School of Management

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Technological implementation and online banking have increased customer service, satisfaction but reduced costs in the Banking sector of Bangladesh

A Master's Thesis in Business Administration, submitted in partial fulfilment of the requirements for Masters in Business Administration Programme.

By

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Abstract

The study has discussed a broad issue regarding technology driven banking. In addition, it has focused whether technology driven banking have increased customer service, satisfaction and reduced costs. Actually, Bangladesh is a third world developing country, fighting to improve their economy. Banking sector is not completely modern. However, now a day, major banks are trying to adopt technology driven banking services to be more efficient. The study has assessed whether it has influenced to increase customer service and satisfaction in fact, the research aims to evaluate this. The study set four objectives based on the research topic, throughout the study the researcher tried to accomplish the objectives. The research question was also answered at the completion of research. The research has also evaluated the situation of online-based banking in Bangladesh and what customers currently think about it. In literature review, a wide range of literatures have been analyzed on customers' satisfaction in banking sector, technology driven banking in Bangladesh, costs of banking service and so on. Major findings of literature showed that, currently the number of e-banking users is rapidly increasing. Different types of online based banking service have been added very recently (such as; Mobile banking, any branch banking). A large number of respondents said that, they think technology driven banking will be more efficient and effective for the banks and its customers. More than 50% people are satisfied by current online banking service. To achieve the objectives of the research the researcher has designed the research-methodology in a logical way. The whole research process has been show in a diagram. This research is based on primary and secondary findings. For the collection of primary information the researcher has interviewed 150 people and secondary data has been collected from previous journals, Bank's statements, Bangladesh Bank's report, Books and articles. The research is mainly focused a quantitative approach but in some case it has been used qualitative information. Data has been analyzed by using MS excel. In the findings and analysis chapter, the researcher showed the findings clearly and sequentially. It showed that, people are now gradually accepting technology driven banking. Customer service, customers' satisfaction and costs issues have been well asserted. A discussion has been provided with compare and contrast between the findings and what previous

literatures said. Finally a set of recommendation has been made. Conclusion showed whether the research has accomplished its objectives and answered research question.

Letter of declaration

I hereby declare that this dissertation is completely my own work and endeavour; to the best of my understanding and knowledge, it has no material that has been submitted or published previously at anywhere except where due acknowledgement have been made in the text.

Abu Noman Sohel Rana

Date: 2013.09.13

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List of Acronym

ATM: Automated Teller Machine

BB: Bangladesh Bank

BBS: Bangladesh Bureau of Statistics

CAMEL: Capital Adequacy, Asset Quality, Management, Earnings and Liquidity

DBBL: Dutch Bangla Bank Limited

EBL: Eastern Bank Limited

EFT: Electronic Fund Transfer

FCBs: Foreign Commercial Banks

MICR: Magnetic ink character recognition

NBFIs: Non-Bank Financial Institutions

NPL: Non Performing Loans

PCBs: Private Commercial Banks

SCB: Standard Chartered Bank

SCBs: State-Owned Commercial Banks

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Chapter One: Introduction

1.0 Introduction

Bangladesh is a developing country in the south Asia. A large portion of people earns their living from agriculture sector. Modern innovations and technology has been added very recently with people's life style. Per capital income (nominal) is less than 1000 USD (BBS, 2013). Agriculture being the major economic activity in Bangladesh employs about 50% of the country's labour force and contributes around 20 percent of the country's gross domestic product (GDP). Development of a growing economy largely depends on the development of the agricultural sector which is justified by several economic literatures (World Bank, 2008). Only even few years before, banking sector in Bangladesh was running in traditional system. According to Ahmed and Islam (2008), Bangladesh is becoming failure in capitalizing the opportunity of e-business. Nevertheless, in recent years' online banking system has been dominating the sector that facilitates the acceleration of e-business. A new horizon of e-business has been opened up by the internet that resulted in immense opportunities for marketing products and managing organizations through banking internationally. A new paradigm has been created gradually through wireless internet system and electronic fund transfer has become quicker and safer. Economic progress of a country can be hindered due to underdeveloped banking technology which is justified by many government and international organizations. Therefore, it is apparent that the way of conducting, managing and executing banking transactions through information and communication technology and electronic communication networks can be termed as online banking system. Electronic banking requires authentication for payment system, network environment, computer software and hardware, electronic hardware, legal bindings and so forth. Cryptography and its applications much ensure the security and authentication of modern banking system. In accordance with Ramakrishnan (2001), it can be said

that, information security risks are ever increasing due to internet banking that has undermined the other banking-specific risks.

Here, the research, would like to evaluate whether the weather technological innovation and its implementation in banking sector has increased the customer service and satisfaction in the banking sector. There are several issues to be considered whether online banking has increased costs of service or it has made the service complicated and so on.

1.1 Background of the research/ rational of the study

Traditional retail-banking business modes has been reformed by the innovation in technology that has enabled banks to alter their traditional value creation chain to allow the production and distribution of financial services to separate into different businesses. Therefore, internet banks do not distribute all the products produced by their group rather they distribute insurance, securities and other banking products. However, the diffusion of adopting the internet as a delivery channel is dependent on the expected reduction in overhead expenses enabled by reduction and elimination of physical branches and their associated costs, for example, staff, marketing and rent. This is true for the Spanish Banking System which is one of the most “over branched” in Europe. DeYoung (2005) and Delgado *et al*. (2004) found that "economies of scale" can be generated by the internet delivery channels far better than traditional distribution channels. According to Rahman (2003) it requires security, availability, authenticity, non-reputability and audibility for successful electronic fund transfer. The author also thinks it is customary to have appropriate control and security measures, proper utilization of audit trail in the e-commerce system. On the other hand, Ali (2003) opined that there are several issues, for example, limited resources, backwardness in technology, managerial inefficiency, socio-infrastructural problems (corruption, social backwardness), default culture law and order situation, strike and so on that can impede the all out initiation of e-business in Bangladesh. Again, Ali *et al.* (2004) found that it is necessary to focus on information dissemination, knowledge transfer and technical

assistance to maximize e-business efforts. Creation of appropriate knowledge is essential among several procedures of e-business.

In banking sector, the most important forecaster of service quality is the satisfaction of customers. Therefore, banking atmosphere should emphasize on quick and fair services to their customers that should be ensured by the bank management. More credit facilities are being provided by public sector, especially to farmers and fisherman compared to that of private sector (Delgado *et al*., 2006). Customers of public banks are becoming more satisfied as the state government announced for agricultural loan from the public banks (Asgarian, 2009)**.** In Indian banking system, an important feature of customer satisfaction is service quality in both private and public sector banks and customer satisfaction is strongly associated with propensity to recommend (Bedi, 2010).

1.2 Customer Satisfaction and Banking service

Retail banking which is a service industry focuses on the customer's money and its management (Mishra, 2007). The satisfaction of the customers in the banking sector has strongly been influenced by the conviviality factor which is concerned with the features of a bank and the attributes of its personnel. Rust and Zahorik (1993), Krishnan *et al* (1999), in many of their studies found that the prime driver of overall customer satisfaction is satisfaction with perceived product quality. Moreover, they found that the impact of service delivery factors differs largely on customer satisfaction. Furthermore, they suggested on focusing on the customers who trade heavily and have high investable assets (Andreessen *et al*., 2007). The customers were seen more satisfied with an automated telephone services than that of other drivers of satisfaction (Rust and Oliver, 1994).

Operation expenses can be reduced by allowing customers to access directly to their banking transactions avoiding the need for visiting to physical branches which made internet banking a successful one (Liu, 2008). Larger banks that spend large sum of money running physical brunches are now more relaxed and enjoy the benefit of handling customers more efficiently and effectively rendering more customer satisfaction. Moreover, business models of financial institutions have been transformed due to the advent of internet banking which has changed the way financial institutions

conduct their businesses in several areas, for example, distribution, production, payment and trading (Llevwellyn, 1997). Internet banking has been successful in generating higher consumer satisfaction through fast and simple and trouble-free application processes, minimal technical errors, a wide range of funding options and minimal account deposit requirements (Methlie, 1998).

1.3 Aim of the study

To evaluate whether technological innovation and implementation has increased customer service, satisfaction, and reduced costs in the banking sector of Bangladesh.

1.4 Research Objectives

- To evaluate the implementation of new technologies in the Banking sector of Bangladesh and its benefits
- To assess how E-banking has increased the customer service and customer satisfaction in banking industry of Bangladesh.
- To analyze whether technological implementation or E-banking has reduced costs or not
- To identify how ICT increased customer service efficiency in the Banking sector of Bangladesh

1.5 Research Question

What extent technological innovation and E-banking has increased customers' service, satisfaction and reduced costs?

