Analysing Bangladeshi Consumers' Satisfaction and Preferences of E-banking Services in Small to Mid-sized Enterprises (SMEs)

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Abstract

The acceptance of Internet technologies has increased constantly and rapidly in the era of information technology. It gives flexibilities to access e-banking systems on demand. This research discusses the success of e-banking in small to mid-sized enterprise (SMEs) of Bangladesh, the current e-banking infrastructure and the future organisational plan for it. This research used the secondary research data and methods to provide a broad scenario of e-banking in Bangladesh and how to overcome the barriers in SMEs of Bangladesh for e-banking adoption. This research also analyses the data collected from Bangladeshi government and non-government organisations and banking sector and gathers answers from e-banking experts, IT educators, learners and academics through an interview. Data were also collected through interviews conducted from Bangladesh e-banking-based organisations and its professionals. Also, this research highlights the issues and factors related to e-banking, e.g., cybercrime and try to discover the probable obstacles and prospects to make an active solution of Bangladesh's e-banking.

Keywords: E-banking, small to mid-sized enterprises (SMEs), satisfaction, preferences, Bangladesh.

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1. Introduction

E-banking is a form of banking and an electronic payment system that enables customers of a bank or other financial institution to conduct a range of financial transactions through the financial institution's website rather than an exchange of cash, checks or other instruments. On the other side, cybercrimes or computer crimes are '*Offences that are committed against individuals or groups of individuals with a criminal motive to intentionally harm the reputation of the victim or cause physical or mental harm, or loss, to the victim directly or indirectly, using Internet and mobile phones*' [1]. This research analyses the satisfaction and preferences of consumers' of e-banking services in Bangladesh. This research also includes diverseness and significant success in e-banking to assist small to mid-sized enterprises (SMEs). In addition, this research will fill the space by emerging reliable assessment of the e-banking system, overall success and enterprise structure in Bangladesh.

1.1. Purpose and scope

Bangladesh is an under developing country with huge potential of e-banking:

- The potential readers will have an idea of the financial institutions of Bangladesh.
- The readers will be aware of the operations of e-banking services in the government and non-government banks of Bangladesh.
- It will secure the banking system.
- It will generate the revenue.
- It will also provide the real-time data and valuable information.
- The government and private colleges and universities in Bangladesh will produce more ICT graduates every year.
- E-banking will help the stakeholders to take more control ship over the cash flow regards to maintain finance smoothly.
- Bangladeshi internal manpower including the young generation and the workforces who are working overseas can be encouraged to return to Bangladesh and contribute to their banking sector and finance.

1.2. Objectives

- To provide a brief concept of e-banking.
- To find out the history and examine the present status of e-banking in Bangladesh.
- To identify the various forms of e-banking available in Bangladesh.
- To identify and describe the structures of e-banking and illustrate the significance in Bangladesh economy.
- To find out relationships and differences between e-commerce and e-banking.
- To give the potential readers an idea of the e-banking operations of government and non-government banks in Bangladesh.
- To know the adoption of e-banking in Bangladesh economic perspective.
- To identify the satisfaction and preferences of e-banking adoption in Bangladesh SMEs.
- To find out the causes of the slow improvement in e-banking in Bangladesh.
- To identify the relationships of e-banking and potential customers' satisfaction.
- To learn how secured e-banking can help in the economic growth of Bangladesh.
- To provide strategies how can people assure the secured and the best e-banking practice?
- To identify the potential future challenges for e-banking in Bangladesh.

1.3. Aim of the research

The aim of this research study is to improve satisfaction and preferences in e-banking for SMEs in Bangladesh.

1.4. Research questions

This research aims to answer the following research questions about e-banking for SMEs in Bangladesh:

- What are the history and present status of e-banking in Bangladesh?
- What are various forms of e-banking available in Bangladesh?
- What are the reasons for the slow success rate e-banking sector of Bangladesh?
- What are the differences between e-commerce and e-banking?
- What are the current security and privacy satisfaction and preferences of e-banking using in SMEs in Bangladesh?
- Does smooth e-banking effect customer satisfaction in the banking sector of Bangladesh?
- Does safety and security facilities of e-banking effect customer satisfaction in the banking sector of Bangladesh?
- What is the possibility to develop e-banking satisfaction for SMEs in Bangladesh?
- How can e-banking contribute to the economic growth of Bangladesh?
- What are the effective issues of e-banking in Bangladesh?
- How much secure is the e-banking in Bangladesh?
- Where is e-banking going in Bangladesh?
- What are the potential future challenges for e-banking in Bangladesh?

