

# E-Banking in Bangladesh: Some Policy Implications

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## Abstract

*In Bangladesh, the expansion of e-banking is beset with 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 e-transactions and the like. Despite the constraints, efforts by the Bangladesh Bank in modernizing the country's payment system and commitment by the government in building 'Digital Bangladesh' have brought competition among the scheduled banks to improve banking services and rapidly adopt e-banking on a wider scale. This note provides a critical overview on development of e-banking in Bangladesh and future prospects for better understanding the issue that includes concept of e-banking, present status of scheduled banks in adopting e-banking services, and prospects of e-banking in Bangladesh on the basis of current trend in developing the ICT infrastructure in the country as well as ICT penetration in the banking sector that follows some policy suggestions for BB, Govt. of Bangladesh and scheduled banks so that optimum benefit through e-banking may be obtained.*

Keywords: E-banking, ICT penetration, technology based banking services in Bangladesh

JEL Classification: G2, G21

## 1. Introduction

Despite huge demand from the business community as well as the retail customers particularly the urban customers, electronic banking (e-banking) in Bangladesh is still at a budding state due mainly to a number of constraints such as unavailability of a backbone network connecting the whole country; inadequacy of reliable and secure information infrastructure especially telecommunication infrastructure; sluggish ICT penetration in banking sector; insufficient legal and regulatory support for adopting e-banking and so on.<sup>1</sup> In Bangladesh, telephone connectivity is inadequate, cost of PCs are still beyond purchasing capacity of most people, internet connection is costly, IT literacy is yet to reach satisfactory level, banking sector lacks skilled IT personnel, and huge investment requirement for establishing technology based banking services are prime drawbacks. In this backdrop, with high potential of e-banking, Bangladesh Bank as the regulator of banking and financial sector, government of Bangladesh, and the scheduled

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<sup>1</sup> Telecommunication infrastructure supportive to e-banking includes connection of telephone, mobile phone, internet, intranet, extranets, V-SAT and similar other means of communication devices that are used for transmitting information while ICT penetration in banking sector includes use of PCs, banking software, network infrastructure like Router, SWIFT, telephone, LAN, MAN, WAN, WWW, and so on for performing daily banking activities.

banks together need to come forward with necessary initiatives for successful introduction of e-banking in Bangladesh.

The concept of e-banking includes all types of banking activities performed through electronic networks. It is the most recent delivery channel of banking services which is used for both business-to-business (B2B) and business-to-customer (B2C) transactions. However, in true sense, e-banking includes activities like payment of bills and invoices, transfer of funds between accounts, applying for a loan, payment of loan installments, sending funds to third parties via e-mails or internet connections regardless of where the client is located. The definition of e-banking varies amongst researchers partially because electronic 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. In brief, e-banking is not a banking product or service; rather it explains the way transactions are conducted. Leow, Hock Bee (1999) state that the terms PC banking, online 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.

Since e-banking offers some smart services benefiting both banks and customers compared with traditional banking system, it has become imperative to make necessary room for the scheduled banks to flourish e-banking. Among others, attractiveness of e-banking includes: it lowers transaction cost; provide 24-hour services; ensure increased security and control over transactions; reduces fraud risk; performs higher volume of transactions with less time; increases number and volume of value payment through banks; allows remote transactions facilities that replace physical presence of a customer in a bank branch and; increases transaction speed and accuracy. On the other hand, traditional banking is time-consuming and more costly and therefore, e-banking is replacing traditional banking all over the world. In Bangladesh, e-banking facilities are yet to be fully developed although some technology driven products and services have been in operation over the last few years. The existing technology driven products and services offered by the traditional banks are ATM services, debit card and credit card, transactions through POS terminals, inter-branch online transactions through individualized online closed network of individual bank, limited customer services provided through internet and membership of SWIFT allowing scheduled banks to conduct wireless transactions especially e-transactions.<sup>2</sup> All these technology based products and services have obviously unlocked the way to step toward e-banking. Moreover, as a part of modernizing national payment and settlement system, Bangladesh Automated Clearing House (BACH) that includes Bangladesh Automated Cheque Processing System (BACPS), and Bangladesh Electronic Fund Transfer Network (BEFTN), is being implemented under the "Remittance and Payments Partnership" (RPP) project of the Bangladesh Bank funded by DFID-UK is expected to speed up the adoption of e-banking as well.

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<sup>2</sup> See Rahman (2008), *Innovative Technology and Bank Profitability: The Bangladesh Experience*, Working Paper Series 0803, Bangladesh Bank ([www.bangladeshbank.org.bd](http://www.bangladeshbank.org.bd)).