1.6 Motivation of the study

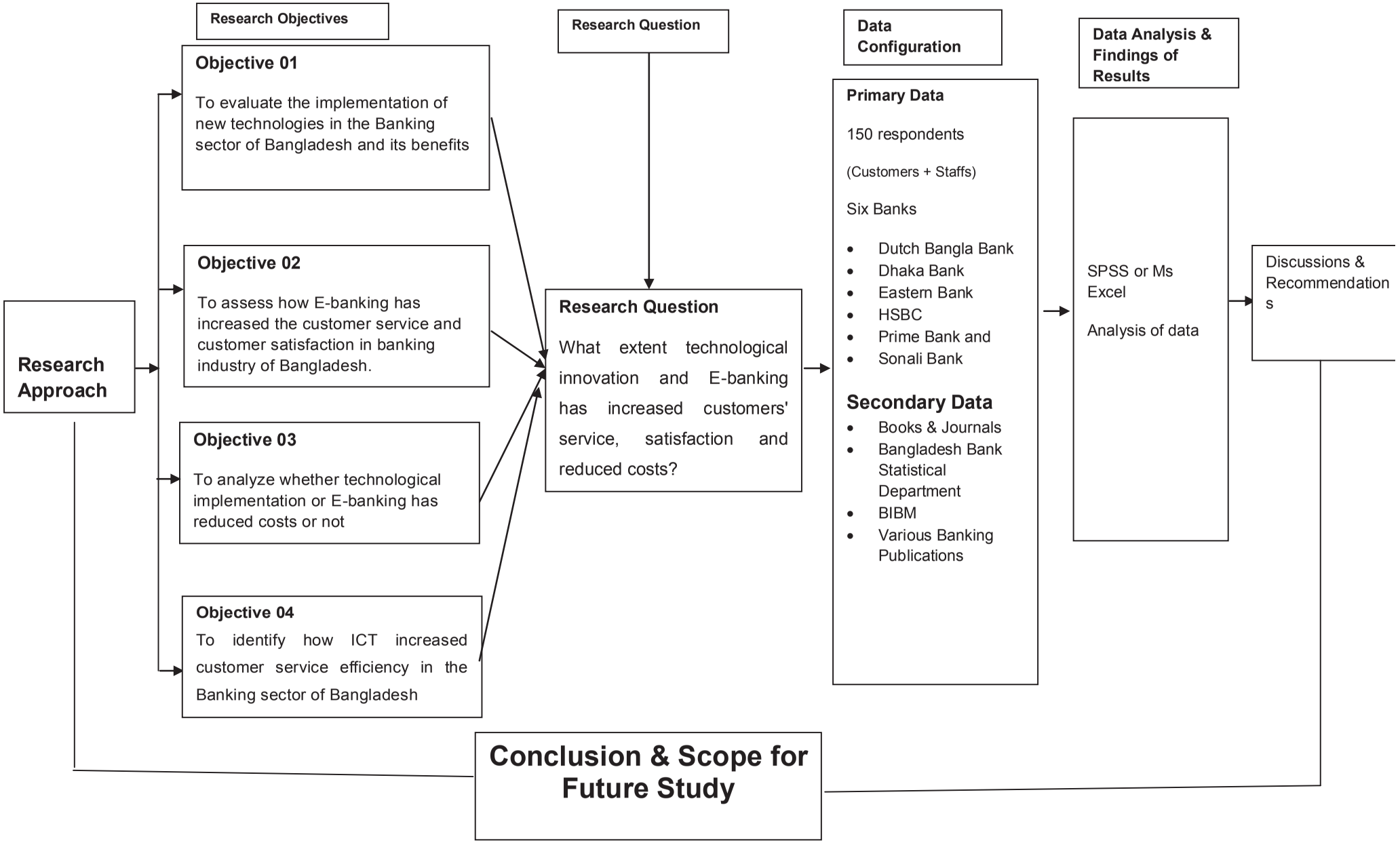
Due to emergence of global economy, e-commerce and e-business have increasingly become a necessary component of business strategy and a strong catalyst for economic development. The application of E-banking has been demonstrated as an effectual of costs reduction and providing quick services to the customers. Now a day, E-banking services have already ensured opportunities to reduce expenditures on physical structures. However, in some previous studies it has been showed that, E-

banking helped banks and financial institutions to reduce costs, increase revenue, increase customer convenience (Halperin, 2001). It is really significant to analyze the actual situation of customers' satisfaction in banking sector.

There are very few studies on the e-banking and customer service and satisfaction in Bangladesh. Therefore, this research will get a great opportunity to analyze the situation and pros and cons of this sector. In addition, technological innovation and its impact will be clearly assessed.

1.7 Research Planning Approach/ overall research model

Here the researcher has provided a complete planning for the research.


Research Objectives
Research Question
Data Configuration
Data Analysis & Findings of Results
Objective 01
To evaluate the implementation of new technologies in the Banking sector of Bangladesh and its benefits
Objective 02
To assess how E-banking has increased the customer service and customer satisfaction in banking industry of Bangladesh.
Objective 03
To analyze whether technological implementation or E-banking has reduced costs or not
Objective 04
To identify how ICT increased customer service efficiency in the Banking sector of Bangladesh
Research Approach
Research Question
What extent technological innovation and E-banking has increased customers' service, satisfaction and reduced costs?
Primary Data
150 respondents
(Customers + Staffs)
Six Banks
Dutch Bangla Bank
Dhaka Bank
Eastern Bank
HSBC
Prime Bank and
Sonali Bank
Secondary Data
Books & Journals
Bangladesh Bank Statistical Department
BIBM
Various Banking Publications
SPSS or Ms Excel
Analysis of data
Discussions & Recommendations
Conclusion & Scope for Future Study

Source: Own Creation

1.8. Summary of the Chapter

The economic situation of Bangladesh clarifies that still this economy is not developed. Moreover, the banking sector is not yet modernized and majority of the banks are still following traditional methods of banking though a number of private and foreign commercial banks are implementing e-banking and online banking service to provide better customer services. However, in this chapter the researcher has described the research background and discussed the rationale for the research. Currently, there is no study available on the customers' satisfaction and online banking service in Bangladesh. However, the aims, objectives and research questions for the study have been set properly. The study is directed to achieve these particular objectives.

Chapter Two: Literature Review

2.0 Introduction

Ten to fifteen years back, the total banking service in Bangladesh was analogues and all the transactions have been done through hand written process. It took much time and energy as well as workforce to continue the banking service. Consequently, the customers have to suffer a lot and the services were slow. From last few years, the private and public banking sector is adopting high level of technological implementation and online banking (Hasan *et al*, 2010). Throughout last decade, the continuous progress in the field of Information and Communication Technology (ICT) has influenced the banking sector. Through implementing different ICT financial institutions mainly, banks have enhanced their services as financial intermediary for the customers. Technology improvement and its usage have become significant tools that facilitate banks' strategies, business functions, customer services and other substitute activities (Siaw and Yu, 2004). In fact, technological revolution and ICT have wide and far-reaching influence on economy at large. In accordance to Howcroft and Durkin, (2003), one of the most imperative implementations of technological innovation in banking sector is to make distant customers come closer and ease of service. Raihan (2001) pointed that, technological improvement play a vital role to bring efficiency and improve customer service in banking sector. In Bangladesh, technology driven banking has started a new era for the banking and financial service sector.

2.1 Banking sector of Bangladesh

In Bangladesh, the banking sector alone accounts for a considerable amount of financial sector assets; there are 48 banks, which accounting for about 95% of the total assets of the financial sector (Hasan *et al*., 2010). Since last decade, the influence of State-Owned Commercial Banks (SCBs) has been decreasing in the banking system

whilst the Private Commercial Banks (PCBs) as well as Foreign Commercial Banks (FCBs) are approaching to the market and gaining high market share. Now a day, PCB and FCBs have domination in deposits, bank loans and advances (Bhattacharya and Chowdhury, 2003). It has maximized competition in the banking industry. However, the market share of the SCBs declined significantly to 28.75% of the total sector assets in 2011 as it was 54.4% in 1990. On the other hand, during the time PCBs' share rose to 65.24% from 22.6% in 1990 (Ahamed, 2012). His study also showed that, during the period, FCBs have increased their market shares and service areas.

Another report of BB showed that, the nonperforming loans ratios of different types of banks. Here is a table on this.

Table 2.1: NPL Ratios by Type of Banks (%)

Bank Type	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
SCBs	45.6	38.6	37.0	33.7	29.0	25.3	21.4	22.9	29.9	25.4	21.4	15.7
DFIs	65.0	62.6	61.8	56.1	47.4	42.9	34.9	33.7	28.6	25.5	25.9	24.2
PCBs	27.1	22.0	17.0	16.4	12.4	8.5	5.6	5.5	5.0	4.4	3.9	3.2
FCBs	3.8	3.4	3.3	2.6	2.7	1.5	1.3	0.8	1.4	1.9	2.3	3.2
Total	41.1	34.9	31.5	28.0	22.1	17.6	13.6	13.2	13.2	10.8	9.2	7.3

Source: Annual Reports of Bangladesh Bank (Data is unavailable for the year 2011)

It is known that, they banking system of Bangladesh is underdeveloped mainly in terms of the services and customer care facilities. However, financial sector of Bangladesh is mainly comprised of two types of institutions including banks and Non-Bank Financial Institutions (NBFIs). Bangladesh Bank (BB), the central Bank of Bangladesh regulate and supervise the banking sector. FCBs hold 6.0 per cent of the industry assets as of 2011. It gives regular follow up on the banking sector and the performance of the banks and similar organizations. Capital Adequacy, Asset Quality, Management, Earnings and Liquidity (which is known as CAMEL rating) system has been taken for the regular banks, since 1994; in order to measure the performance of the banking sector (Mollik and Bepari 2009).

2.2 Factors of Adopting e-Banking service

There are several factors the researcher pointed as the forces behind the popularity of e-banking and online banking service. These are given below

Accessibility: The term "accessibility" in e banking clarifies the capability of users to access information and services. These actually includes content format; hardware, software and settings; internet connections; as well as the abilities and disabilities of users (Hackett and Parmanto, 2009). Accessibility toward the banking service, ATMs, telephone, and the internet banking service should be ensure for the better service to the customers.

Convenience: E-banking offers a higher level of expediency that makes the customers to access internet banking at anywhere anytime (Gerrard and Cunningham, 2003).

Privacy: in accordance with Gerrard and Cunningham (2003), customers of banks may have doubts about the trust capability banks and their privacy system. However, it has been said that, privacy is a vital issue that may affect customers' intention to adopt e-banking. This has become a core concern for online banking.

Security Customers want to have guarantee their financial and personal information, this issues is considered as one of the most crucial part for the online banking (Kimery and McCord, 2002). In this mode of internet banking or e-banking consumers, do not have to purchase additional software, or any additional devices all they need is a browser. Therefore, privacy has a positive impact on customer satisfaction (Kolsaker and Payne, 2002).

Design and Content: Visually attractive and enjoyable design of e-commerce websites has positive influence on the customers so does for online banking. Proctor *et al* (2003) has pointed four aspects for designing a website including knowledge elicitation, information organization and structure, information recovery, and presentation of information. Similar to the website design, Pikkarainen *et al* (2004) claimed that content on online-banking on the web sites is one of the factors influencing online-banking sector.

Speed, Fees and Charges: This works as another important factor behind the online banking service. Slow response time after e-interaction may delay service delivery consequently it makes consumers unsure about whether or not the transaction is completed (Jun and Cai, 2001). On the other hand, the amount of charges banks take against quality services to satisfy consumers' needs is also a vital issue. It creates competitive advantages for the organization (Siriluck and Speece, 2003).

2.3 ICT and e-Banking Service

In accordance with Chandrasekhar and Sonar (2008) (Ali, 2010) it can be said that, banks will harvest the benefits of ICT truly and completely when they pay sufficient concentration on the technological progress as well as efficiencies. However, E-banking is a buzz in the banking sector, it refers to a form of banking, where funds are transferred through an exchange of electronic gateway among financial institutions, than to have exchange of cash, checks and other negotiable instruments. Transactions can be easily done through using electronic medium and it takes much less time than general transactions. In e-banking the customer's identification is by access code for example; using password, fingerprint or personal Identification Number (PIN), despite using a signature above check. In Bangladesh, banking sector is gradually accepting technology and initiating e-banking service at a steady pace. However, in regards to this Huda *et al*. (2004) asserted that, the banking industry of Bangladesh is gradually realizing the significance of innovation and technological use for their success. Similarly, Ali (2004) has commented that, e-business service is becoming a part of business slowly in Bangladesh. Gradually, the banking service is heading toward ICT based service.

