

# Present Status of E-business and E-banking in Bangladesh: A Study on Some Selected Commercial Banks of Chittagong City

Golam Mohiuddin

Institute of Education, Research and Training, University of Chittagong, Bangladesh

E-mail address: gmuddiniert@cu.ac.bd

## ABSTRACT

Now a day e-business has created wonderful prospect all over the world. E-banking can perform as a complementary factor of e-business. The central bank (BB) of Bangladesh has recently introduced automated clearing house (ACH) system. This pushed up the transition from the manual banking system to the e-banking system. This study has been undertaken to observe present status of e-business and as its complementary factor of e-banking system in Bangladesh. The study analyzes the data collected from local banks of Bangladesh and also use snowball sampling techniques to gather answer from about three hundred respondents who have already been using e-banking system on the basis of a questionnaire. The study found that banking officials of the banks are not well conversant about their desk work. It has been observed that the country can benefit from successful utilization of e-business and e-banking as this will help to enhance productivity. Also, monetary gain of both producer and customer may have a feasible and positive impact on raising gross domestic product in Bangladesh. E-business, especially with the help of e-banking, can develop the economy of Bangladesh in a better way of customers' satisfaction.

**Keywords:** ICT; e-business; e-banking; globalization; customer's satisfaction

## 1. INTRODUCTION

E-business and e-banking means electronic business and electronic banking. Internet has opened a new vision of e-business, creating immense opportunities for marketing products as well as managing banking institutions internationally. Gradually, wireless internet system has been creating a new instance and electronic fund transfer can have a suitable formation. E-business can improve the quality of the services, save customers' time, deliver them from the movement from one place to another and improve receiving the goods and services accurately and timely. E-business brings a new channel of distribution process. But this leads to change in the regulatory issues, cross border trade through emerging new marketing distribution channel. In developed countries, e-business creates an opportunity to directly selling of the product to the customer without using any intermediaries. This process occurs mainly in four systems: business to business, business to consumer, business to government and consumer to consumer. E-business expedites the process of better customer relationship management. It also helps to attain enterprise resource management as well as "e" to "e" process. As such, e-

banking system can add value and value chain can be created in the e-business process. In turn, it helps to raise gross domestic product of the country. Governments as well as different international organizations have also identified that underdeveloped banking technology creates hindrance on economic progress of the country. E-banking system is a way of conducting, managing, and executing banking transactions utilizing information and communication technology (ICT) and electronic communication networks (ECN) such as the intranet and extranet. Environment of e-banking requires authentication procedures for e-payment system, network environment, computer hardware and software, electronic hardware, legal bindings, etc.

The security and authentication of modern banking are very much dependent on cryptography and its applications. Risk management disciplines have not evolved at the same speed and many institutions, especially the smaller ones, have not been able to incorporate e-banking risk controls within their existing risk management structures. As information symmetry and free flow of information are gaining more importance due to globalization process, Bangladeshi companies have to compete in the world market to serve corporate and other clients with round the clock services. Access to computer would be beneficial to Bangladesh like any other country. Social and economic disparity and lack of internet accessibility which creates digital divide are a great hindrance towards customer dissatisfaction of the business organization which ultimately results in negative customer relationship management. As a result, it creates a negative impact on economic development of the country. E-business process creates an opportunity for doing business through arranging real time sharing business. Organization can take help of transaction process through e-business solutions from around the world where on-line facility can be available. Due to advancement of technology, business process of the world is gradually becoming complex for which e-business, especially in the banking sector, can supersede the traditional business process. Through e-business the country can compete with the changing global business trend and e-banking can facilitate e-business.

## 2. OBJECTIVES OF THE STUDY

The study has been undertaken with the following objectives:

- (i) to study present condition of e-business and e-banking in Bangladesh;
- (ii) to study infrastructural position of the country to grow e-business and e-banking of Bangladesh and
- (iii) to provide some recommendations so that e-business and e-banking can bring productive results.

## 3. LITERATURE REVIEW

Before conducting any empirical research a review of literature is imperative in order to make the theoretical foundation as sound as possible. Otherwise, the empirical results may be weak and the analysis may not be meaningful. In such a context, the present section deals with a review of literature on the e-banking and e-business. In this study, an attempt has been made to review the literature on the subject. During the study some research works have been found which are relevant to different aspects of e-business and e-banking.

