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## The challenges and opportunities of E-banking adoption for SMEs in Bangladesh

**Shakir Karim\***, School of Engineering and Technology, Central Queensland University, Australia, L6, 400 Kent St, Sydney, NSW 2000, Australia

**Ergun Gide**, School of Engineering and Technology, Central Queensland University, Australia, L6, 400 Kent St, Sydney, NSW 2000, Australia

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### Abstract

This paper analyses the challenges and opportunities of E-banking in Bangladesh. It also discusses the success of E-banking in small-to-mid-sized enterprise (SMEs) of Bangladesh and gives a reliable assessment of Bangladesh's present E-banking infrastructure and its future organisational structure. This paper mainly has used secondary research data and methods to provide a broad investigation of E-banking in Bangladesh, how to overcome the hurdles in SMEs of Bangladesh necessary for SMEs to help facilitate E-banking adoption. The research is a subject to academic journal articles, project reports, media articles, corporation-based documents and other appropriate information. Data were also collected by using interviews from Bangladesh E-banking-based organisations that are offering their goods and services on electronic channels and professionals involved with E-banking-related activities. E-banking can provide speedier, faster and reliable services to the customers for which they are relatively happy. E-banking services not only can develop new competitive advantages, it can improve its relationships with customers.

**Keywords:** E-banking, small-to-mid-sized enterprises (SMEs), challenges, opportunities, Bangladesh.

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\* ADDRESS FOR CORRESPONDENCE: **Shakir Karim**, School of Engineering and Technology, CQ University Australia, L6, 400 Kent St, Sydney, NSW 2000, Australia. *E-mail address:* [s.karim@cqu.edu.au](mailto:s.karim@cqu.edu.au) / Tel.: + 61-040-148-1203

## **1. Introduction**

E-banking is 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. Computer Crime is a term that encompasses a variety of offences associated with the use of information and communication technology. This research brings about the analysis of the challenges, opportunities and consumers of e-banking in Bangladesh. This research also includes the study of a diversity of noteworthy success in e-banking operation to support small-to-mid-sized enterprises (SMEs). Additionally, these research strategies fill the space by emerging reliable assessment of e-banking infrastructure, e-banking success and future organisational structure in Bangladesh.

### **1.1. Research purpose and scope**

Bangladesh is a developing country with strong prospective for growth in e-banking sectors:

- ❖ Huge number of potential workforces, including young generation in Bangladesh.
- ❖ Potential readers will have an idea of the financial institutions of Bangladesh.
- ❖ In addition, they will be familiar with the operations of banks and the electronic banking service of the banks in Bangladesh.
- ❖ Bangladeshi workers who are working overseas can be encouraged to return to Bangladesh and contribute to their banking sector and finance.
- ❖ Tertiary institutions in Bangladesh have the capability to provide more graduates in ICT courses every year.
- ❖ Electronic banking will help the users about more taking more control over the cash position, helps to do easy access to accounts conveniently.
- ❖ It also provides real time data and valuable information (Hoq, 2015).

### **1.2. Objectives**

- ❖ To give a brief idea of electronic banking.
- ❖ To identify and describe the features of e-banking and illustrate the professional significance in Bangladesh.
- ❖ Finding out the history and current status of e-banking in Bangladesh.
- ❖ To identify the challenges, opportunities and satisfaction of e-banking application in Bangladesh.
- ❖ To give the readers an idea of the electronic banking operations of banks in Bangladesh.
- ❖ To identify the relationships of the use of electronic banking and customer satisfaction.
- ❖ Finding out the reasons of the slow improvement in IT and e-banking in Bangladesh.
- ❖ Covering a successful assess for e-banking satisfaction (ESPS) for SMEs in Bangladesh.
- ❖ Learning how secured e-banking can help in the commercial growth of Bangladesh (Feroze, 2015).

### **1.3. Aim of the research**

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

### **1.4. Research questions**

This research aims to try answering the following Research Questions about e-banking for Service SMEs in Bangladesh:

- ❖ What is the background and current status of e-banking in Bangladesh?
- ❖ What are the reasons of the slow improvement in IT and e-banking industry significantly in Bangladesh?