It can be easily understand that, banking has never been such vital to the society than it is now. However, in regards to the e-banking, Bruene, (2002) said that, the advancement of ICT and innovation of newer technology and easy accessibility of Internet have made it easy for banking transactions from any place of the world without stepping to physical financial structure, that is what he defined as the emergence of e-banking. In fact, in the banking industry, by adopting newer for of

innovation and technology, the banks will be capable of increasing the customer service for the customers near and far. The study of Graven (2000) focused that, the banking industry has been also looking for new methods to expand its customer base and technological development has conveyed speedy processing and communication of information, ease of banking and promotional tasks, wider banking networking and local and global connections a standard scale. However, it is late but banking sector of Bangladesh is adopting e-banking service. The governor of BB, Rahman (2010) asserted that, it has achieved a historic landmark in the trade and business arena to introduce e-commerce recently. Banks like HSBC, SCB, EBL, DBBL, Brac Bank and so many others are providing e-banking service at moderate to high level. Hasan (2010) stated that, Bangladesh is far behind from the expected level e banking system. Therefore, it has to improve on this segment.

2.4 Different Technical products currently used by the Banks in Bangladesh

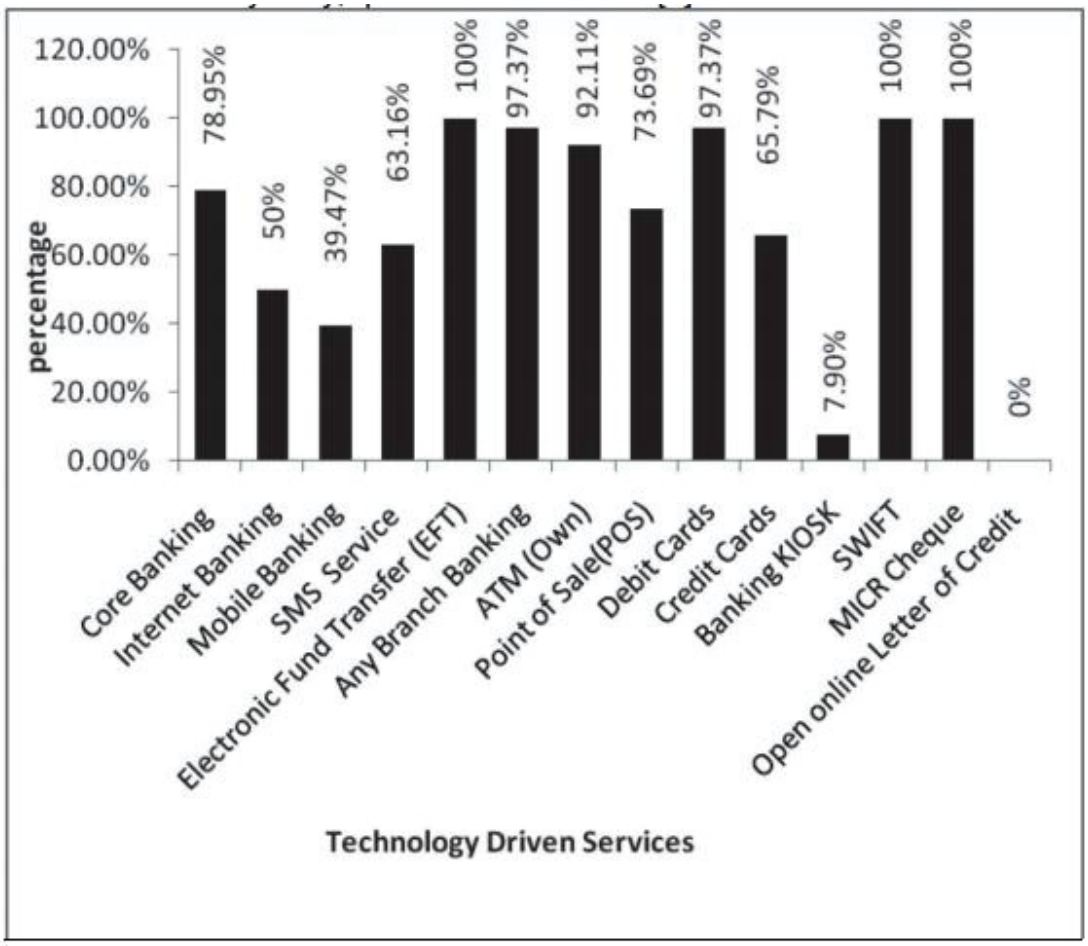
Ali *et al*. (2007) asserted that, computer, modern technology and ICT have widely implemented area for gathering the financial needs through saving customers access time worldwide. Now customers can easily utilize the tools of ICT to know their accounts, check balance, transfer balance and even pay bills online. However, it is very common in global term but here in Bangladesh, it is slightly difficult and not yet implemented properly. In the context of Bangladesh, there are several special services that are growing.

- Core Banking
- Internet Banking
- Mobile Banking
- Electronic Funds Transfer
- Any Branch Banking
- Banking KIOSK
- SWIFT
- MICR
- ATM

- Online Banking
- Credit Cards and Debit Cards and so on.

The PCBs and FCBs have most of online facilities for their customers. In Bangladesh, FCBs including Standard Chartered Bank and HSBC are the leading bank to introduce technology driven banking Services. These banks along with some other banks provide services like debit card, credit card, ATM, Point of Sale (POS) services, internet banking, mobile banking, Electronic Fund Transfer (EFT), any branch banking and so on. Most of the PCBs are also providing these facilities but the state owned banks are not improving with repaid pace than other banks (Chowdhury and Ullah 2013). All the PCBs are highly improving their service area through using modern technology to make customer service easy. Customers are now getting much easier access to the banking services due to these improvements.

Figure 2.1: Technology driven service provided by banks in Bangladesh



Source: Chowdhury and Ullah, 2013

2.4.1 Core Banking

It refers to a situation where a group of banks provides customer service together or a part of service. A customer may enjoy any sort of service from any bank under the group (Chowdhury and Ullah, 2013). It requires affiliation among the group. For example, account holder of some other banks can use the ATM kiosks of DBBL's.

2.4.2 Internet Banking and Mobile Banking

It depicts that banks are providing services through internet facility and it provides 24 hours banking services. In accordance with Ali *et al* (2007) internet banking and mobile banking are two newest addition in banking sector of Bangladesh. HSBC and SCB is the pioneer to provide internet-banking service. In Bangladesh Brac Bank's provides

first complete mobile financial service named "bKash" in 2011 (Brac, 2011) later on DBBL, Prime bank and some other banks have taken this initiative.

2.4.3 Electronic Funds Transfer and Any Branch Banking

Electronic Funds Transfer (EFT) refers a process of sending money from one bank account to another without having any paper money transaction. Majority of the FCBs and PCBs provide this facility. On the other hand, any branch banking service refers where an account is reachable from any branch of a particular bank and clients can transact through any branch of the bank. Ahmed (2012) pointed that, in Bangladesh, any branch banking has become popular now a day.

2.4.4 Banking KIOSK and MICR

Bangladeshi customers are familiar with the term ATM booth that also provides KIOSK Banking. It provides flexibility to the customers to conduct their banking transactions through the KIOSK machine.

In accordance with Chowdhury and Ullah, (2013) MICR (Magnetic Ink Character Recognition) technology has been adopted in Bangladesh in 2009. It is a character recognition technology used mainly by the banking industry to make easy the processing of cheques.

2.4.5 ATM (Automated Teller Machine)

Banking service clients in Bangladesh are familiar with ATM services is a self-services. It is a device for providing teller services for customers of the banks. It works in the form of banking Kiosks or Electrical Fund Transfer (EFT) activities and so on. DBBL has around 2000 ATM kiosk around the country and it is leading in ATM service providing (DBBL, 2013). However, major services are:

- Cash withdrawal
- Deposit of cash.
- Funds transferring between accounts
- Bill payment
- Full-statement producing

- Balance and information enquires
- Request for cheque book
- Notice of withdrawal

2.4.6 Credit cards and Debit cards service

A wide range of established banks like SCB, HSBC, Citi Bank and some other private or state owned bank provide credit card service in the place of cash currency.

The major categories of credit card in Bangladesh

- Credit Card
- VISA and Master Card Credit Cards

On the other hand, debit cards are linked directly to the bank account of its holder. Almost every bank now provides debit card service although some state owned banks do not have this facility.

2.5 Customer Satisfaction in banking sector

Customer satisfactions refer a modern approach to ensure excellence in organizations as well as provide a truly customer-focused management and culture that satisfy the customers' demands and desire. The study of Dovaliene *et al*. (2007) stated that, retention and long-term relationships with customers have an affirmative impact on the outcomes of enterprise activities and play a vital role. Determining customer satisfaction presents an instantaneous, significant and objective response about clients' fondness and expectations. In Bangladesh, there are different issues to be considered regarding the banking sectors' performance and customers' satisfactions. However, it is to be said that, customers prefers different things based on different situations. Some customers want speedy service some other wants low service costs and different other things. Service quality is highly important for customer satisfaction in banking sector. Service quality is generally considered as a tool that can be utilized to create a competitive advantage Parasuraman *et al*. (1988, 1991). Bangladesh is far behind to achieve the expected level of customer service like global banking industry. Now, it is urgent need to improve its banking service to increase customer satisfaction (Mondol and Shah, 2013).

2.6 Internet banking service

Internet banking services is a process of the banks to serve its customers through the Internet. In accordance with Fox (2006) internet banking brings opportunity for the consumers to conduct regular banking dealings with a computer, which is connected with an Internet connection. There are different facilities have been provided by the internet banking including, account balance checking, transaction record checking, third party payment, online purchase or balance transferring. On the other hand, Mukherjee and Nath (2003) pointed that, internet banking as a type of banking service through which consumers can execute banking transactions such as balance checking and making payments via telecommunication network and so on. In Bangladesh, only a few banks provide this facilities including HSBC, SCB etc to a very small length. For example; the clients of HBSC in Bangladesh can easily check their account balance and can know the update. With the emergence global economy and the improvement of e-commerce and online business have increasingly become an essential part of business approaches and a well established channel for economic development. In fact, new ICT is becoming a significant force in the future development of financial services, industry, and especially banking. In fact, internet banking has been well practiced in the developed part of the world, where more than 75% of all banks offer their services through the Internet (Maenpaa, 2006). The growth of internet banking has outshined the geographical and industrial barriers at the same time it facilitates new market opportunities.