In this context, it is important to recognize that the present state of technology based banking in Bangladesh permits the banks to perform B2C transactions only whereas B2B transactions are yet to be established. Successful implementation of e-banking will help to conduct both B2C and B2B transactions.

## **2. Present Status of e-Banking**

E-banking at per international standard is yet to develop in Bangladesh. At present, several private commercial banks (PCBs) and foreign commercial banks (FCBs) offer limited services of tele banking, internet banking, and online banking facilities working within the branches of individual bank in a closed network environment. As a part of stepping towards e-banking, the FCBs have played the pioneering role with adoption of modern technology in retail banking during the early 1990s whereas the state-owned commercial banks (SCBs) and PCBs came forward with such services in a limited scale during the late 1990s. Moreover, the banking industry as a whole, except for the four specialized banks (SBs), rushed to offer technology based banking services during the middle of the current decade. The existing form of e-banking that satisfies customer demand in banking activities electronically throughout the world are PC banking or PC home banking that include online banking, internet banking, mobile banking, and tele banking.

**PC banking or PC home banking:** PC banking refers to use of personal computer in banking activities while under PC home banking customers use their personal computers at home or locations outside bank branches to access accounts for transactions by subscribing to and dialing into the banks' Internet proprietary software system using password. PC banking or PC home banking may be categorized into two types such as online banking and Internet banking.

**Online banking:** Transactions in online banking are performed within closed network for which the customer use specialized software provided by the respective bank. International standard online banking facilities are expanding in Bangladesh. At present, 29 scheduled banks offer any branch banking facilities through their respective bank online network that provides facilities like transaction through any branch under the respective bank online network; payment against pay order or pay order encashment, demand draft encashment, opening or redemption of FDR from any branch of the same bank; remote fund transfer, cash withdrawal, cash deposit, account statement, clearing and balance enquiry within branches of the same bank; and L/C opening, loan repayment facility to and from any branch of respective bank under its own online network. Inter-bank transactions or transaction between inter bank branches are yet to expand. Under the modernization program of the National Payment and Settlement System, Bangladesh Automated Clearing House (which includes Bangladesh Automated Cheque Processing System and Bangladesh Electronic Fund Transfer Network) is scheduled to come into effect from September 2009 followed by implementation of online banking at per international standard in near future.

**Internet banking:** Internet banking refers to the use of internet as a remote delivery channel for banking services which permits the customer to conduct transactions from any terminal with access to the internet. It is the WWW through which banks can reach their customers directly with no intermediaries. Internet banking in true sense is still absent in Bangladesh. Only 7 out of 48 banks are providing some banking services via internet that include account balance enquiry,

fund transfer among accounts of the same customer, opening or modifying term deposit account, cheque book or pay order request, exchange rate or interest rate enquiry, bills payment, account summary, account details, account activity, standing instructions, loan repayment, loan information, statement request, ,cheque status enquiry, stop payment cheque, refill prepaid card, password change, L/C application, bank guarantee application, lost card (debit/credit) reporting, pay credit card dues, view credit card statement, or check balance. The core banking activities like fund transfer to third party, cross border transactions and so on are still uncovered by internet banking offered by the scheduled banks in Bangladesh.

**Mobile banking:** Mobile banking (also known as M-banking or SMS banking) is a term used for performing balance checks, account transactions, payments etc. via a mobile device such as a mobile phone. Mobile banking is most often performed via SMS or the Mobile Internet but can also use special programs called clients downloaded to the mobile device. The standard package of activities that mobile banking covers are: mini-statements and checking of account history; alerts on account activity or passing of set thresholds; monitoring of term deposits; access to loan statements; access to card statements; mutual funds/equity statements; insurance policy management; pension plan management; status on cheque, stop payment on cheque; ordering check books; balance checking in the account; recent transactions; due date of payment (functionality for stop, change and deleting of payments); PIN provision, change of PIN and reminder over the internet; blocking of (lost/stolen) cards; domestic and international fund transfers; micro-payment handling; mobile recharging; commercial payment processing; bill payment processing; peer to peer payments; withdrawal at banking agent;<sup>3</sup> and deposit at banking agent. Despite huge prospects, only a few banks adopted mobile banking in Bangladesh during the last year.

**Tele banking:** Tele banking refers to the services provided through phone that requires the customers to dial a particular telephone number to have access to an account which provides several options of services. Despite huge potential, tele banking services have not been widened enough in daily banking activities in Bangladesh. Only four banks so far provide a few options of tele banking services such as detail account information, balance inquiry, information about products or services, ATM card activation, cheque book related service, bills payment, credit card service and so on. Funds transfer between current, savings and credit card account, stock exchange transactions etc are still inaccessible through tele banking in Bangladesh.