- ❖ What is the current security and privacy status of e-banking using in service SMEs in Bangladesh?
- ❖ What evaluations and satisfaction with e-banking have been accepted in service SMEs in Bangladesh?
- ❖ What is the possibility to develop e-banking satisfaction (ES) for SMEs in Bangladesh?
- ❖ How secured e-banking can help in the economic growth of Bangladesh?
- ❖ How could Bangladesh build up the opportunity to develop ES for its own economic growth?
- ❖ Does safety and convenience facilities of electronic banking effect customer satisfaction in the context of banking sector of Bangladesh?
- ❖ Does Speed of electronic banking effect customer satisfaction in the context of banking sector of Bangladesh?
- ❖ Does Trustworthiness of electronic banking effect customer satisfaction in the context of banking sector of Bangladesh?

**1.5. Importance of the research study**

This study is very important for e-banking individual users and organisations of Bangladesh. Government and private corporations will be much more benefitted because they will learn from the research result. Government can advance legal and ethical policy and procedures. It will help ICT industry and e-banking users to move forward to improve social and economic life in Bangladesh (King, 2016).

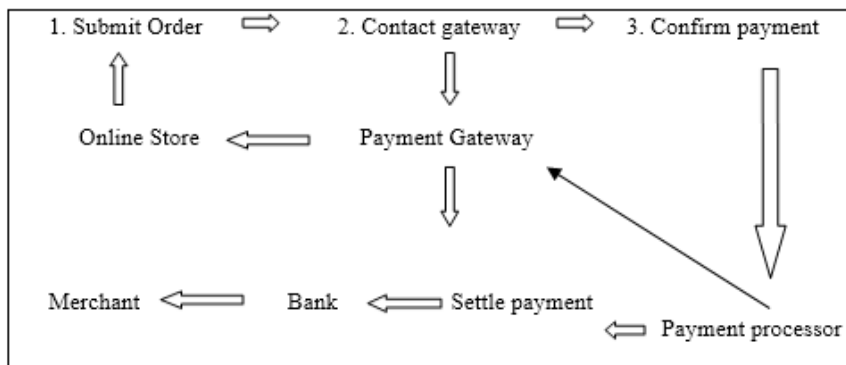
**2. Literature review**

**2.1. Electronic banking**

Electronic banking or e-banking is a part of online business and performs through online. Launching e-banking is a solid task for the economy of the developing countries like Bangladesh. At present, there is significantly weak ICT infrastructure for e-banking performance in Bangladesh (Al-Somali, Gholami & Clegg, 2015).

Electronic banking includes all banking related activities that are performed through online. The recent development in the banking services is to use e-banking for both B2B (Business to Business) and B2C (Business to Customer transactions). E-banking is a link between the particular bank and the clients which enables the bank to arrange, control and manage financial transactions. It is not a product or service but the pathway of the transactions to be conducted. Although E-banking is very common and popular in the developed countries but it is relatively a new concept in Bangladesh as a developing country (Anesh, 2016).

**2.1.1. E-banking process**



**Figure 1. Process of E-banking (Ashraful, 2012)**

### 2.1.2. E-banking facilities

- ❖ Information reporting.
- ❖ 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 (Azad & Hasan 2013).

### 2.1.3. E-banking adoption in Bangladesh

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

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

### 2.2. Electronic banking—key issues

Electronic banking is a service offered to the customers which includes.

- ❖ Viewing the balances on accounts.
- ❖ Checking the transactions.
- ❖ Downloading useful information.
- ❖ Transfer of funds.
- ❖ Paying third parties.
- ❖ Making loan applications from a secured website of the bank (Azam & Quaddus, 2014).

Electronic banking basically includes all the types of banking activities performed through electronic networks. In recent times, electronic banking is used as a delivery channel of banking services to both B2B and B2C. Electronic banking has opened up a new field of competition for the banks. To operate online, an individual needs the customer number and password. Online banking has started long time ago, but it is relatively a new concept in Bangladesh. Customer satisfaction is positively related to electronic banking. The competition in the banking industry is intensifying, and it is the bank's priority to satisfy its respective customer (Blanca, 2007).