2.7 Prospects of Technology Driven Banking in Bangladesh

Communication system got a breakthrough change after the invention of internet. Now a day internet has become a part of parcel for the lives of numerous people around the world. Like all other developing countries, Bangladesh is also using Internet at a higher percentage than years before as a mode of communication. Azam (2007) has pointed that, in developing and developed countries, internet is being used as a strong and admired medium of communication. OECD (2001) indicated that there is good positive association with Internet usage and online banking service. Table below is showing the

scenario how percentage of internet users is increasing in Bangladesh. This is really a hope for the technology-driven banking industry in Bangladesh.

Table 1: Internet users per 100 inhabitants in Bangladesh (from 2001-2010)

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
No. of User	0.13	0.14	0.16	0.20	0.24	1.00	1.80	2.50	3.10	3.70

Source: International Telecommunication Union (adopted from: Chowdhury and Ullah, 2013)

There are around four billion mobile phone users all over the world. This means that over 50% of global population uses mobile phones. In some developed countries the rate of mobile users is above 90% and the penetration of mobile phone users is increasing in the developing nations (Chowdhury and Ullah, 2013). Very recently (From 2011) the introduction of mobile driven banking by some private commercial banks such as BRAC Bank, Trust Bank, DBBL, and some other PCBs in Bangladesh opened a new window for technology driven banking. In 2010, the number of mobile subscribers was 68.6 million which lifted to 85.0 million in 2011. Among the mobile users only 13% have bank account therefore, it could be a great source for the bankers to establish mobile banking service. Some of the FCBs and PCBs are already using optical fibre network to conduct online transactions such as ATM and POS services. Bangladesh Bank (BB) has started to initiate different projects to modernize national payment and settlement system, which is followed by the development of inter-bank online service network. Chowdhury and Ullah, (2013) also added that, BB is expected to initiate mobile phone-based credit services to hasten loan disbursement and revival in rural areas. In regards to this Dhekra (2009) argued that the future of banking system is totally technology driven banking.

2.8 Customers' Satisfaction on E-banking

A survey carried out by KPMG (1999) asserted that improvement of online banking or e-banking can be identified through the level of e-banking services, being offered and the acceptance of the service by the customers. From the consumers' side it can be said that, consumers want convenience, transactional effectiveness, a choice of core banking services, and entrance to competitive returns and prices. To ensure the consumer satisfaction, Cox and Dale (2001) had categorized four important factors in delivering quality service to the customers

1. Ease of use
2. Customer's confidence
3. Online resources
4. Relationship services

This study is focusing to analyze the customers' satisfaction in the banking sector of Bangladesh. However, there is not enough study on this area. Internet is playing a vital role to provide online services as well as to give a completely new channel of business. In regards to Hasan (2010), it is to say that, e-business, e-commerce, and online financial services industry have become an essential component of business strategy.

2.9 Summary of the chapter

Banking sector of Bangladesh is playing a vital role in the economy with the number of 48 commercial banks. However, the service of commercial banks is increasing although the overall banking sector is not yet completely modernized. PCBs and FCBs are focusing more on online and internet based services as well as use of modernized technologies whereas SCBs are not that much advanced in taking innovations. However, the level of e-banking service is gradually improving with the number of internet users. Customers are now using ATMs, mobile banking, Internet banking, debit card and credit card more than previous. On the other hand, central bank of Bangladesh is highly inspiring commercial banks to implement more online based banking service. Following the banking sector of developed countries, banking sector of Bangladesh is now taking different approaches to make the service easier to the customers. The study

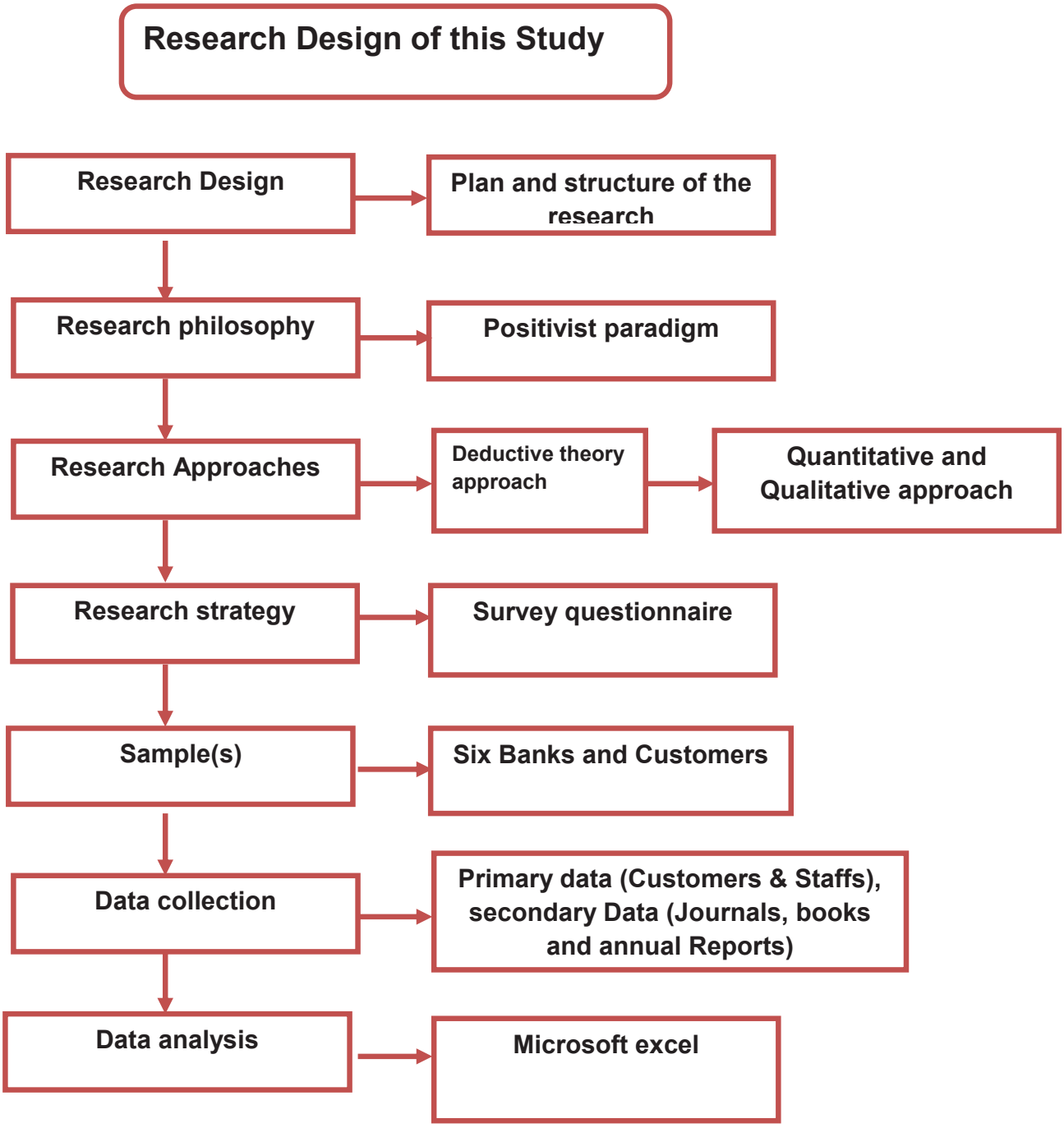
would like to assess whether these innovations and additions have increased customer services in the banking sectors.

Chapter Three: Research Methodology and Design

3.1 Introduction

A researcher has to need research methodology for conducting a research, which should be well designed. The best possible result is obtained through showing a way via research design. Meanwhile, a research project is intended to streamline view points and approaches on the situation and the way how it will be understood and regarded (Denzin and Lincoln, 2000). Literally, to select and to portrait the research, there are no defined rules and rigid procedures. Bryman (2001) asserted that, a research can employ several methods but still producing same results and at the same time they are regarded as the finest research outcome. In agreeing with Denzin and Lincoln, Silverman (2010) opined that to achieve research objective and goals, research methodology is needed in addition to the requirement research question and research methodology. This study is focusing the banking sector of Bangladesh and how technological implementation influencing customer service and satisfaction.

Figure 3.1: Overall design of this research.

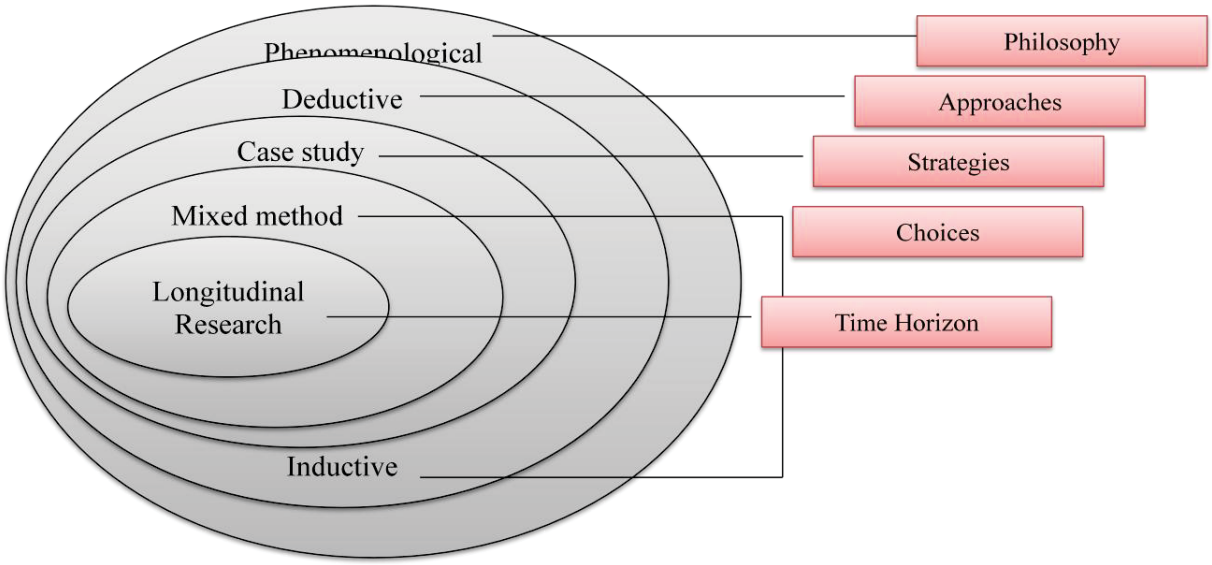


Source: own-creation

3.1 Research Design

Bryman and Bell (2007) commented that the choice of research design is good indicator to demonstrate where the emphasized area of the author and what concerns are surrounding the research process. As it is about the banking sector of Bangladesh, which is a broad aspect to be researched therefore, the researcher would like to design the research in a way that satisfies the research aim and objectives. A research design can be depicted through an onion diagram. Here is a diagram for designing any academic research; the author has followed the design depicted below for the study

Figure 3.2: the onion diagram



Source: Saunders *et al.* 2007

3.2 Research Philosophy

On the basis of the nature of the research, philosophy of the research is determined. A research philosophy is helpful for understanding of specific research is conducted or which is basis of research philosophy designed. To choose one specific philosophy for

the study. Examination of research philosophies` is required. Meanwhile, selecting research philosophy is crucial as it has effect on the whole research methods (Johnson and Clark, 2006 and Saunders *et al*., 2009). Moreover, the researcher must validate the reasons of selecting a particular research philosophy. Saunders (2007) mentioned that common research philosophies have relation with positivism, interpretive and realism.