### 3. Prospects of e-Banking

E-banking is now a global phenomenon. Apart from the developed countries, the developing countries are experiencing strong growth in e-banking. The Bank of Thailand has created an industry payment body to involve other stakeholders, in particular from commercial banks which take leading responsibility for the development of e-payment system and technologies. Internet banking in Korea has increased at a rapid pace. Korea is also leading in online brokerage and mobile banking. In Southeast Asia, internet banking is also developing rapidly in Thailand, Malaysia, and Singapore and to a lesser extent in Philippines (Mia et. al. 2007). In Nepal, ATMs are the most popular electronic delivery channel for banking services but only a few customers

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<sup>3</sup> Banking agent is a post office or other similar institution that make payment as per bank instruction facilitating the remote payment system.

are using internet banking facilities. Among others, Nepal's commercial banks have adopted credit card, tele-banking, and SMS-banking.

The government's emphasis on building a digital Bangladesh, setting up ICT park, raising allocation for developing ICT infrastructure, waiving taxes on computer peripherals and other measures including the automation program of banking sector led by the Bangladesh Bank and competition among the scheduled banks in improving customer services have accelerated the prospects of e-banking in Bangladesh.

The Bangladesh Railway owns a high-speed optical fiber network (1,800 km) parallel to the railway path that covers most of the important parts of Bangladesh. This optical fiber network can be used as the backbone network of e-banking in Bangladesh. For example, mobile phone operators such as Grameen Phone and Ranks ITT of Bangladesh use this optical fiber network through which they reach even in rural areas with their services (Islam 2005). It is encouraging that some of the FCBs and PCBs are already using this optical fiber network for conducting online transactions, ATM and POS services.

In addition, Bangladesh Bank is implementing the RPP project for modernizing national payment and settlement system. It is expected that the BACH including BACPS and BEFTN would start functioning from September 2009 followed by the development of inter-bank online network. The project plans to go for real time gross settlement (RTGS) by 2012. It has been made mandatory for all head offices of the scheduled banks to be connected with Bangladesh Bank for satisfying BACH and BEFTN. These efforts would allow the scheduled banks to be connected to each other for conducting inter-bank online transactions in near future and this would smoothen the introduction of e banking in Bangladesh.

Internet services came to Bangladesh with connectivity in 1996. Digital telephone exchanges have been established in 389 upazilas and 17 growth centres. Work is underway to cover the rest of the upazilas under digital exchange system. Meanwhile, Bangladesh has joined the information super-highway by connecting itself with international submarine cable system in 2006. A total of 159 Internet Service Providers (ISPs) have now been connected with this system of which 64 are actively providing services. Internet connection is slow with bandwidth range 32 kbps to 56 kbps for dial up and 64 kbps to 8 mbps for broadband. The establishment of internet exchange is under implementation. Encryption laws to accept electronic authentication of transactions has been enacted in 2006 and Voice over Internet Protocol (VoIP) has been legalized. Under this scenario, as a part of government decision of building digital Bangladesh, the existing capabilities of ICT sector is likely to increase rapidly in bringing all upazilas under internet services and this will contribute in widening the scope of e-banking throughout the country.

Although all branches of FCBs and 99 percent branches of PCBs were computerized by December 2006, the average for all bank branches was 37 percent since only 4 percent and 16 percent of SBs and SCBs respectively were computerized. Out of a total of 6,565 branches in 2006, 2,426 were computerized of which 651 branches of 22 PCBs and 7 FCBs together were providing any-branch-banking facility under respective bank online network. During the period, the number of ATM booths and POS terminals stood at 478 and 4,647 respectively covering


important merchant outlets in six divisional cities and some other important district towns in Bangladesh while 43 banks became the member of SWIFT and 25 banks adopted router connection.<sup>4</sup> Since about 50 percent of total bank branches belong to SCBs spread throughout the country including the rural areas, ICT penetration is crucial for this category of banks. The recent corporatisation of the NCBs, would influence the banks in this category to be competitive through improving their service quality incorporating the use of modern technology. Although all these are positive developments, more attention is needed to enhance ICT capabilities of the banking system especially the SCBs for successful implementation of e-banking all over the country.

Although e-banking has bright prospects, it involves some financial risks as well. The major risk of e-banking includes operational risks (e.g. security risks, system design, implementation and maintenance risks); customer misuse of products and services risks; legal risks (e.g. without proper legal support, money laundering may be influenced); strategic risks; reputation risks (e.g. in case the bank fails to provide secure and trouble free e-banking services, this will cause reputation risk); credit risks; market risks; and liquidity risks. Therefore, identification of relevant risks, and formulation and implementation of proper risk mitigation policies and strategies are important for the scheduled banks while performing e-banking.

