT & e-banking (4.04) is one of the most important challenges for e-banking operating in Bangladesh.

Historically we know that, electricity in Bangladesh is a big problem; for smooth and uninterrupted online banking and e-banking services banks must need available power backup. But unfortunately the mean score of available power backup shows it is a mentionable challenge (3.75) for e-banking in Bangladesh. For smooth e-banking services continual and fast internet connection is essential but the above table indicates it as a challenging (3.64, 3.61) issue for e-banking services. Software trouble and Lack of IT resources/infrastructures are also considerable challenges according to the mean score of the above table. Updated software and ensuring the security are the preconditions to run the e-banking activities smoothly and effectively.

Ho₂: The challenges in e-banking services of private commercial banks are increasing gradually.

Table 6: ANOVA Analysis

Source of Variation	SS	df	MS	F	P-value
Rows	493.1	74	6.66	8.801	1.35E-68
Columns	222.8	14	15.9	21.022	1.92E-47
Error	784.3	1036	0.757		
Total	1500.3	1124			

Source: Calculated data by using Microsoft Office Excel 2003

The above table provides, the calculated value of F=8.801 is greater than the table value of F=1.299 that indicates the null hypothesis is rejected. Thus, we can say, at 5% level of significant, the challenges in e-banking services of private commercial banks are not increasing gradually.

The challenges for e-banking system in Bangladesh:

- 1) Slow response of internet connection and sometimes internet connection break down which make interrupt the e-banking system.
- 2) Lack of IT resources and insufficient IT support from Central Bank are considerable challenges of e-banking system of private commercial banks in Bangladesh.
- 3) The standardization of software's to run the e-banking system is not satisfactory.
- 4) The security breach is another challenge that private commercial banks are facing. As a result personal and financial information are suffering from confidentiality
- 5) Employees' have insufficient IT knowledge in some cases for conducting the e-banking system more effectively.
- 6) E-banking service charge and hidden costs reduce its acceptability.

Hypothesis No.03

H₀₃= There is no association between challenges of e-banking and trends of using e-banking products or e-banking challenges do not affect the trends of e-banking.

Table 7: Chi-Square Calculation

(O)	(E)	(O-E)	(O-E) ²	(O-E) ² /E
354	189.2	164.8	27159.04	143.5467
235	244.8	-9.8	96.04	0.3923
62	122.4	-60.4	3648.16	29.8052
36	131.2	-95.2	9063.04	69.0780
63	62.4	0.6	0.36	0.0058
119	283.8	-164.8	27159.04	95.6978
377	367.2	9.8	96.04	0.2615
244	183.6	60.4	3648.16	19.8702
292	196.8	95.2	9063.04	46.0520
93	93.6	-0.6	0.36	0.0038
$\chi^2 = \sum (O-E)^2 / E = 404.71$				

Source: Compiled by responses of trends and challenges (Using Excel-2003)

In the hypothesis the df, $v = \{(r-1)(c-1)\} = \{(2-1)(5-1)\} = 4$, at 5% level of significance the table value of χ^2 is 9.49 and the calculated value is 404.71. So the researchers are in a position to reject the null hypothesis thus concluding that the prevailing challenges of e-banking have a significant effect on the use (trends) of e-banking products and services.

6. Limitations, Further Research and Implementation

Firstly, data was collected only in Sylhet city because of the short time span of research. Therefore, a significant number of respondents were disregarded whose thinking could have been imperative for the study. Secondly, it was time consuming and was difficult to find out spontaneous respondents for the questionnaires. Thirdly, the respondents of the same banks in the sample have given contradictory answers some specific questions. And finally, there was limited availability of secondary data on this topic that restricted the researchers to explore their further thinking. E-banking technology is a new concept and changing its feature over the time, so everything of this technology need research for further improvement and better utilization. The data and information generated in this study and its findings may be helpful to the researchers, academicians, bankers and policy makers. As earlier it is mentioned, the area of this research covers only Sylhet division and covers only trends & challenges, so in future any interested researcher or academician can do further study in same or other divisions of the country.

7. Conclusion and Recommendations

E-banking in Bangladesh is comparatively newer than other developing countries like India, Malaysia and Thailand. Bangladeshi private commercial banks provide all types of e-banking services among them most of the usable ones are ATM machine, Debit Card and any branch banking (online branch banking). The technological supports to e-banking in Bangladesh is not built up at satisfactory level, and hence the private commercial banks in Bangladesh have been facing a number of challenges such as insufficient technological knowledge of both bank people and customers, absence of centralized country wide data based system, high establishment cost of technology driven banking system,

absence of integrated e-banking service plan among banks, different software for different banks (no standardization in the use of software), legal bindings and inappropriate policy frameworks. But the good thing is that the challenges are not rising at the same time the trend of using e-banking products is raising and almost all the services of e-banking are used by our customers in varying degree. Since, the challenges significantly affect the use of e-banking, so therefore, it can be concluded that in order to gain maximum advantages from e-banking system there is an urgent need to minimize those challenges as much as possible and take necessary steps to familiar the e-banking to existing and potential customers. On the basis of above findings and analysis the researchers try to suggest some important recommendations to the authority of private commercial banks in Bangladesh which are as follows.

- 1) The private commercial banks may provide few incentives like as minimum service charge for these who are using e-banking products and services
- 2) In order to detect and minimize the security risk the banks can take some security counter measures.
- 3) The bank authority should build up strong and effective ICT department and provide training to the employees about the basic ICT related matters.
- 4) The software relating to e-banking products and services should be regularly updated and reviewed.
- 5) The bank authority should ensure available power backup as well as uninterrupted and high speedy internet connection.
- 6) The e-banking products should be made cheap and attractive for the mass customers.

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research interest fields are Work-Family Conflict, Work-Family Balance, Work-Family Arrangement, Job Satisfaction and General Education.



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