Figure 3.3: Research Philosophy

Terms	***Positivism philosophy***	***Phenomenological philosophy***
View	Objective	Subjective
Observer	Independent	Part of what observed
Reliability	Rely on facts	Rely on meaning
Considerations	Causality and fundamental laws	Happenings and events
Process	Formulating and testing hypothesis	Developing ideas through induction of data
Sample size	broad	Small
policy of research	General investigation with some predetermined questions	In-depth investigation

Source: Easterby et al., 1991

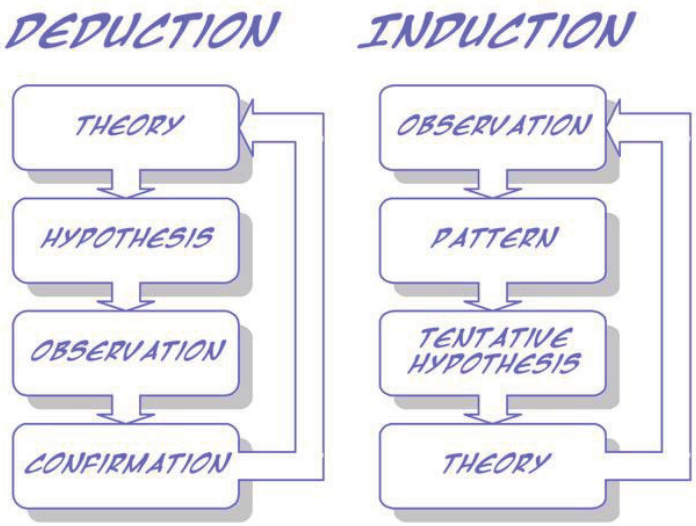
Comparing with positivist paradigm and the phenomenological paradigm, the researcher would like to emphasize that; the study will be conducted on positivist paradigm. Based on the objective of the study, facts discussed in the study and research policy, Philosophy of the study will be Positivism Philosophy.

3.3 Research Approach and Methods

Based on the diverse objectives and goals of the research, the approaches could be different. Saunders *et al* (2009) highlighted that research should go with the best approach to produce best result. For this kind of research, researcher has to collect both qualitative and quantitative variables and information which will be included in the

analysis. The study will be carried on through mixed method. There is another type of research which is based on inductive and deductive reasoning

Figure 3.4 Inductive and Deductive Reasoning



Deductive approach is based on positivist's paradigm where as inductive research is based on phenomenological philosophy (Johnson and Clark, 2006). This study will be based on positivism philosophy and will encounter the theory through confirmation. Hence, the study will be based deductive approach.

The purpose of the research can be categorized in three types. They are exploratory, descriptive and explanatory research

Table 3.1: Purpose of the research study

EXPLORATORY	DESCRIPTIVE	EXPLANATORY
❖Become familiar with the basic facts, setting and concerns.	❖Provide a detailed, highly accurate picture.	❖Test a theory's predictions or principle.
❖Create a general mental picture of conditions.	❖Locate new data that contradict past data.	❖Elaborate and enrich a theory's explanation.
❖Formulate and focus questions for future research.	❖Create a set of categories or classify types.	❖Extend a theory to new issues or topics.
❖Generate new ideas, conjectures, or hypotheses.	❖Clarify a sequence of steps or stages.	❖Support or refute an explanation or prediction.
❖Determine the feasibility of conducting research.	❖Documents a causal process or mechanism.	❖Link issues or topics with a general principle.
❖Develop techniques for measuring and locating future data.	❖Report on the background or context of a situation.	❖Determine which of several explanations is best.

Source: Bryman and Bell (2007)

3.4 Data Collection Method

Data collection is one of the core parts of the study. There are many methods available for the author to collect data through questionnaire, interviews and observation (Kothari, 2004). As the study focuses on the broad specific issue of online banking in the area of customer satisfaction and cost reduction of the banks, the author will collect data via questionnaire from the respondents. For this research, the researcher will take 150 respondents from different level such as; customers of the banks and bank executives of the banks.

3.4.1 Survey Questionnaire

Survey is a mechanism to collect data from the targeted respondent through a standard questionnaire or through interviews. Bryman and Bell (2007) focused the differences between questionnaire and survey through depicting the comments that people are sceptical to make differences between survey and questionnaire. Survey is bigger term which covers questionnaires, interviews and other tools. Questionnaire is just one section of survey process. In this research, the author will use questionnaire survey tool for this study. A total 150 people have been surveyed through using questionnaires. Questionnaire has been given in appendix 01.

Primary Data Sources

From Dhaka area, selected banks (Dutch Bangla Bank, Dhaka Bank, Eastern Bank, HSBC, Prime Bank and Sonali Bank.) primary data has been collected using judgmental sample technique. The approach was to conduct interview with prescribed questionnaire

Sources of Secondary Data

The study will be based on primary and secondary data where secondary data will be obtained through exploratory approach from internet, books and academic journals. Secondly, survey questionnaire is produced to test empirically the level of saturation of E-banking in Bangladesh including various publications from Bangladesh Institute of Bank Management, Bank for International Standard Working, Papers International and Local Publication, Different seminars papers, information from the internet and UNCTAD and WTO publications

3.4.2 Survey Design

The incumbent study used a survey, which was developed and conducted to explore the feasibility of the E-banking in different Dhaka based public, private commercial and foreign banks. A customize designed questionnaire was developed as instrument and the survey was on 150 respondents for the purpose of the analysis. The respondents are mainly customers from different banks whose ages ranging from 18 to 65 years. The survey mainly asked query about the following areas.

- Customers' occupation
- Customer interest in using internet banking service
- Customer perception regarding service costs of banking
- Problem faced by customer during usage of service
- Nature of the problem that customer faced
- Factors of client satisfaction
- Level of satisfaction regarding services

3.5 Data Analysis

Key questions will be considered during data analysis. The additional information will be discounted form the basic analysis part (Blaxter *et al*., 2006). The author will analyze questionnaire survey information through MS Excel. The data will be demonstrated through table and graph.

3.6 Ethics of the Research

Ethics is a vital issue in conducting research to ensure that research work will not have any negative impact on the society (Trochim, 2006). In this study rights of respondents were clearly communicated and the author will follow the guideline of the research which will reflect strict position of the author in ethical ground

3.7 Limitations of the Study

The limitations on the conducting this study will be as below.

- Respondents' refusal to give data
- The sample size based on Dhaka City which may not reflect the whole country scenario
- The size of same is moderate.

However, the researcher had sincerely completed the research in order to avoid any mistakes. Samples have been selected as that represent the whole scenario.

3.8 Validity and Reliability

In terms of validity and reliability of the research, the reliability mainly describes the correctness and appropriateness of the conducing the research. Saunders *et al*. (2009) stated that the authenticity of information, methods of analysis and reliability of the source defines the reliability. The author tried to ensure about the reliability of the study. Almost all the information used and presented in this study is collected from authentic sources and analyzed accordantly, which are insightful, logical.

3.9 Summary of the chapter

This chapter of the study dealt with research design for the study regarding banking industry of Bangladesh and e-banking implementation. It has clarified the research design for this study as well as the research philosophy of the study, which is positivist paradigm. A questionnaire survey has been conducted on 150 respondents these are currently the customers of selected banks. In addition, data analysis techniques clarified thoroughly. Validity and reliability are important issues of a research; the researcher has clarified the validity and reliability of this study. There are some limitations of this research that has been well defined.

Chapter Four: Findings and Analysis

4.1 Introduction

Banking sector of Bangladesh is a significant sector for the whole economy but still it is not completely developed or modern. However, gradually technological improvisation, online banking and digital practices are taking place in the banking sector of Bangladesh following the banking facilities of developed countries. However, this study is focusing whether the technological implementation and online banking facilities are increasing customer services and satisfaction in Bangladesh at the same time how it is influencing the customers' costs of getting banking services. Here the researcher would like to analyze the information collected from different sources and try to focus on achieving the research objectives. A questionnaire survey (See Appendix A) on 150 people has been conducted properly in Dhaka city to get proper insight about the banking service and customer satisfaction as well as to fulfil research objectives. To analyze the data, this chapter will MS excel in order to analyze data. Findings from the data gathering will be presented gradually and analyzed properly in this chapter.

Findings and Analysis:

Here all the tables and graphs assert the field study findings;

Table 4.1 Distribution of Respondents category

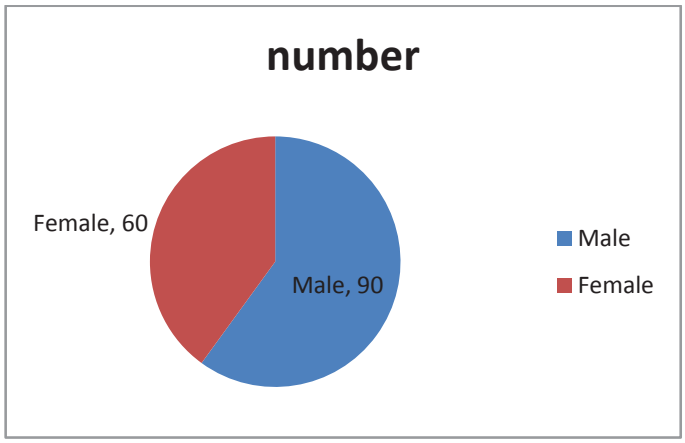
Age`	Students/ teachers	Govt. Employees	Businessmen	Private jobs and others	total
16-30	32	12	5	22	71
31-40	5	9	6	18	38

41-50	3	7	10	10	30
51- up	-	5	1	5	11
Total	40	33	22	55	150

Distribution of Gender

Here among 150 respondents 60 percent, respondents were male and rest 40% respondents were female.