#### **4. Conclusions and Policy Recommendations**

A well functioning e-banking network is dependant on availability of a backbone network connecting the whole country; reliable and secure information infrastructure including telecommunication infrastructure; ICT penetration in the banking sector; skilled operational personnel; and legal and regulatory framework. The government, Bangladesh Bank and scheduled banks are related to these issues. Therefore, both individual and joint efforts are needed to overcome the constraints in promoting e-banking in the country.

In respect to technology adoption, the PCBs and FCBs have attained greater success relative to other bank categories but their coverage is concentrated mainly in urban and semi-urban areas. The rural parts of Bangladesh still remain outside of their services. Since the SCBs and SBs have branches throughout the country including the rural areas, penetration of technology in banking activities of these two categories of banks are crucial to wider spread of e banking services. For the purpose, the management of these banks might allocate a part of their yearly profit for ICT penetration in banking activities and human resources development supported by fixed targets. In addition, several steps may be contemplated in order to accelerate the adoption of e-banking.

 Internet penetration is a key factor for the growth of e-banking. Christiansen (2001) reports that the take off phase of Internet banking needs at least 30 percent Internet usage among the population. Moreover, since Internet penetration alone is not adequate for online banking expansion, the government may provide subsidy for surfing cost, organize training facilities with private partnership, widen multiple access facilities like web, telephone, ATM etc., and initiate motivation programs for the users and the target population. Moreover, adequate legal framework and security are essential for flourishing internet banking.

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<sup>4</sup> Source: Survey on Scheduled Banks in Bangladesh, conducted by the author in 2007.

- ✚ VSAT operating license should not limit the bandwidth. Moreover, high bandwidth charge is another constraint in widening internet access to a greater number of people. Therefore rationalizing the charge could make the use of internet affordable to all.
- ✚ New ISPs should be attracted into the business for promoting greater competition in the industry.
- ✚ The policies relating to long distance and international voice traffic need review to remove impediments to growth of e-commerce that relates e-banking as well.
- ✚ As a part of building digital Bangladesh, measures are needed to improve existing ICT infrastructure and address relevant issues including governance and institutional strengthening.
- ✚ A package of required rules, acts, laws, and regulations pertinent to e-banking adoption and development may be formulated. In this respect, lessons and experience of countries that have already expanded e-banking can act as useful guides.

The Bangladesh Bank may consider the following steps:

- ✚ Take steps to orient bank officials on benefits of e-banking. For instance, BB may offer short courses (e.g. using the Bangladesh Bank Training Academy) on e-banking including analysis of costs and benefit from the perspectives of customers and the banks, present status, and opportunities and challenges.
- ✚ To avoid risks involved in e-banking, risk mitigation policies and strategies need to be adopted as a part of the package approach to implementing e-banking.
- ✚ Mobile banking is a prospective area for two reasons: it covers almost all activities involved in retail banking; and mobile phone network has already been spread all over the country covering more than 30 million people. Because of convenience, a sizeable share of the unbanked people can be brought under the network especially in rural areas with flourishing mobile banking. In this context, it is important to formulate relevant acts, policies, and adopt operative guidelines.

For the scheduled banks, it is important to:

- ✚ review their business strategy and create the required space for adopting e-banking services in order to remain competitive and attract new customers.
- ✚ strengthen ICT department through providing training to IT personnel and procuring required hardware and software.
- ✚ create separate unit in each branch for rendering ICT related operational activities under the supervision of the ICT department.
- ✚ train all staff in basic ICT related matters in phases.

At present, Bangladesh is trailing behind in acquiring the required quality of banking services to effectively compete in the global market. Therefore, the banking system needs upgradation for which urgent measures are needed to create a level playing field for rapid expansion of e-banking in the country. Despite the constraints, more efficient use of existing capabilities in developing the services can pave the way to quality provision of e-banking in Bangladesh.