1.5. Importance of the research study

This research is very important for e-banking users and SMEs of Bangladesh. With e-banking, they can conveniently carry out banking transactions. With the improvement of mobile technologies and devices, banking users are able to conduct banking services at any place and at any time. Consumers are attracted to this technology because of convenience, increasing ease of use and in various instances very cost effective. E-banking has been viewed as upgrading from previous electronic delivery systems to open new business opportunities for the banking industry Ebling (2015). According to Jim Bruene (2016), 'e-banking is the best thing to happen to personal finance management since the invention of the paper statement. In Bangladesh, half or more of online users routinely visit their bank to check account activities, verify deposits and just see if everything is in order'. From this research, Bangladesh government and private corporations will be hugely benefitted because they will learn from the research fruitful and positive outcome. Bangladesh government can advance legal and ethical policy and procedures which will help ICT industry and e-banking users to move forward to improve social and economic life in Bangladesh.

2. 2. Literature review

2.1. E-banking

E-banking is a form of online banking where business performs through online and funds are transferred through an exchange of electronic signals between a financial institution, rather than an exchange of cash, cheques or other instruments. E-Banking can also be defined as—'an Umbrella term for the process by which a customer performs banking transaction electronically without visiting a financial institution'. E-Banking is the waves of the future. It provides enormous benefits to consumers in terms of cash and cost of transactions, either through the Internet, telephone or other electronic

delivery channel [2]. Although e-banking is very common and popular in the developed and developing countries but it is comparatively a new idea in Bangladesh as under developing country [3]. Standard Chartered Bank brought the first e-banking service in Bangladesh.
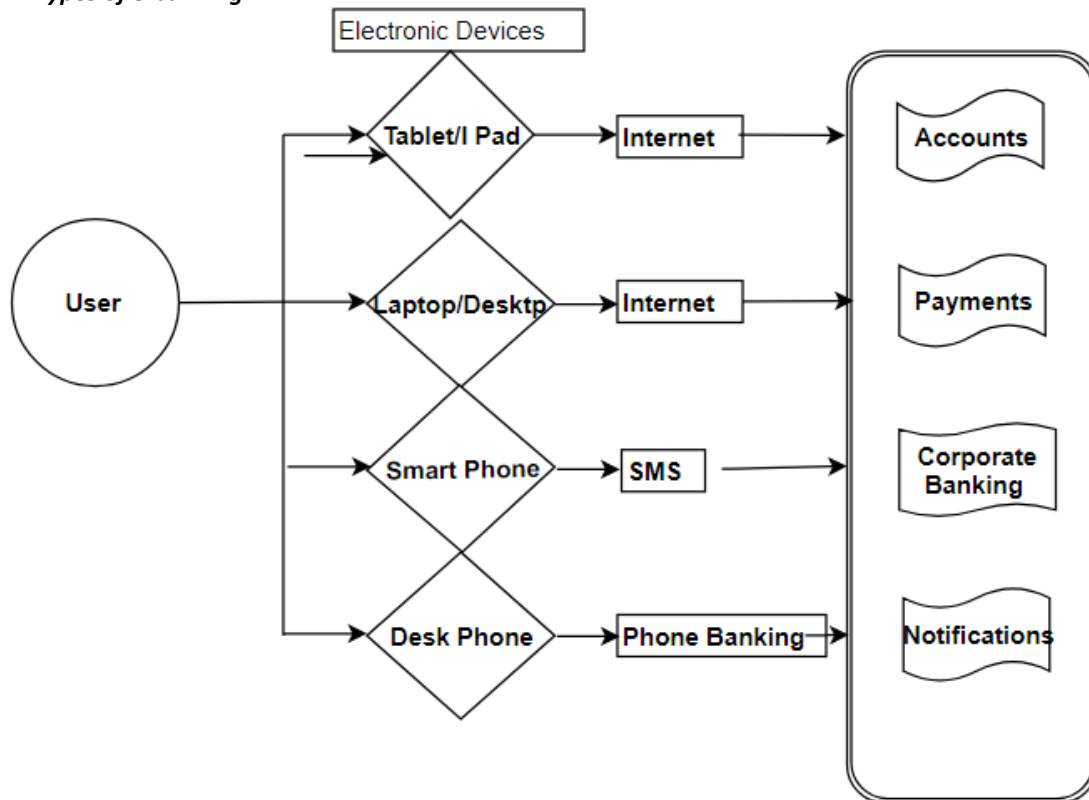
2.1.1. Types of e-banking