Figure 4.1: Distribution of Gender



4.2 Analysis Based on Survey questions

In the survey questionnaire, the researcher has used different types of survey questions to collect information from the participants. The researcher used some open-ended questions, Yes/No questions, 1-5 scale questions and open-ended questions. However, to analyze the close-ended questions the researcher will mainly use the MS excel and close-ended questions will be evaluated based on the findings points.

4.2.1 Use of online Banking facilities **(Online banking/ ATM booth/ Debit/Credit card, /online balance transfer and checking)**

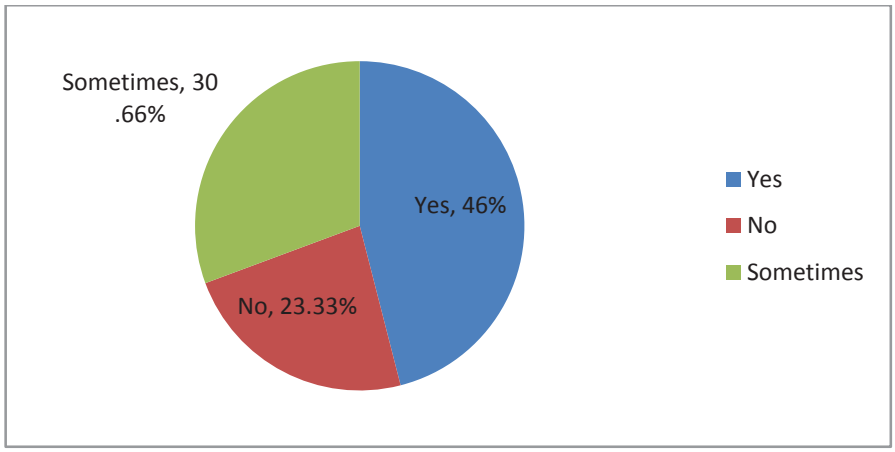
Initially the researcher has asked all the respondents to ensure whether they use online banking services or not. Majority of the respondents said they use online banking services.

Table 4.2: online banking/ e-banking users

Key	Male	Female	Total	
Yes (Often)	52	17	69 (46%)	
No	17	18	35 (23.33%)	
Sometimes	21	25	46 (30.66%)	
Total	90	60	150 (100%)	

Out of the total respondents 46% said that, they often used online facilities provided by their banks, in addition 30.66% uses modern facilities sometimes and only 23 percent said that they do not use e banking or other technology based facilities.

Figure 4.2: online banking/ e-banking users



This represents that, a good number of people are currently using technology based banking facilities such as; they are using ATM services, credit card, debit card master card or internet banking. The internet users in Bangladesh have increased significantly (around 28 times more that the number of internet user in 2001). Therefore, the percentage of e-banking users is increasing.

4.2.2 Technology based banking and efficiency of banking service

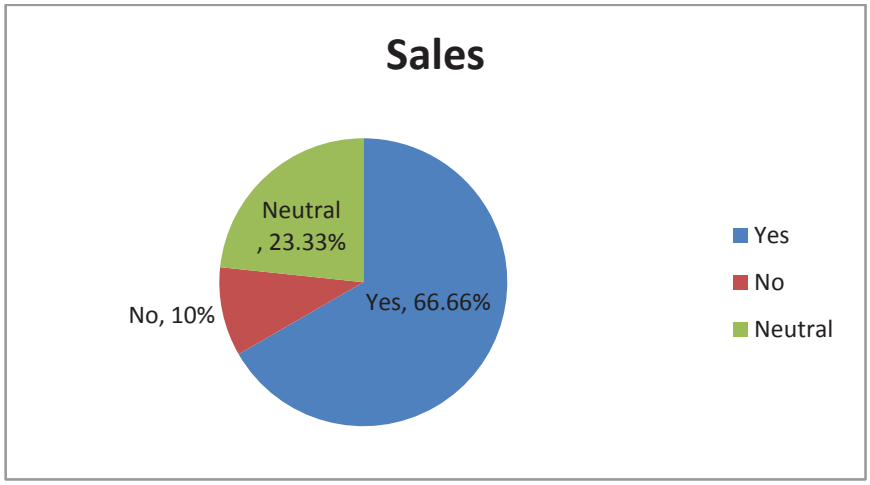
The researcher tried to find out what customers' think about technology based banking service. Do they think that, e-banking or technology based banking has increased service efficiency?

Table 4.3: Do you believe technology based banking service and online banking increased bank service efficiency?

Key	Male	Female	Total
Yes	65	35	100 (66.66%)
No	10	5	15 (10%)
Neutral	15	20	35 (23.33%)
Total	90	60	150 (100%)

Now, there is a good number of people (around 67%) in Bangladesh those who believe that, technology based banking and modern banking service have increased the customer service and banking efficiency. However, either still many people do not think or they may not believe that banking service has been improved. 10% people said that customer service has not been improved and 23.33% of them did not comment anything. A large number of respondents (66%) strongly believe that online banking reduced queuing in banks.

Figure 4.3: technology based banking increased efficiency and customer service



Many of our respondents said that, efficiency has been increased but customer depends on several things. In fact, customer service is a abroad issue depends on how they deal with the customers, services costs as well as transaction times, problem

solving and many other issues. Therefore, still some of the respondents believe there are scope to improve customer service and efficiency.

4.2.3 Improve customer service level and tie their customers through adopting new technologies

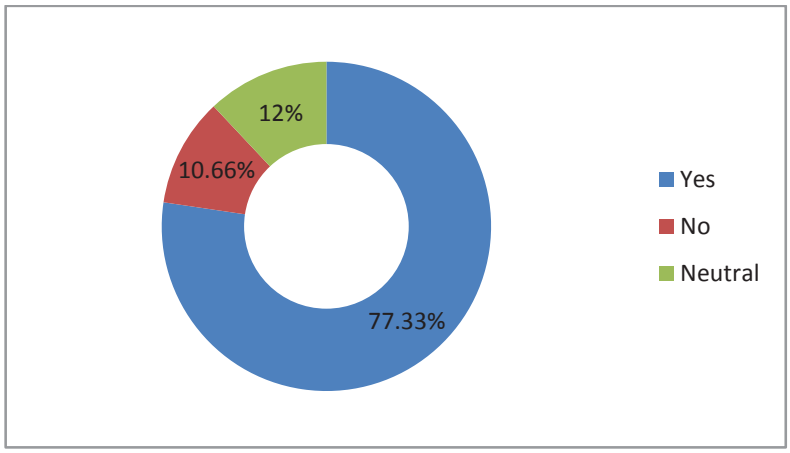
As the respondents are from different backgrounds, the researcher has asked them, whether they think banks should be more technology based to bring customers closer and to provide better customer service.

Table 4.4 Banks will be able to improve customer service level and tie their customers closer to the bank by adopting new technologies

Key	Male	Female	Total
Yes	69	47	116 (77.33 %%)
No	13	3	16 (10.66%)
Neutral	8	10	18 (12%)
Total	90	60	150 (100%)

Almost 80% people believe that, banks will be able to improve customer service level and tie their customers closer to the bank by adopting new technologies.

Figure 4.4: Adopting new technology improves customers' experience



This clarifies that newer improvement, such as; 24/7 online banking, efficient banking services, easy money transfer, internet banking, online transaction etc. will surely bring the customers closer to the banks. Consequently, it will satisfy the customers.

4.2.4 Cost of banking services

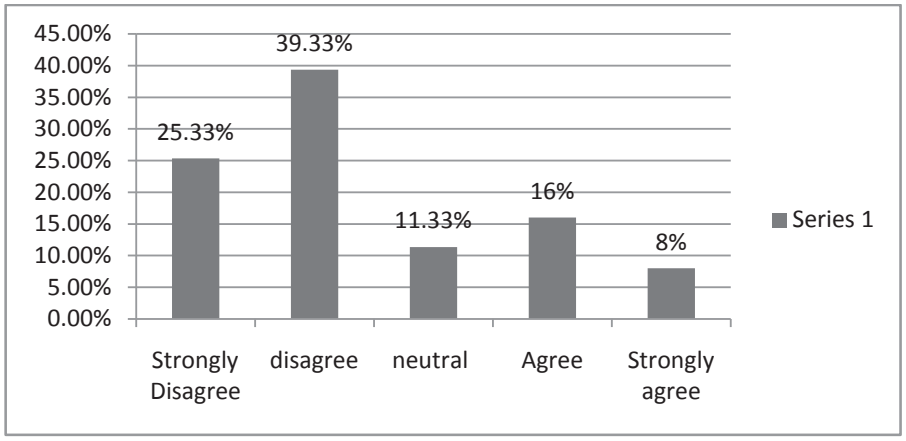
The amount of money a bank charge from its clients' for the services it provides is service costs from the clients. The charges vary banks to banks. There are different types of charges for online services, such as; card fees, online transaction fees, balance transfer fees etc. here the researcher tried to know whether the charges are alright for the customers or not.

Table 4.5: Costs of banking service is lower than before

Key	Male	Female	Total
Strongly disagree	23	15	38 (25.33%)
disagree	32	27	59 (39.33%)
Neutral	15	2	17 (11.33%)
Agree	13	11	24 (16%)
Strongly agree	7	5	12 (8%)
Total	90	60	150 (100%)

The findings here indicates that, a large number of people do not think that, costs to get online or technology based banking service is higher than before. Now a day consumer can do their banking in almost everywhere. Now they can receive cash, send money without going to the bank but for each facility, they have costs. Most people believe that costs have been increased than before.

Figure 4.5: costs of banking service



More than 60% people said that, they do not believe the costs of banking service are lower now. In fact, the researcher came to know that, every year the clients have to pay some fixed amount of money for holding a card (for example; A DBBL nexus card holder has to pay more than 550 taka ($7) even if they do not do any transaction). To send money from one place to another, there are some online charges too. In addition, using card of a bank in ATM machine of another authorized bank costs substantial money per transaction. In addition, to send money through mobile banking (Bkash and Dutch Bangla mobile banking) a substantial amount of money charged (around 100 tk. ($1.3) Charged to transfer 5000 tk., which is high. The overall findings assert that, respondents think that, costs of banking service has been increased with additional services. Nonetheless, 24% people supported that, cost is lower than before. Actually, now clients need not to go banks frequently to withdraw their money or to send money. They can do this near their home, so, some costs (such as; communication costs) has been reduced.