### 2.3. E-banking history in Bangladesh

Based on the increase of internet users and with the progress of the World Wide Web, the concept of e-banking came. The e-banking concepts are not very new in the era, and it was from the early 1980s. New technologies and the development of electronic devices have continuously creating heaps of prospects to start a new trend of online shopping to the developed countries, including major

developing countries. Online shopping, random online use for purchasing items, sales and marketing or shopping from the website, using the internet, promoting the use of credit/debit cards are the major and key tasks in this field. Though e-banking concepts is very new for Bangladesh, they start practicing the best possible use of the Automatic Teller Machines or ATMs which is a great sign of the development of e-banking. Bangladesh is very much concerning and struggling with e-banking at this stage due to some negative sides of electronic banking, such as cybercrime, e.g., hacking, phishing, spoofing, sniffing and other unethical acts, which makes electronic banking facilities risky for both the users and the banks. Although Electronic banking has few negative sides, Bangladesh is highly considering all the positive sides. Electronic banking really has created a revolution in the banking sector of Bangladesh though it does not have 100% stability at this stage, but it plays a significant role in enhancing the banking sector and economy of Bangladesh (Chowdhury, 2014).

Table 2 shows significant progress of e-banking rate.

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

#### **2.4. Major constraints or barriers to E-banking in Bangladesh**

- ❖ Too few telephone connections.
- ❖ 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.
- ❖ Weak security control.
- ❖ Poor awareness of e-banking.
- ❖ Not fully trustworthy.
- ❖ Language barrier.
- ❖ Fulfilment and customer relation problem.
- ❖ Small number of credit card users.
- ❖ Absence of a strong commitment in the telecommunication sector (Dekkers, 2014).
- ❖ Absence of law.
- ❖ Very tight foreign exchange controls available on travel and for business and international credit cards.
- ❖ Interest rate ceiling on export loans.
- ❖ Poor fines and penalties system for breach of rules and regulations.
- ❖ All the 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 success of e-banking (DeLone & McLean, 2012).
- ❖ The number of skilled employees is not sufficient in bank.
- ❖ The Information Technology department of the bank has very poor communication with the other departments.

- ❖ There are insufficient and poor capacity for storing important files in the office environment of banks.
- ❖ Bank should consider of employing more IT experts and installing latest technology so that IT can solve problems proactively (E-commerce and Cybercrime, 2013).

### 2.5. Present situation of cyber-crime in Bangladesh

Cybercrime is a prohibited action which takes place through 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 and fraud & cheating (E-commerce in Bangladesh, 2013).

The most common cybercrimes are as follows:

- ❖ Hacking.
- ❖ Denial of Service Attack.
- ❖ Computer virus.
- ❖ Software piracy.
- ❖ Pornography.
- ❖ Credit card fraud.
- ❖ Spamming.
- ❖ Phishing.
- ❖ Spoofing.
- ❖ Cyber stalking.
- ❖ Cyber defamation (Ferose, 2012).

In addition:

- ❖ Unauthorised copying, extracting and downloading of data, database.
- ❖ Introduction of other viruses.
- ❖ Damage and disruption to computer system and computer network.
- ❖ Denial of access to authorised person to computer.
- ❖ Providing assistance to make possible to commit to crime.
- ❖ Hacking with computer system.
- ❖ Tampering computer source documents (Hoq, 2014).

**Table 3. Cyber-crime 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	1,012	1,134
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 4. 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	1,638	2,234	2,617	3,839	5,009
30-45	1,325	1,719	2,312	2,916	3,817
45-60	275	423	633	839	1,017
60+	18	29	53	77	91

**Table 5. Cyber-crime cases registered and arrests made in Bangladesh (The New Nation, 2016)**

Cases registere. (2013)	Arrests (2013)	Cases registered (2014)	Arrests (2014)	Cases registered (2015)	Arrests (2015)	Cases registered (2016)	Arrests (2016)	Cases registered (2017)	Arrests (2017)
4,356	2,098	5,200	2,769	6,899	3,139	7,400	4,203	8,839	5,031

## **2.6. Laws against cyber-crime in Bangladesh**

If any person does any crime under section 54 of the ICT Act 2006, he or she will be given penalty of maximum 10 years rigorous imprisonment or fined up to 10 lacks taka (Bangladesh currency) or for the both of above. 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 (Karakaya & Shea, 2014).

## **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, the architects of the consequences and those affected by the consequences.

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 interview system to conduct this study, including focus group, case study. It also includes the analysis of interviews (Kotler, 2015).

### **3.1. The strategy**

In this study, as mentioned the qualitative approach is chosen as leading design as it provides a huge number of data. It gives the better approaching into this research field. As also mentioned, this study starts with reviewing published secondary sources to provide the wide picture of the topic. New information about the ES in Bangladeshi enterprises are produced by analysing the secondary data from the documents and other reports. The participants are examined in order to identify the problems of ES and get the probable solutions from the secondary sources. The subsequently 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 and university academics.