Figure 1. Types of e-banking [AlSoft (2012)]

1. **E-banking:** It is mainly focused on payment transactions, account information, mobile-telephone credit top-up and other financial services.
2. **Internet Banking Mobile:** This version of the Internet banking optimised for mobile devices is targeted at mobile-technology enthusiasts while also serving as a welcomed alternative for users of standard Internet banking (AlSoft 2012). Using a web browser, client can access the account, once the identification of the users is verified.
3. **Internet Banking Corporate:** This version of the Internet banking is planned for medium-sized and large enterprises and clients, as it is expanded with the possibility of executing a large number of banking operations (AlSoft 2012).
4. **Home Banking:** Most of the transactions are automated to enable the customers to check accounts, funds transfer in their own desk with the help of PC and telephone.
5. **Mobile Banking:** Applications for Windows Phone, Android and IOS are ready as an option to the Internet banking. HSBC has introduced this service to allow stakeholders with SMS to check account details with balance, bill pay and money transfer (AlSoft 2012).

In addition, e-banking proves the service of ATM and Easy Pay Machine which is an electronic device and can accepted utility bills like phone bills, mobile bills, electricity, gas bills, hot water bills and so on.
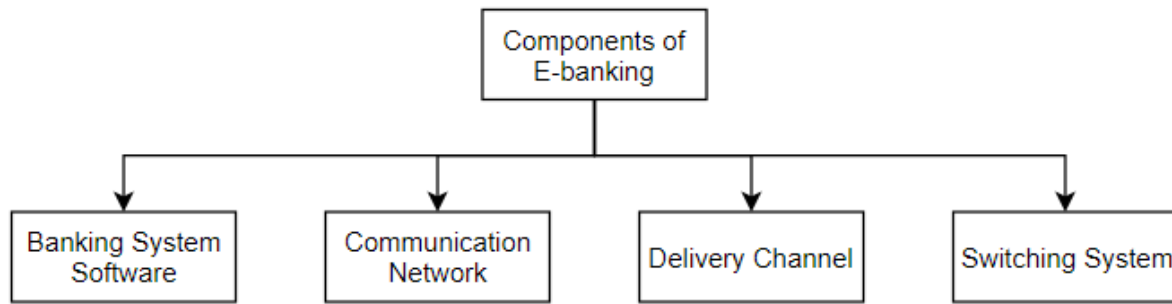
2.1.2. Basic components of e-banking

Figure 2. Components of e-banking [e-banking in Bangladesh (2015)]

2.1.3. E-banking services
- Information reporting.
- View account balance.
- View transaction history.
- Track funds transfer.
- Stop payment of the cheque.
- Real-time information reporting for more effective cash management.
- Delivered with the highest level of security.
- Easy-to-use application.
- World link through.
- Comprehensive payment transaction solution.
- Flexible streamlined functionality.
- E-mail and wireless alerts.
- Timely accurate information.
- Payments through banking.
- Online direct debit transaction process.
- Reliability speed and information Vaghela *et al.* (2013).

2.1.4. E-banking adoption in Bangladesh
Table 1 shows the percentage of e-banking adoption between the age group of Bangladesh.

Table 1. E-banking adoption in Bangladesh [Azam *et al*. (2015)]

Age	E-banking adoption (%)
Over 50	10
41–50	20
31–40	32
21–30	27
Under 21	10

2.2. E-banking history in Bangladesh

The e-banking concepts were from the early 1980s. Although e-banking concepts are very new for Bangladesh, but they have started using ATMs, which is the development of e-banking. Bangladesh is still struggling with e-banking due to some negative sides of e-banking such as cybercrime, e.g., hacking, phishing, spoofing, sniffing and other unethical acts. E-banking has created a revolution in the banking sector of Bangladesh thought it does not have 100% stability at this stage, but it plays a significant role in enhancing the banking sector of Bangladesh [4].