4.2.5 Transaction process is fast and fair

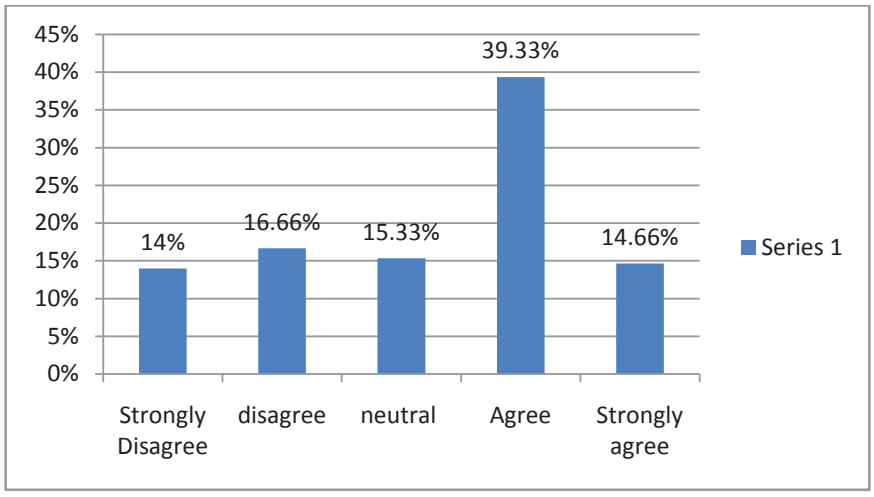
The researcher tried to asses some narrow areas to identify customer services and efficiency of the services. However, the speed of transaction process, customer dealing is also a measurable issue for the organization. If a customer has to wait in queue for long to complete a transaction in the bank, it may make him/her dissatisfied. So, it is related with customer service and satisfaction.

Table 4.6: Transaction process is fast and fair

Key	Male	Female	Total
Strongly disagree	10	11	21 (14%)
disagree	14	11	25 (16.66%)
Neutral	9	14	23 (15.33%)
Agree	40	19	59 (39.33%)
Strongly agree	17	5	22 (14.66%)
Total	90	60	150 (100%)

It represents that, a large number of people (55%) agree that transaction process is fast and fair now. It means technological implementation has improved the speed of customer dealing. Nevertheless, still 30% people do not agree that, technological innovation and online banking have improved efficiency of transaction. Therefore, organization has to work on this sector.

Figure 4.6: Speed of transaction process is fair

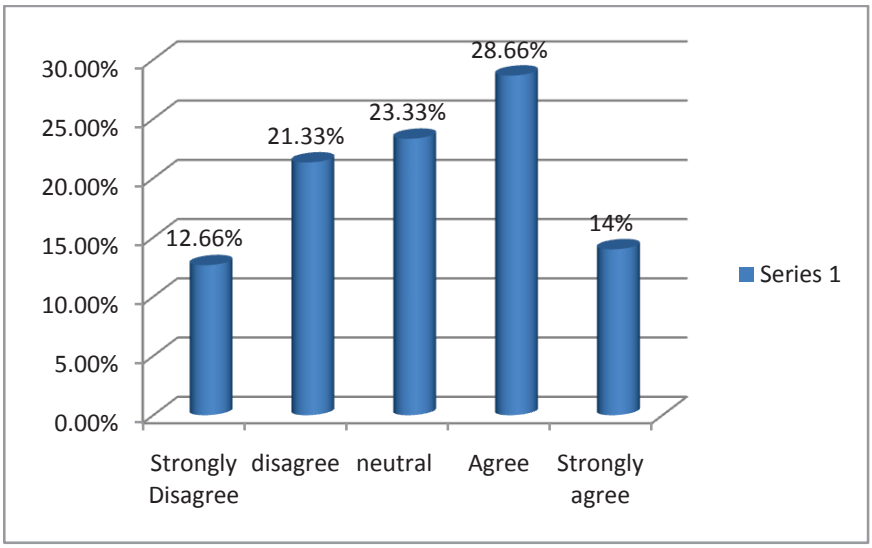


This figure asserts that, customers believe that, transaction process' speed has been improved.

4.2.6 Online banking is hassle free and usage in all network peripherals

What most customers think about banks and their services is a significant issue to be considered. However, if customers think that, online banking or internet banking is flexible and perfect for the organization then banks must focus on this. The percentage that believes online banking is hassle free is above 40%. On the other hand, a good number of people (24%) did not make comment the issue. Still, it has to be said that, online banking has some shortcomings, it has to be improved.

Figure 4.7: Online banking is hassle free and can be used by almost all network peripherals



4.2.7 Efficiency of banking services

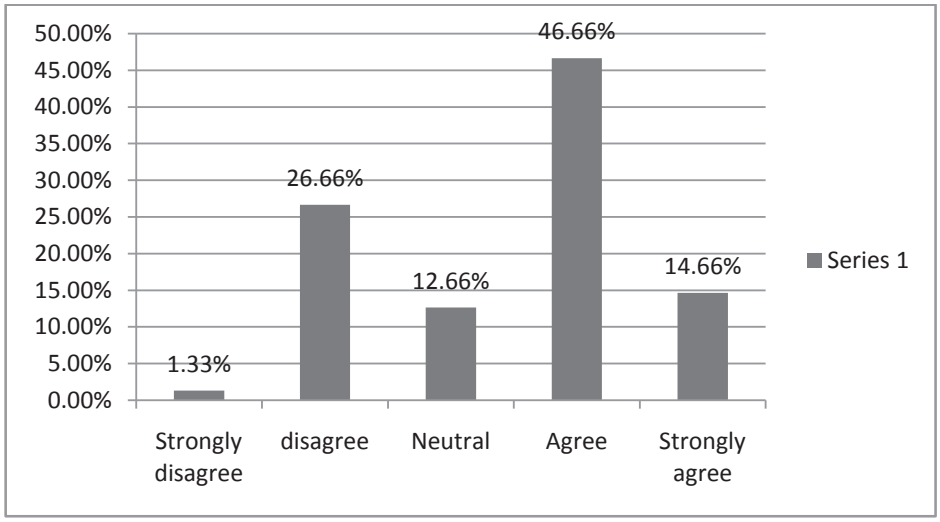
The researcher tried to know how the individual customer opines about the efficiency of banking sector. Efficiency depends on transaction speed, network, and customer service and so on. Now a day, bank cheque is converted within a day in Bangladesh but previously it took around a week to finalize the transaction of a cheque to be converted into cash. However, the researcher asked them to inform whether banking efficiency has been increased due to technology driven banking.

Table 4.7: Efficiency of Banking Services Has Been Increased

Key	Male	Female	Total

Strongly disagree	2	-	2 (1.33%)
disagree	20	20	40 (26.66%)
Neutral	8	11	19 (12.666)
Agree	45	22	67(44.66%)
Strongly agree	15	7	22(14.66%)
Total	90	60	150 (100%)

Figure 4.8: Efficiency of Banking Services Has Been Increased



The research findings show that, more than 60% people (agree+ strongly agree) believe that the efficiency level of banking sector has been increased. On the other hand, around 30% did not agree. This finding depicts how different customer perceives things differently. As technology driven banking has maximized customer interaction point, now customers can take banking service at different places (such as: Fast track booth, mobile banking retail agent etc.). Therefore, the efficiency has been improved than before.

4.2.8 Process of solving a problem

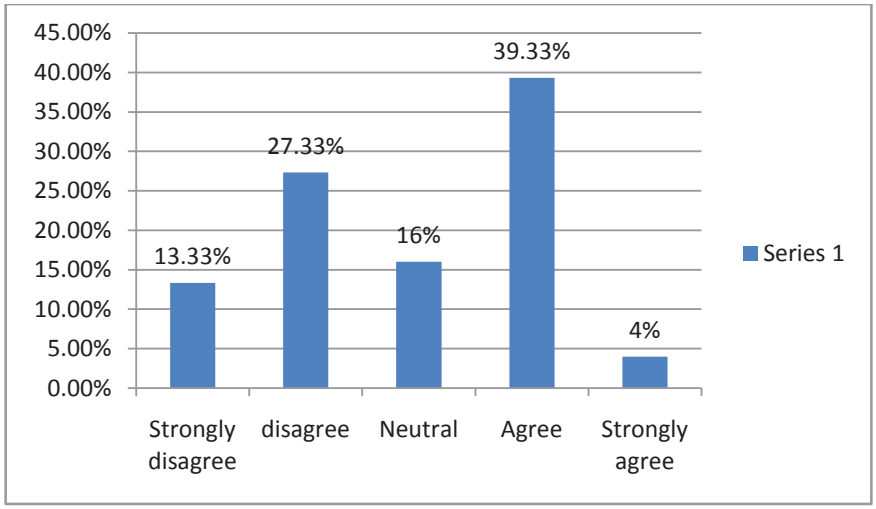
To be more specific about customer service and banking efficiency findings, the researcher asked how any kind of problems are sorted. However, the findings are;

Table 4.8 : Any problems are sorted out fast

Key	Male	Female	Total
Strongly disagree	7	13	20 (13.33%)
disagree	22	19	41(27.33%)
Neutral	17	7	24(16%)
Agree	39	20	59 (39.33%)
Strongly agree	5	1	6(4%)
Total	90	60	150 (100%)

Problem solving techniques and capabilities may satisfy customers demand. However, the findings above showed that, still most of customers are not satisfied to their banks while it comes about the issue of problem solving.

Figure 4.9: Any problems are sorted out fast



The findings in the chart shows that, almost half people said yes, problems are sorted out fast and remaining half said, no, problems are not sorted out fast. This indicates that, majority of the banks should increase the efficiency in dealing with problem identification and problem solving of the customers. However, now customers are busier, they want swift and easy solution of any problem therefore; banks should concentrate on this issue.