Buffam (2000) depicted that companies that build the better e-business solutions will outperform their competitors. Companies that build the best e-business solutions will transform themselves into zero-latency enterprises. Companies that choose not to embrace e-business, or do so ineffectively, will underperform or be driven out of business. Turban et al. (2000) argued that following points of managerial issues are very important: focus of electronic commerce management; sales promotion; purchase process reengineering; just-in-time delivery; new electronic intermediary business; provision of solutions; and business ethics. Rahman (2001-2002) observed that issues relating to electronic fund transfer require security, availability, authenticity, non-reputability and audibility. He suggested for appropriate control and efficient security measures and also for proper utilization of audit trail in the e-commerce system. Ali (2003) argued that Bangladeshi companies and organizations have several problems to start full swing e-business. These include limited resources, backwardness in technology, managerial inefficiency, socio-infrastructureal problems such as corruption, default culture law and order situation, rampant corruption, strike etc. which penetrate for a long time. Ali, Mohsin, and Yasmeen (2004) observed that maximizing e-business efforts to focus on information dissemination, knowledge transfer, and technical assistance is required. Steps need to create appropriate knowledge among various procedures of e-business. Huda, Momen and Ahmed (2004) commented that the banking sector in Bangladesh is clearly recognizing the importance of information technology to their continued success. Hoq, Kamal and Chowdhury (2005) argued that a key reason why e-commerce, especially the business-to-business segment, is growing so quickly is its significant impact on costs associated with inventories, sales execution, procurement, intangibles like banking, and distribution costs. If these reductions become pervasive, e-commerce has the potential to be the application that ushers in the large productivity gains. Achieving these gains is, therefore, contingent on a number of factors, including access to e-commerce systems and the needed skills. However, what is unique about e-commerce over the Internet and the efficiency gains is that it promises the premium placed on openness. To reap the potential cost savings fully, firms must be willing to open their internal systems to suppliers and customers.

This raises policy issues concerning security and potential anti-competitive effects as firms integrate their operations more closely. Uddin and Islam (2005) observed that the multifarious projections of ICT in human life plead a winning case for institutional integration of ICT related components in rural support programs taken by Governments and NGOs. Chaffey (2006) dealt with strategy and applications of e-business and e-commerce in a logical but robust manner. He stressed that e-business and e-commerce were very important for management implications as such a bridge to link leading edge research and professional practices was required. Mia, Rahman and Debnath (2007) observed that the latest development in marketing financial services by banks is e-banking, where banks have now put themselves in the World Wide Web to take advantage of the Internet's power and access to cope with the accelerating pace of change of business environment. Pires and Stanton (2007) commented that policy wise government must recognize that the ability of countries to engage in e-commerce is tied both directly and indirectly to their attractiveness for FDI. Ahmed and Islam (2008) observed that adopting e-banking services, banks in developing countries are faced with strategic options between the choice of delivery channels and the level of sophistication of services provided by these delivery channels. Shamsuddoha (2008) argued that currently in Bangladesh, banking industry is mature to a greater extent than in the earlier period. It has developed superb image in their various activities including electronic banking.

Now modern banking services have been launched by some multinationals and new local private commercial banks. Electronic banking is one of the most demanded and latest

technologies in banking sector. Ahshan (2009) argued that on-line transaction would boost the gross domestic product (GDP) growth and thus, help Bangladesh achieve the Millennium Development Goals (MDGs). In the era of globalization, the internet makes the world smaller and e-commerce facilitates marketing and shopping from home. E-commerce facilitates business with customers over the internet. In e-commerce, customers can buy goods and services over the internet. Islam and Yang (2009) observed that service quality satisfaction and informational trust had important mediating effects on the balance score card performance process.

These two mediating roles explain that, when an institution creates and raises the levels of service quality with satisfaction and informational trust, the results lead to a favorable customer interaction relationship and thus, could help the institution achieve higher levels of balance score card performance measure. Nyangosi, Arora, Singh (2009) argued that banking through electronic channels has gained increasing popularity in recent years. This system, popularly known as 'e-banking', provides alternatives for faster delivery of banking services to a wide range of customers. Shah and Clarke (2009) focused on human, operational, managerial, and strategic organizational issues in e-banking. They argued that e-banking management can help to expedite doing business through using electronic medium. Rahman (2010) who is the Governor of Bangladesh Bank argued that Bangladesh Bank has achieved a historic milestone in the trade and business arena, departing from conventional banking with the introduction of e-commerce recently; a giant stride towards digital Bangladesh.