## Annexure

**Table 1: ICT Penetration in Selected Countries in 2007**

(per 100 inhabitants)

Sl. No.	Country	Fixed telephone lines	Total telephone subscribers	Mobile cellular subscribers	Internet users	Broadband subscribers
<b>A</b>	<b>SAARC Countries</b>					
1	Bangladesh	0.75	22.41	21.66	0.32	...
2	Nepal	2.49	14.08	11.59	1.41	0.04
3	Bhutan	3.43	20.61	17.18	4.60	N/A
4	Pakistan	2.93	41.35	38.41	10.68	0.03
5	India	3.37	23.36	19.98	6.93	0.27
6	Sri Lanka	14.21	55.58	41.37	4.00	0.33
7	Maldives	10.82	113.43	102.61	10.80	3.61
8	Afghanistan	0.30	17.50	17.20	1.84	...
<b>B</b>	<b>South-East Asia</b>					
1	China	27.52	68.71	41.19	16.00	5.00
2	Japan	40.04	123.92	83.88	68.85	22.10
3	South Korea (Rep.)	46.44	136.64	90.2	76.30	30.50
4	Malaysia	16.37	104.23	87.86	55.67	3.80
5	Philippines	4.48	63.36	58.88	6.03	0.56
6	Singapore	41.97	175.51	133.54	68.00	20.18
7	Thailand	11.00	134.76	123.77	21.00	1.43
<b>C</b>	<b>Developed Countries</b>					
1	France	56.45	146.25	89.8	51.21	25.22
2	Germany	65.07	182.69	117.62	72.00	23.73
3	Italy	46.25	181.39	153.12	54.35	18.45
4	Switzerland	65.91	175.59	109.69	77.00	31.79
5	UK	55.43	173.90	118.47	72.00	25.68
6	USA	53.35	136.86	83.51	72.50	23.94
7	Canada	55.48	117.16	61.68	73.00	27.60
8	Australia	47.05	149.54	102.49	69.00	23.29

Source: ITU World Telecommunication/ICT Indicators Database, March 2009

## References

- Daniel, E. (1999), Provision of electronic banking in the UK and the Republic of Ireland, *International Journal of bank marketing*, Vol. 17, No. 2.
- Mols, K. (1998), The behaviour consequences of PC banking, *International Journal of bank marketing*, Vol. 16, No. 5, pp. 195-201.
- Sathye, M. (1999), Adoption of Internet banking by Australian customers, *International Journal of bank marketing*, Vol. 17, No. 7, pp. 324-334.
- Burr, W. (1996), Wie Informationstechnik die bankorganisationverändernKonnte, *Bank und Markt*, Vol. 11, pp. 28-31.
- Leow, Hock, Bee. (1999), New Distribution Channels in Banking Services, *Bankers Journal Malaysia*, No. 110.
- Rahman, M. (2008), *Innovative Technology and Bank Profitability: The Bangladesh Experience*, Working paper series 0803, Research Work, Policy Analysis Unit (PAU), Bangladesh Bank, ([www.bangladeshbank.org.bd](http://www.bangladeshbank.org.bd)).
- Annual Report, 2007-08, Bangladesh bank.
- Mia, Rahman and Uddin, (2007), E-banking: Evolution, Status and Prospects, *The Cost and Management*, Vol.35, No.1, January-February 2007, pp. 36-48.
- Banstola, A. (2007), Prospects and challenges of E-banking in Nepal, *The Journal of Nepalese Business Studies*, Vol. IV, No. 1, Dec. 2007.
- Islam, M. (2005), *Proposed IBT infrastructure for E-banking in Bangladesh*, Master of Science Thesis, Royal Institute of Technology (KTH), Stockholm, Sweden.
- Budget Speech for the fiscal year 2008-09 delivered by the Finance Adviser.
- Country Statement: Bangladesh, Paper Prepared for Presentation at the *Special Governing Council Meeting of CRDAP and Ministerial Retreat* on 24-26 June 2008 in New Delhi, India.
- Country presentation Bangladesh in the *Global indicators workshop on community access to ICTs*, Mexico City, 16-19 November, 2004.
- Christiansen, H. (2001), Electronic Finance: Economics and institutional factors, *OECD Financial Affairs Division Occasional Paper No. 2*.
- Hossain, N. (2000), *E-Commerce in Bangladesh: Status, Potential and Constraints*, Report Prepared for JOBS/IRIS program of USAID.

ITU World Telecommunication /ICT Indicators Database, March 2009.

Yunus, M. (2000), It can be Bangladesh's Super Highway to prosperity, Key note Address Delivered at the *Tech- Transfer 2000- North American Conference Held in Atlantic City , U.S.A*, April 28-30, 2000.

Rahman, M. (2002), Present status of E-Banking in Bangladesh, *Journal of the Institute of Bankers' Bangladesh*.

Islam, N. (2008), Information Technology and Bangladesh, *SDNP Bangladesh* ([www.sdnbd.org](http://www.sdnbd.org))

Bangladesh Payment and Settlement Systems Regulations, 2009.