### **3.2. Document analysis**

In this study, it is the best approach to find the general scenario of ES by assessing the existing documents and the reports and it will be the best advancement. Also, the researcher compares between the previous and current scenario of the research study. In addition, the researcher goes to the government and non-government organisations to get data. The researcher also goes to some international agencies to get some statistics or publications. In conclusion, it is straightforward to say that to get a better scenario of the research topic is the aim of document analysis.

### **3.3. The qualitative method**

Once, the universities and organisations are finally listed, the key people for the interview are informed by email. To receive consents from the organisations and universities, the researcher has

approached to them. In that case, the researcher has contacted with Business and IT faculties to get the positive response. In terms of student selection process, the lecturers have communicated with the students to volunteer. Once the project has been officially approved, the researcher 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 email, telephone.

### **3.4. Data analysis**

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

## **4. Data collection and research analysis**

### **4.1. Qualitative results**

This section has defined qualitative results from in depth interviews. 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 ES in Bangladeshi small-to-mid-sized business 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 restrictions exist in the development of e-banking in Bangladesh, Bangladeshi consumers' concerns about security and privacy issues in e-banking, economically importance about secured e-banking to SME 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 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 enterprises role to make fast and easy going communication between the buyers and sellers.

### **4.2. Data collection and analysis**

This part has analysed the collected data together with the relevant literature. It has discussed the background of IT, e-banking security and privacy satisfaction in Bangladesh, about the current views of the impact of secured e-banking in Bangladesh, the reasons of the improvement in IT and e-banking industry 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 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 development to the Bangladeshi e-banking system. E-banking has been quickly accepted in Bangladesh for the



reason that there are very minor 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 times the importance. The Bangladeshi government has commenced several programmes to support further for this tactic of e-banking.

This section has valued some research key findings which are as below:

- ❖ E-banking has huge business possibilities in Bangladesh.
- ❖ The ICT infrastructure for secured e-banking services in Bangladesh are not up to satisfactory stage.
- ❖ Many organisations can come up with different ideas of e-banking facilities and satisfaction (26).
- ❖ The ICT infrastructure was not very supportive for e-banking in the past.
- ❖ Lack of availability of electronic device still exist.
- ❖ Poor speed limit of internet, misuse of electronic devices are major causes for slow progress in e-banking.
- ❖ The private sector and the Government can make noteworthy progress together in developing secured e-banking for economic progress.
- ❖ The public sector will confirm the ICT infrastructure and private sector will come up with different business ideas, legislation to promote e-banking in Bangladesh.
- ❖ Poor speed of electronic banking affects customer satisfaction in the context of banking sector of Bangladesh.
- ❖ Quick Confirmation of Transaction affects customer satisfaction in the context of banking sector of Bangladesh.
- ❖ Security, safety and privacy of users affect customer satisfaction in the context of banking sector of Bangladesh.

## 6. Conclusion

This study mainly talks about e-commerce and ES in Bangladeshi SMEs. E-banking has already been recognised by the international business community, in both developing and developed nations. However, e-banking and its related technologies are still in its infancy stage in Bangladesh because of Cyber Crime. Bangladeshi people need to work side by side against this barrier. For achieving the best possible solutions through e-banking, the researcher has prepared some recommendations which will be stated into next heading.

Additionally, after the interview session, the results clearly indicate that electronic banking plays an important role in customer satisfaction. A very significant task is to understand the risks of customer satisfaction of electronic banking and rectify the errors wherever possible. The results also show that the majority of the users of electronic banking are satisfied with the electronic banking. Also, banks need to be aware of future threats of electronic 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 electronic banking so the prospect of electronic banking is very prosperous for banks and Bangladesh.

## 7. Recommendation

- ❖ Bangladesh Government should provide a strong legal framework for e-banking and good practice the proper National ICT security policy.
- ❖ Launch good practice guidelines against cybercrime.
- ❖ Establish digital forensic laboratory for proper examination and finding the cybercrimes.
- ❖ To train trainers, educators and teachers on ICT crime investigation.
- ❖ IT experts in Bangladesh should develop own software for banking systems more frequently.

- ❖ All online transaction should have validity, confidentiality and integrity.
- ❖ More people become habituated with the internet in Bangladesh.
- ❖ The smooth connectivity of the internet and network improvements of Bangladesh is expected to improve.

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