From the aforesaid literature review, it is evident that e-banking can act as a complementary towards e-business. With the help of e-business the country can create opportunities as this will help both producers and consumers. But these theoretical observations may not be feasible in this country. As such, the study seeks to evaluate whether the country has proper infrastructure for doing e-business. What are the statuses of e-business and e-banking of the country? Does e-banking really works as a complementary to e-business in Bangladesh? The study intends to examine the said questions.

#### 4. METHODOLOGY OF THE STUDY

The study is based on primary and secondary data. As such, the study has reviewed different published articles, books, newspapers and websites. The study will also collect related information regarding present status of e-banking through field visit in forty eight banks head office, IT, MIS department and Bangladesh Bank. The study collects data on services provided by the banks, software used by the banks, vendor's name and bank's name. The study also did a survey through preparing a questionnaire. For collecting data from the respondents, the study used snowballing sampling technique which is also known as a chain referral sampling type. Snowball sampling technique is used to discover and enlist "hidden population" who may be difficult to locate. The survey was conducted on the basis of about 300 customers' comment those have been using e-banking system. The data on the respondents who are the customers of Sonali Bank Ltd. Agrani Bank Ltd., Janata Bank Ltd., BASIC Bank Ltd., Dutch Bangla Bank Ltd., Standard Chartered Bank, Trust Bank Ltd., Prime Bank Ltd., Mercantile Bank Ltd. and Uttara Bank Ltd. These customers are from Chittagong city only. E-banking is mainly concentrated in the Chittagong city. Observations through field study were obtained at the present status of the e-banking system.

## 5. SCOPE OF THE STUDY

At present the total number of different categories of banks is forty eight in Bangladesh. The Bangladesh Development Bank Ltd. (BDBL) began operations on January 2, 2010 through merger of Bangladesh Shilpa Bank and Bangladesh Shilpa Rin Sangstha. From the field survey it has been observed that the following banking services are being provided by different banks: core banking, cluster banking, phone banking, sms banking, internet banking, various cards, ATM (VISA/MASTER), ATM own (VISA/MASTER), EFT, SWIFT, PC banking, POS terminal, banking KIOSK, and off-line branch computerization. However, foreign commercial banks and private commercial banks are relatively in a better position to provide on-line banking services. Moreover, when contacted with Bangladesh Bank it was informed that BACH (Bangladesh Automated Clearing House) is yet working in SIT (System Integration Testing) phase. The study was kept limited to ten commercial banks located in Chittagong city. These branches of banks deal in e-banking under the overall control of the central bank Bangladesh Bank (BB) and thus follow the regulations relating to e-banking set by BB. Due to constrain of finance and time, the study was limited to the commercial banks of Chittagong city only.

## 6. PRESENT STATUS OF E-BUSINESS AND E-BANKING

Bangladeshi companies and organizations are facing the problem of starting full swing e-business. Network is a mode of communication with the computers. Networks of computers can be classified in the following way: local area network, metropolitan area network, and world wide area network. Multiple computers are connected through telephone lines, cable systems, and wireless technology is also required. According to a report published in The Daily Star (April 4, 2010), Bangladesh ranked 118th in the global Network Readiness Index in 2009-10 up from 130 a year ago, showing an upward trend in the information and communication technology sector. South Asia, India ranked 43rd, Sri Lanka 72nd, Pakistan 87th and Nepal 124th in the 'Global Information Technology Report 2009-2010' released by The World Economic Forum (WEF) on April 3, 2010. As such, Bangladesh has to go long way to develop its network. Arranging Digital Bangladesh by the year 2021 and public and private co operations and strategic alliances are required to develop e-business system in the country.