Table 2 shows the significant progress of e-banking rate in Bangladesh.

Table 2. E-banking growth rate in Bangladesh [Azam *et al*. (2015)]

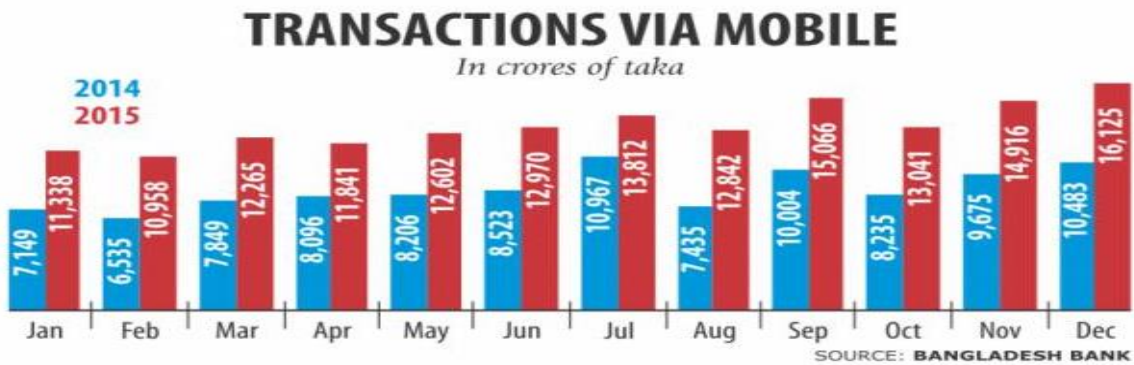| Year	E-banking growth rate (%)
1971	0
1980	0.05
1990	1.02
2000	2.11
2010	4.80
2015	8.91
2017	10.12

Figure 3. E-banking growth in Bangladesh [5]

According to Figure 3, e-banking in Bangladesh continues to grow fast, scaling a new height 2016 with 53% growth year-on-year.

In 2015, the industry saw Taka 157,773.31 crore (Bangladesh Currency) in transactions through mobile phones—the amount being more than half the country's national budget, according to a report of Bangladesh Bank.

In 2014, the mobile banking industry saw Taka 103,155.37 crore in transactions. People are becoming increasingly comfortable with the banking platform. The average monthly transactions made through mobile phones stood at more than Taka 13,147.77 crore last year, rising from Taka 8,596.28 crore in 2014.

2.3. Name of some e-banks in Bangladesh

Still, e-banking is not adequately available everywhere in Bangladesh. There are some limited banks that provide e-banking services which are given as follows:

Table 3. E-banking providers in Bangladesh [The New Nation (2016)]

Name of the banks	Type, service and payment method
Dutch Bangla Bank Ltd	ATM
Arab Bangladesh bank Ltd	Q-cash, ATM, Visa Card
Brac Bank Ltd	E-banking, ATM service
Bank Asia Ltd	ATM, e-cash
Agrani Bank	E-banking, ATM, Q-cash
Dhaka Bank Ltd	E-cash
Eastern Bank Ltd	E-banking, Q-cash, ATM
Janata Bank	Debit Card, Ready Cash
Mercantile Bank Ltd	ATM Service

2.4. Major barriers to e-banking in Bangladesh

The foreign and private banks offer a standard range of e-banking services in Bangladesh. However, government banks are still far behind in offering a wider range of e-banking services and products due to the following issues:

- Too few telephone connections.
- Interest rate ceiling on export loans.
- High price of computer hardware and software.
- Minimum number of users of websites.
- Telecommunication infrastructure is still not satisfactory.
- Lack of technically efficient personnel.
- Misuse of technology.
- Lack of law practice.
- Poor fines and penalties system for breach of rules and regulations.
- Weak security control.
- Poor awareness of e-banking.
- Not fully trustworthy.
- Language barrier.
- Fulfilment and customer relation problem.
- Small number of credit card users.
- Weak commitment in the telecommunication sector [6].
- Absence of law.
- Very tight foreign exchange controls available on travel and for business and international credit cards.
- All business organisations are not fully confident about the benefits of e-commerce.
- Strong political commitments from government and opposition parties are not available to improve governance and institutional strengthening for the success of e-banking [7].
- The number of skilled employees is not sufficient in the banking sector.
- The information technology department of the bank has very poor communication with the other departments.
- There is insufficient and poor capacity for storing important files in the office environment of banks.
- Bank should consider of employing more IT experts and installing the latest technology so that IT can solve problems proactively [8].