Electronic payment systems for e-business are characterized by broad geographic presence and acceptance by a large number of merchants or programs. Participants in an electronic payment system may include users, financial institutions, business personnel, industrial merchants, third party processors, etc. WiMAX stands for Worldwide Interoperability for Microwave Access which offers wireless transmission of data via different transmission modes, from point-to-multipoint links to portable and fully mobile internet access. Telephone density is awfully little in Bangladesh. It is far much less in comparison with other developed nations of the world as well as neighboring countries. Kabir (2008) depicted that mobile phones (millions) are 36.4, fixed lines (PSTN) (millions) are 1.2, total telecom users (millions) are 37.6, tele density (%) is 26.8 in the year 2008. Outside Dhaka, at present a few computer network infrastructures have been developed so far. Apart from some educational institutes outside Dhaka, observation finds that most of the LAN setups are Dhaka centric. Bangladesh has been connected to worldwide Internet Super High Way from 2006 through an undersea submarine cable. But this single submarine cable frequently faces

disruption resulting in slow band width. A huge digital divide exists on the city of Chittagong and other parts of the country. Private-public partnership is a crucial issue for information and communication technology (ICT) development and application. Private enterprise and capital can lead ICT revolution in Bangladesh. This, however, would require the government to provide the basic business environment. Rapid growth of ICT is not possible without massive investments in ICT infrastructure and human resource development in the computer and electronics and telecommunication engineering courses through ensuring quality education. Still now call charge of cell phone is not competitive in Bangladesh. Bangladesh Telecommunication Regulatory Commission (BTRC) is not playing due role in the development process of communication sector. Infrastructural problems are creating a scope to implement e-business successfully.

Under the private initiative, Internet was started in 1996 by ISN in Bangladesh. ISN is the first ISP operator in this country. Still now all the Internet service providers have the server abroad, for which they are facing competitive disadvantages as costs remain high. Security problem is still high in this country. Lack of digital accessible personnel is the real problem for the country. Moreover, some software developers of the country aren't well conversant with the market demand for which they cannot supply application software with faultlessness. Policy makers of the country are not aware of the benefits of e-business. As such, they don't put significance on proper and systematic development of e-business. In this connection it may be stated that Bangladesh bank is trying to implement automated clearinghouse through utilizing MICR (Magnetic Ink Character Recognizer) procedure. But in developed nations MICR procedure is now replaced by more sophisticated technique such as cheque truncation process. Total number of banks in Bangladesh is forty eight. Banking sector in Bangladesh, on the basis of utilization of electronic devices, can be subdivided in to three groups: i) foreign commercial banks and private commercial banks, especially 2nd (except for few banks) and 3rd generation private banks: fully e-banking; ii) 1st generation private banks and some 2nd generation private commercial banks: medium range on-line banking system; and iii) nationalized commercial banks, specialized banks and few foreign bank branches of this subcontinent: low grade e-banking system.

At present, the banks in Bangladesh are using the limited electronic banking services. It is expected that a bank can attain more profit and offer better services to its customers by introducing e-banking facilities. The foreign commercial banks operating in Bangladesh like Standard Chartered Bank, Citibank, N.A. and the HSBC are the pioneers in introducing the electronic banking facilities. They provide ATM, debit card, credit card, home banking, internet banking, money banking, e-banking, etc. services. Among the indigenous banks, the private banks are ahead of the public ones. Prime Bank Ltd., Dhaka Bank Ltd., BRAC Bank Ltd., Dutch Bangla Bank Ltd., Eastern and Mercantile Bank Ltd. have already stepped towards electronic banking facilities. Apart from these banks, Mutual Trust Bank Ltd. also introduced ATM service. Among the four nationalized commercial banks (NCBs), Janata Bank Ltd. has some access to the electronic banking facilities. Bangladesh Bank, the Central Bank of Bangladesh, is also trying to formulate the wide structure of e-banking facilities. All of these private banks offer limited on-line banking services. Most of these banks only offer services by providing ATM card. Most of them do not offer wide range of e-banking facilities which is the main advantage of e-banking. Deposit money in any branch and money withdrawal from ATM machine can be considered the best e-banking facilities available in Bangladesh while electronic money transfer starts in a limited edition. Sonali and Agrani Bank Ltd. is also providing on-line banking services on a limited scale. Rupali Bank Ltd. is also developing e-banking.

BASIC bank which is 100 percent public owned but served as private sector banking has a technological advancement. A broad spectrum of Internet banking services, a subset of electronic finance, is available in Bangladesh with different degree of penetration. The credit card is available from VISA, Master Card and VANIK. Some foreign banks provide electronic fund transfer (EFT) services. It is at an early stage and used on a very limited scale. Microchips embedded Smart Card is also becoming popular in the country, particularly for utility bill payment. Automated teller machine (ATM) is expanding rapidly in major cities. A group of domestic and foreign banks operates shared ATM network, which drastically increases access to this type of e-banking service. The network will gradually be extended to other parts of the country. Last couple of years shows dramatic improvement in the awareness situation in the banking sector regarding the comprehensive application of ICT. Local software companies have been starting competition to supply useful computer banking software with all the basic features of banking module. However, many forms of banking services are not possible to offer in Bangladesh at this moment due to the technology backwardness, infrastructural under development and legal infrastructure.

Those products would be very useful for export-oriented industry to reduce lead-time in export and keep comparative advantage in the international market. For foreign remittances four nationalized banks and fifteen private banks are working collaboratively with mobile phone service operators. Recently remittance could be sent to Bangladesh by banking channel through account transfer (normally takes 3 working days) or in the form of instance cash (takes 24 hours). Foreign residents can send their money and PIN (personnel identification number) through mobile phones. As a result, money transfer becomes relatively easy, quick and hassle free. But this system is also superseded by mobile remittance system. According to Ahemd (April 15, 2010), in a revolutionary step on April 13, mobile remittance service or e-Remittance was introduced in the country opening the door to millions migrant workers to help transfer their hard-earned money easily, effectively and most importantly, swiftly. The first ever remittance service for Bangladesh was jointly launched by two local banks Dhaka Bank Ltd. and Eastern Bank Ltd. with the country's second largest mobile operator, Banglalink. Credit card facility cannot be extended fully in the country, as common gateway between financial institutions cannot be established. Pricing mechanism of the products of country is not competitive, rather it is very volatile. This creates a negative impact on the customers. The process of digital divide eradication has been started very slowly. E-business give the following services: e-marketing, e-shopping mall, e-marriage scheme, e-mail, e-tender, e-voting/polling, search engine, chat, e-commerce, e-stamp, e-Cash, e-music, e-entertainment, e-treatment, e-advocacy, etc. E-governance can help us to achieve good governance of the country. If government doesn't take proper incentives to spread the computerization process, then there will be no benefit. Entrepreneurship development fund (EDF) of Bangladesh bank should be utilized properly.

Only a few companies can avail the fund. ICT related companies are trying to develop e-business processes but their activities are limited. If proper procedure of e-business can be developed in the agribusiness sector, especially in the rural areas, through utilizing e-technology then it will be beneficial for the producers of the agricultural commodities. Acute shortages of human resources interested in doing e-banking business are also one of the main reasons for lagging behind. However, as legislative situation is deteriorating so there is a positive impact on the e-banking considering the safety of the people. From the field visit, it was revealed that banking sector requires rapid modification and adaptation to keep harmony with the world business. It becomes more obvious by observing the increased number of customers in some modern banks while others are losing them. In the context of Bangladesh,

a country of more than 150 million people, it is to be realized that there is no other option for us but to join the current trend. According to news report published in the New Nation on August 28, 2009, the government has formulated a policy on the national information and communication technology as part of its announced plan for digitization of the nation. The policy has earmarked activities in three phases, in the short, medium and long-term plans to be implemented within 2021. The government aims at doubling the gross domestic products (GDP) during this time to achieve the goal.

The policy details suggest a number of activities including spreading the use of keyboard by functionaries at different levels, encouraging the use of standard code by software sellers, developing a national web-portal and popularizing the use of e-commerce services, paying service charge through mobile phones or ticketing, etc. Land registration, passport renewal, digitization of police case diary and case position in the court, spreading the use of broadband internet throughout the country and other such essential services may also be brought under the scheme.

The new policy will be the common property of all departments and organs of the state targeted to develop a digitized nation within the stipulated time. The most part of the existing banking system in the country outside Dhaka and Chittagong cities is manual (paper based), that's why it is awkward, slow and error-prone. It, on the one hand, fails to meet the customers' demand and, on the other hand, it causes some significant losses both for the banking authority and traders. Electronic banking solves the above problems. Furthermore, it opens up some other salient aspects such as increased foreign trade and foreign investment. According to a report on "Bangladesh is developing electronic payment infrastructure" (May 20, 2008), the Securities and Exchange Commission (SEC) in Bangladesh proposed IT Consultants Limited (ITC), a manager of Qwest brand of ATM and different cards, to raise their paid-up capital up to Tk. 500 million if the company is to proceed to initial public offerings. The Securities and Exchange Commission (SEC) has asked us to raise the company's paid-up capital to Tk 50 crore from the current Tk 37 crore. In case the company fails to comply with the SEC requirements to increase the paid-up capital within the time specified, it will have to seek the approval of the SEC again. This measure is believed to extend the sphere of the company's influence. The company began as a private limited business in 2001. But now it is the local leader in electronic payment systems which are developing in the country with increased speed. ITC possesses necessary tools to process transactions for banks and retailers. It has the largest independent network of more than 100 ATMs in the country.