2.5. Present situation of cybercrime in Bangladesh

Cybercrime is a prohibited action which takes place through the Internet, electronic devices and wireless technology. It is simply an unlawful activity including unlawful contact, forbidden intervention, data entry and misuse of electronic devices. It also includes hacking, child pornography,

cyber nuisance, virus distribution, software piracy, credit and debit card scam, phishing, money laundering, information theft, email violence, worm attacks, logic bombs, web jacking, harassment, password sniffing, fraud and cheating [9].

The most common cybercrimes, few numbers of cybercrimes and criminals in Bangladesh are as follows:

- Hacking.
- Denial of service attack.
- Computer virus.
- Software piracy.
- Pornography.
- Credit card fraud.
- Spamming.
- Phishing.
- Spoofing.
- Cyberstalking.
- Cyber defamation.
- Unauthorised copying, extracting and downloading of data, database.
- Introduction of other viruses.
- Damage and disruption to the computer system and computer network.
- Denial of access to authorised person to a computer.
- Providing assistance to make possible to commit to crime.
- Hacking with computer system.
- Tampering computer source documents Hoq (2014).

Table 4. Cybercrime in Bangladesh [The New Nation (2016)]

Cybercrime	2012	2013	2014	2015	2016	2017
Facebook scam	72	87	120	200	289	419
Debit/credit Card fraud	154	361	630	813	1012	1134
Lottery fraud	19	17	20	36	54	77
Email account hacking	74	41	65	77	89	101
Abusive calls/SMS	50	46	58	71	93	114

Table 5. Cyber criminals arrests by age group in Bangladesh [Hoq (2016)]

Age	Numbers of arrests (2013)	Numbers of arrests (2014)	Numbers of arrests (2015)	Numbers of arrests (2016)	Numbers of arrests (2017)
0–18	45	66	82	100	129
18–30	1638	2234	2617	3839	5009
30–45	1325	1719	2312	2916	3817
45–60	275	423	633	839	1017
60+	18	29	53	77	91

Table 6. Cybercrime cases in Bangladesh [The New Nation (2016)]

Cases registered (2013)	Arrests (2013)	Cases registered (2014)	Arrests (2014)	Cases registered (2015)	Arrests (2015)	Cases registered (2016)	Arrests (2016)	Cases registered (2017)	Arrests (2017)
4356	2098	5200	2769	6899	3139	7400	4203	8839	5031

2.6. Laws against cybercrime in Bangladesh

If any Bangladeshi citizen does any cybercrime under Section 54 of the ICT Act 2006, he or she will be given a penalty of maximum 10 years imprisonment or fined up to 10 lacks taka (Bangladesh currency) or both. Whoever commits hacking under this act shall be punished of maximum 3 years imprisonment or fined up to 1 crore taka (Bangladeshi currency) or with both, whoever commits such crime [10].

3. Research methodology

In this study, the secondary research method was chosen. It starts with reviewing published secondary sources to provide a wider picture of the topic and a broad investigation of the positive and negative consequences of each issue relevant to e-banking in Bangladesh.

This study also takes on qualitative method (qualitative research is concerned with the collection and analysis in a non-numerical form, e.g., the collection of people's opinion about an event and the subsequent analysis of this data to establish the range of opinions) based on the interview system to conduct this study including focus group, case study. It also includes the analysis of interviews [11].

3.1. The strategy

In this study, the qualitative approach is selected as it provides a huge number of data. It gives the better approach into this research field. This study starts reviewing published secondary sources to provide the wider picture of the topic. New information about the e-banking satisfaction and preferences in Bangladeshi SMEs are produced by analysing the secondary data from the documents and other reports. The participants are examined in order to identify the problems of e-banking satisfaction and get the probable solutions from the secondary sources. The subsequent stage of the data collection is under qualitative research approach, in which interviews are conducted to collect important data from ICT, e-commerce and security experts, government and non-government officials, ICT students, university academics of Bangladesh.