## 7. RESEARCH FINDINGS AND ANALYSIS

Based on the sample of five hundred customers who are habituated in e-banking system, following results have been gathered - Table 1.

From the above findings it is observed that impact of e-banking has a mixed result though most of the customers support that it provides good customer services. This supports null hypothesis. But the problem is that customers think that while banking services have technologically improved, their quality worsened. In case of the other opinion survey most of the customers are providing "yes" results which also indicate that null hypothesis is correct. However, in the opinion poll survey there is a question regarding dealing officials of the commercial banks whether they are well conversant about their desk work.



**Table 1.** Opinions of customers who are habituated in e-banking system  
(Respondents who expressed “yes” comment).

Comment	%
E-banking services are relatively better than manual system	75%
E-banking provides good customer service	72%
Just-in-time services in banking can be provided	38%
Bank personnel behave properly	46%
Dealing officer is well conversant about his/her respective desk work	40%
Banking services have technologically improved but their quality worsened	42%

Source: Compiled on the basis of customers' responses.

The reply indicates that 60% customers of Chittagong city think that dealing officers of the banks are not well conversant about their desk work.

E-business is still not very much progressed in Bangladesh. Mass awareness is not feasible. The country faces problem of developing human-ware. Without human capital conforming to the international standards, Bangladesh is not able to compete in the global market and successful e-business cannot be possible. The field level study observes that still nationalized commercial banks and specialized banks are lagging behind on-line banking services. Moreover, customers are not satisfied with the quality of the services. Also, they are not very happy with the behavior of the bank personnel.

The study also reveals that e-business, especially with the help of e-banking, can manage economy of Bangladesh in a better way as customer relationship management increases. Local banking software should be developed properly and must have greater accessibility within and outside the country. Moreover, to produce hardware, especially computer and its accessories, local entrepreneurs are not taking any sort of strategic planning.

The central bank should adopt latest technology but due to lack of vision they are adopting old technology. MICK system should be substituted by cheque truncation system. The shortage of technology-based human resources and poor telecommunication infrastructure are needed to be overcome to break low equilibrium trap. Bridging the digital divide would provide technology based human resources, who can contribute to raising gross domestic product (GDP), national savings, investment, creation of employment and moving out from the vicious circle of underdevelopment. Numerous problems have been identified in on-line banking system in Bangladesh. Some of them are the following:

- (1) Inefficiency and inadequate knowledge of the bank management about the e-banking;
- (2) Lack of proper strategic plan to gain and retain market share of the indigenous banks;
- (3) Lack of international standard communication channel;
- (4) High cost of establishing e-banking system;
- (5) Inadequate back and front office management;
- (6) Lack of integrated plan among the banks and the central bank authority;
- (7) In efficient clearing house facilities;
- (8) Inappropriate software and less trust by the bank authorities on local software;

- (9) Bias of the bank management towards foreign software; and
- (10) Legal barriers and appropriate policy frame work.

A number of customers taking banking services are not capable of bearing the cost of additional equipment like computer, computer accessories, internet, etc. in their own organizations or at home. Using internet facility is still very costly and people have little knowledge in operating computers. A few cybercafés are available but in terms of banking purpose customers do not feel safe to use these facilities. As a result, the total number of customers who are habituated in on-line banking systems is limited. In these circumstances investment in establishing e-banking facilities seems profitless. 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 risk), customer misuse of products and services risks, legal risks (e.g., without proper legal support, money laundering may be influenced), strategic risks, reputation risk (e.g., if a 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 management policies and strategy formulations and implementations are important for the scheduled banks while performing e-banking system.

## 8. CONCLUSIONS AND RECOMMENDATION

Global financial system is getting stronger day by day and it is being strengthened by the e-business. Around the globe, consumer market has greater potentialities and producers must be active, otherwise they may lose their share in the marketing strategies. Customer retention is feasible through arranging e-business, otherwise if switching cost is low and other factors in between two companies are similar then a customer will switch from one company to another where technological advancement is relatively higher. Moreover, rate of call charge of cell phone should be lowered. Hidden cost in cell phone should be removed. However, e-banking as well as electronic fund transfer is electronic data interchange and not free from risk. Not only security risk, but also cost of transactions may also be raised. In this regard, Producers will also be rewarded and monetary gain can be attained. E-business, especially with the help of e-banking, can manage economy of Bangladesh in a better way as customers' satisfaction can be increased. Recommendations to implement e-business in Bangladesh successfully, following recommendations are given below:

- (1) In Bangladesh, on-line banking systems are yet at a take off stage. The clearing house operation in Bangladesh should be fully automated system. Banks and business organizations especially corporate houses should have adequate research, skilled manpower and technology driven strategies in this regard.
- (2) The country needs to develop e-business with the help of ICT facilities. ICT application and development of software are very much dependent on the quality of the workforce, and supportive infrastructure and environment. Upazilla level may be considered as the base unit which may be connected with district and then connectivity with the capital of the country can be done. However, more stress should be given on wire free connectivity for which priority should be given on WiMAX technology.

- (3) Initiatives to develop integrated e-banking software through in house built may be taken. Preference should be given by the bank authority to use local software over foreign software. Common gateway is required so that interbank transactions can be feasible. Bank can charge normal profit to enlarge the market size on the on-line banking products. Banks should have their own strategic plans to implement e-banking system. Creating awareness and consciousness among the clients of the banks is also required.
- (4) Public and private participation (PPP) for e-business should be encouraged for economic development. Spread of on-line banking is a very good initiative. But it is not only sufficient. Business sector as a whole should be focused on using e-business. It should be accompanied with e-governance system and should be moved toward other areas of the “e” to “e” system like e-tender, e-trafficking, e-ticket, e-learning, etc. More stress should be given to the wireless transactions and working environment due to rapid technological advancement.
- (5) Career path of hardware and software engineers should be properly designed. Otherwise professionals will be de-motivated and they won't work with job satisfaction.
- (6) E-business should be used both for agricultural sector and industrial sector. Equal importance should be given so that domestic trade and international trade can be effective. Distortion from the market should be driven out and information should be passed systematically.
- (7) Quality maintenance of local software should be arranged. Initiatives should be taken to set up hard ware industry so that computer and computer accessories can be prepared in the country and easily purchasable for the lower and lower middle class people. Quality education and training in the field of ICT to develop human resources are essential. Moreover, entrepreneurship should be improved for developing hardware and computer peripherals.
- (8) More high-speed fiber optical data communication infrastructures should be well established for speedy data communication for domestic and global high speed communication system. This will help to attain better e-business including on-line banking system. Competitive situation should be arranged so that e-business management can be improved through efficiency and effectiveness of customer services.
- (9) E-business can help to improve total quality management. This can also ensure quality assurance of the business sector. As such, business policy formulation and strategies are required and should be properly implemented. Adequate training and technological support should be developed so that trained manpower and technology driven organizations can be created with the help of partnership between government and non-government organizations.
- (10) Digital Bangladesh may be activated by 2021 to develop the economy of the country. Successful team building with a coherent manner for developing human ware, hardware, software and web ware are required to increase e-business process in a systematic way. Moreover, greater emphasis should be put on security system and on preventing fraud so

that any sort of financial transactions including on-line banking payment or any other electronic fund transfer can be properly handled.

- (11) BTRC as a regulatory body should work with long-term vision, mission and fulfillment of goal oriented strategies. They should work as a facilitator rather not creating hindrance. VOIP should be legalized after examining and finalizing proper rules and regulations in the country.
- (12) Regulatory issues relating to security measures of e-banking can be improved in the following ways:
  - (a) analyzing the potential risks in the electronic payments systems;
  - (b) tradeoff between the efficiency of the financial system and the amount of risk incurred;
  - (c) competitive pressures that may encourage the banks to engage in competitive deregulation;
  - (d) effective provision and arrangement for cryptography and its applications, and
  - (e) willingness of more customers to accept e-business as psychological patterns of the customers has been changing.

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