3.2. Document analysis

In this study, it is an appropriate approach to find the general situation of e-banking satisfaction by assessing the existing documents and the reports and it is the best advancement. Also, the researchers compare between the previous and current scenario of the research study. In addition, the researcher goes to the government and non-government organisations to get the data. The researcher also goes to some international agencies to get the most recent statistics or publications.

3.3. The qualitative method

Once, the universities and enterprises are finally listed, the key people for the interview are informed by e-mail. To receive consents from the organisations and universities, the researchers have approached them. In that case, the researchers have contacted with Business and IT faculties to get the positive response. In terms of the student selection process, the lecturers have communicated with the students to volunteer. Once the project has been officially approved, the researchers have contacted to the Departments/Faculty of the universities by sending a request letter to identify potential students. Thirty-five potential students have been selected who responded positively by e-mail and telephone.

3.4. Data analysis

All the interview sessions have taken 1 hour per session. Interviews have been recorded electronically. IPad and Laptop have been used and Skype has been used as Internet software. All data have been sorted and analysed. Qualitative data analysis with relevant computer software (NVivo) has been used. The researchers have categorised all the transcripts into alphabetical order of interviewees Surname. Key issues have been checked thoroughly and noted in the list. Also, the researchers have prioritised the potential contributors and the respondents who have done more contribution.

4. Data collection and research analysis

4.1. Qualitative results

The results have been developed from the potential interviewers such as IT experts, the government and non-government officials, academics and IT students, identified by I1, I2, I3, I4, I5……, G1, G2, G3, G4, G5……., A1, A2, A3, A4, A5....... and S1, S2, S3, S4, S5……. The interview data mainly about e-banking satisfaction and preferences in Bangladeshi SMEs are the subject to the process of analysis resulting in the below vital key issues: the impact of secured e-banking in Bangladesh, the main reasons contribute strongly for the non-operation of e-banking in the past in Bangladesh, business and IT restrictions exist in the development of e-banking in Bangladesh, Bangladeshi consumers' concerns about security and privacy satisfaction in e-banking, economically importance about secured e-banking to SMEs in Bangladesh, the economic impact of e-banking on business costs and productivity and facilitates the development of business of Bangladesh, the current situation of network infrastructure in Bangladesh, industrial solutions to give consumers adequate confidence about security and privacy in e-banking, the role of the private sector and the public sector in developing secured e-banking and Bangladeshi SMEs' role to make the fastest and smooth communication between the stakeholders.

4.2. Data collection and analysis

This section has analysed the background of IT and e-commerce, e-banking security and privacy satisfaction in Bangladesh, the current views of the impact of secured e-banking in Bangladesh, the reasons of the fastest improvement in e-banking sector in Bangladesh, Bangladeshi consumers' concerns about security and privacy issues in connection with the implementation of e-banking, Bangladeshi consumers' presence in the promotion and development of the secured e-banking among SMEs, industrial solutions to give Bangladeshi consumers' confidence and preferences about security and privacy in e-banking, how secured e-banking can help in the economic growth of Bangladesh, how Bangladesh can build up the opportunity to develop e-banking security and privacy satisfaction for its own economic growth.

5. Research results and key findings

As electronic devices and e-banking are speedily increasing in the urbanised country: Bangladesh although electronic devices and social media are considered significant instruments for the development to the Bangladeshi e-banking system. E-banking has been quickly accepted in Bangladesh for the reason that there are some obstacles that have mitigated electronic devices to appropriately take off. It is clear that Bangladesh has fitted in the move for electronic devices and e-banking because it both has the potential and at the same time the importance. The Bangladeshi government has commenced several programmes to support further for this tactic of e-banking.

This section has valued some key findings which are as follows:

- Still, e-banking is a new concept in many areas of Bangladesh. Though Dutch Bangla Bank Limited first pioneered in e-banking services in Bangladesh on 2001, still all people do not have a clear idea about it.
- According to the interview outcome, around 95% people heard about e-banking and 5% have no clue about it. Even though many people have heard about it, but still they are reluctant to make a good practice of it and they are happy to use the old traditional banking system. In addition, around 55% people feel to use it and 45% still have no interest of using e-banking.
- E-banking has huge business potential in Bangladesh. It is real-time online banking and people do not have to wait in the long queue like the traditional banking system. According to interview outcome, around 8% people think e-banking take more time than traditional banking.
- The ICT infrastructure for secured e-banking services in Bangladesh is still not up to the satisfactory stage.
- Many organisations can come up with different ideas of e-banking preferences and satisfaction.
- The ICT infrastructure was not very supportive for e-banking in the past.
- Lack of availability of electronic devices still exists in the rural areas of Bangladesh.
- Poor speed limit of the Internet and misuse of electronic devices are few major grounds for the slow progress of e-banking.
- The private sector and the Bangladesh government can make significant progress together in developing secured e-banking.
- The public sector will confirm the ICT infrastructure and private sector will come up with different business ideas, rules, regulations and legislation to promote e-banking in Bangladesh.
- 75% people think that e-banking can save the time; on the other hand, 25% people think it is completely a waste of time.
- 60% people think that e-banking can save the money, on the other hand, 22% people think it is all about the same and 18% people think traditional banking is still better and profitable.
- The uneducated and poor people are used to the traditional banking system and trust more compare to e-banking. Around 68% respondents think e-banking is trustworthy and 32% think that it is not up to the standard level of privacy and security satisfaction.
- 70% people think that e-banking is easy to do, no cyber problems at all to face. However, 20% people think traditional banking is much easier to operate and very trustworthy compare to e-banking.
- 75% people think that e-banking has a prospect in Bangladesh; on the other hand, 25% think it has no prospect in Bangladesh.
- 68% people think that they do not want to give a suggestion for using e-banking system in Bangladesh, on the other hand, 25% people think they are more than happy to recommend it to frequently use in Bangladesh.
- In Bangladesh, the development of e-banking is affected with several infrastructural, influential and monitoring constraints such as inadequate of reliable and secure telecommunication infrastructure, absence of support network connecting the whole country, poor ICT penetration in the banking sector, lack of skilled manpower and training facilities, absence of compassionate policies, guidelines, rules and regulations relating to e-transactions.
- Regardless of the constraints, efforts by the Bangladesh bank in modernising the country's payment system and commitments 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.

6. Conclusion

In the age of information technology and competitive world, banking sectors should be modernised. In order to keep pace with the challenging world, traditional banking systems should be

replaced by e-banking systems. However, local private and government banks in Bangladesh are not comparatively doing well as compared to foreign banks. E-banking has already been recognised by the international business community, in both developing and developed nations. However, as mentioned earlier, e-banking and its related technologies are still in its preliminary stage in Bangladesh due to cybercrime. Bangladeshi people need to work side by side against this barrier. Foreign banks are using new technology and they are earning more. The banking sectors of Bangladesh can fully use e-banking system by minimising the cyber risks so that they can provide more smooth services to their customers and contribute to the national economy and economic development of Bangladesh.

Since the world is moving towards e-everything, Bangladesh should try to overcome all the barriers and also try to develop such an environment that is favourable for the development of e-banking. In order for e-banking to continue to grow, the security and the privacy aspects need to be quickly improved. With the security and privacy issues resolved, the future of e-banking can be very prosperous.

After the comprehensive interview session, the results clearly indicate that e-banking plays an important role in customer satisfaction. A very significant task is to understand the risks of customer satisfaction of e-banking and rectify the errors wherever possible. The results also show that banks need to be aware of future threats of e-banking and introduce new techniques to combat hacking, phishing and other unethical practices. It is also evident that those who use traditional banking want to switch to e-banking so the prospect of e-banking is very prosperous for banks and Bangladesh.

7. Recommendation

For achieving the best potential results from the e-banking, the researchers offer some recommendations. These are as follows.

- E-banking convenient, affordable and secure.
- It is a speedy process, transaction can be done anytime anywhere in the world.
- Mobile banking is a real-time online banking, available anytime, anywhere throughout the country.
- More people should be getting used to with the Internet in Bangladesh.
- All of the characteristics of mobile banking make life easier.
- It is much safer, speedy and safeguard against falsified transaction.
- It make life much easier.
- All online transaction should have full validity, confidentiality, unforgivable, not reusable and integrity.
- Bangladesh government should do best practices of a strong legal framework for e-banking and best practices the proper National ICT security policy.
- Establish and available of regular use of digital forensic laboratory for proper examination and finding the cybercrimes.
- To train trainers, educators and teachers on ICT crime and forensic study.

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