4.2.9 Internet technology and opportunities to offer better banking services

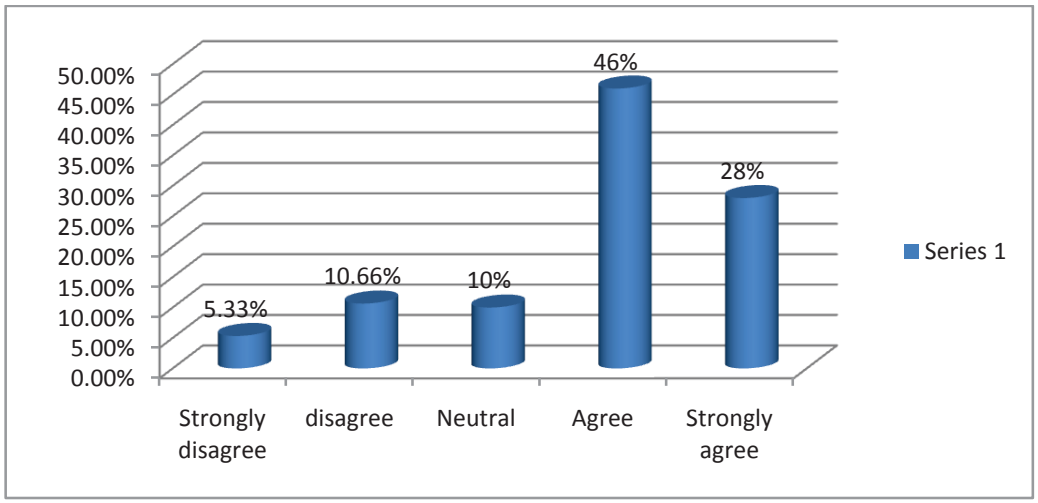
Internet has become an important tool of communication globally. However, The researcher tried to asses, what customers perceive regarding the internet based banking. For many customers e-banking means 24/7 ATM service but internet banking or online banking is a lot more. In Bangladesh, very few banks provide internet based banking services (such as: HSBC bank). However, the findings are:

Table 4.9: Internet technology would provide better opportunities to establish a distinctive strategic position compared to other traditional forms of banking services

Key	Male	Female	Total
Strongly disagree	3	5	8 (5.33%)
disagree	10	6	16 (10.66%)
Neutral	14	1	15 (10%)
Agree	34	35	69(46%)
Strongly agree	29	13	42 ((28%)
Total	90	60	150 (100%)

In modern business and commerce, the contribution of internet or ICT is undoubtedly significant. Even for the case of banking sector, internet has brought big opportunity to satisfy customers in a speedier, faster and easy way. However, our study findings showed that, almost 80% people believe that, internet will bring better opportunities to establish a distinctive strategic position compared to other traditional forms of banking services. Only a few respondents did not agree to this point. However, the use of online facilities is gradually increasing in the banks of Bangladesh.

Figure 4.10: Internet technology would provide better opportunities to establish a distinctive strategic position compared to other traditional forms of banking services



This finding clarifies that, a major portion of customers believes that, internet technology based banking would provide better services.

4.2.10 Satisfaction level with online banking facilities of current bank

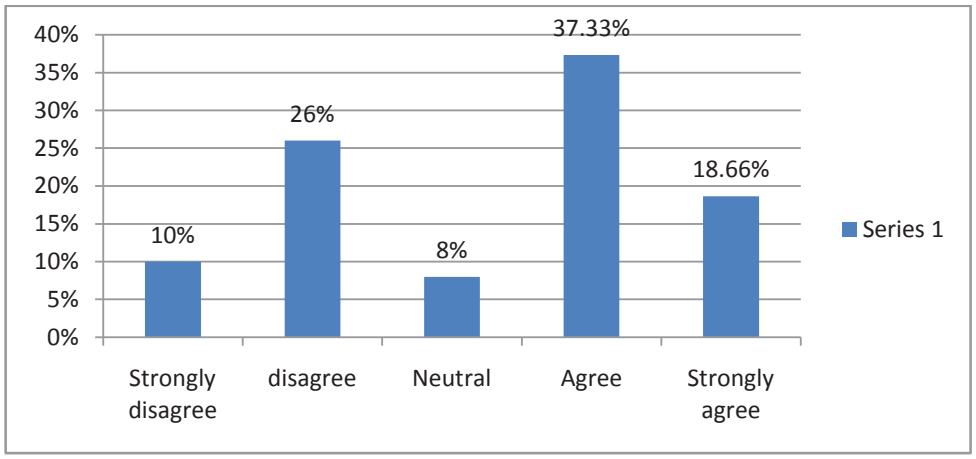
So far, the researcher has discussed about the different aspect of customer service, satisfaction and costs of the online-based banking service of Bangladesh. In this stage, the researcher has thrown a direct question to the respondents and the findings are;

Table 4.10: You are satisfied with online banking facilities of your current bank

Key	Male	Female	Total
Strongly disagree	10	5	15 (10%)
disagree	18	21	39 (26%)
Neutral	8	4	8 (8%)
Agree	34	22	56 (37.33%)
Strongly agree	20	8	28(18.66%)
Total	90	60	150 (100%)

That was kind of a rapid question, whether the respondents are satisfied with their current banks or not. However, the judgment depends on what the respondents answered. Currently 53% customers are satisfied with their current banks on the other hand, 41% respondents said that, they are not satisfied. However, there are different factors that causes behind the customers satisfaction.

Figure 4.11: You are satisfied with online banking facilities of your current bank



It indicates that, still a number of customers are not satisfied. Therefore, the banks have to take initiatives in order to satisfy customers and to create a profitable relationship

4.2.11 Technological innovation and implementation, customer service, satisfaction, and reduced costs in the Banking sector of Bangladesh

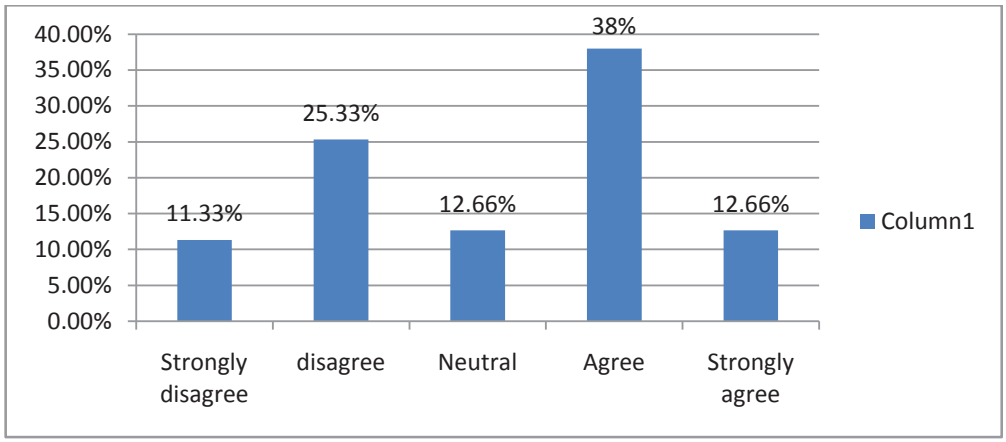
This question depicts almost the central research questions. However, through this question the researcher has tried to figure out what generally consumers thing about the core issue of the research. The finding is;

Table 4.11: Technological innovation and implementation has increased customer service, satisfaction and reduced costs in the Banking sector of Bangladesh

Key	Male	Female	Total
Strongly disagree	10	7	17 (11.33%)
disagree	20	18	38(25.33%)
Neutral	16	3	19(12.66%)
Agree	34	23	57 (38%)
Strongly agree	10	9	19 (12.66%)
Total	90	60	150 (100%)

The findings showed that, around 50% or the respondents said that, technology driven banking has increased customer service though the question was a generalize viewpoint of the respondents. But previous questions were scrutinized questions to figure out customers' perception regarding the title. On the other hand, around 36% respondents did not agree with the statement and 12% people did comment neither agree not disagree. This clarifies that, still a large number of customers are not satisfied, therefore, banks have to work on this issues.

Figure: 4.12: Technological innovation and implementation has increased customer service, satisfaction and reduced costs in the Banking sector of Bangladesh



This shows customers perception regarding the technology driven banking, customers' service, satisfaction and so on.

4.2.12Top priority issue in Banking Service

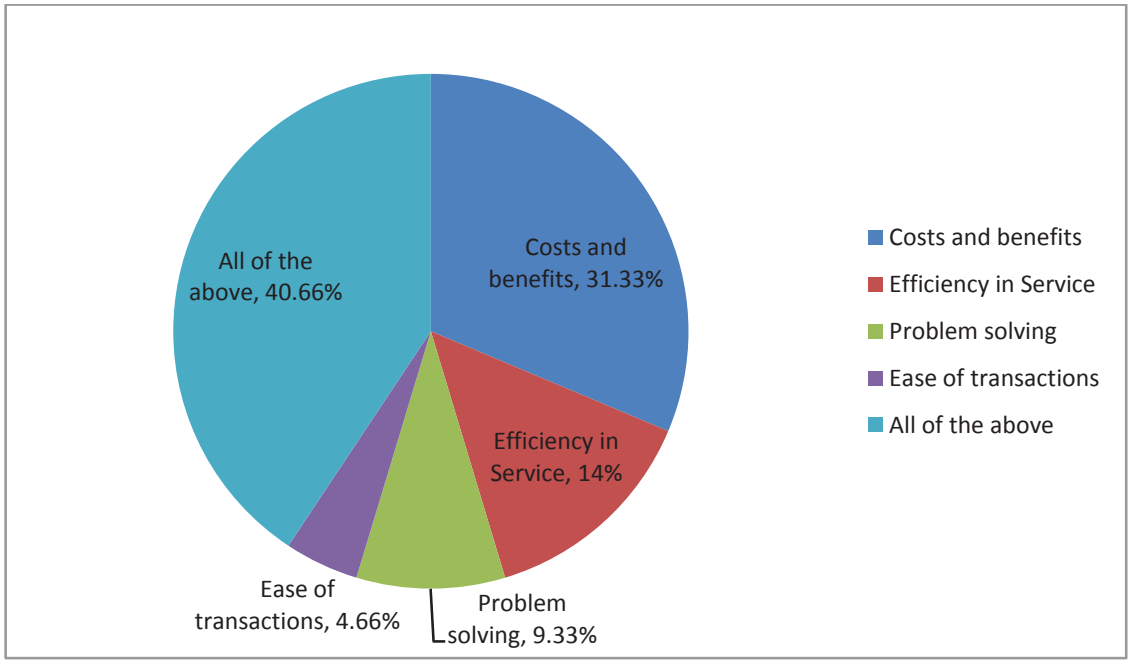
The researcher also tried to figure out what issues customers prioritize while thinking about banking service. There might have different types of choice by the customers but the researcher have categorized some of them

Table 4.12: Which one from the following gets your top priority while you think about banking Services?

Key	Male	Female	Total
Costs and benefits	29	18	47 (31.33%)
Service efficiency	14	7	21 (14%)
Problem solving	11	3	14 (9.33%)
Ease of transaction	5	2	7 (4.66%)
All of the above	31	30	61 (40.66%)
Total	90	60	150 (100%)

Costs of banking service and the benefits from the services are two most important variables that work behind consumer satisfaction. However, the findings asserts that majority of the respondents said that they want top priority in costs and services category as well as service efficiency, problem solving and ease of transactions.

Figure: 4.12: Which one from the following gets your top priority while you think about banking Services?



It shows that, 40% respondents said that, they want all the benefits mentioned in the table. However, major focus should be in minimizing costs and providing more benefits.

A set of recommendations has been made based on the findings and suggestion of the respondents as well as researcher's understanding on the whole issue. o

4.3 Conclusion

This chapter of the study covers the analysis on findings from the primary data collections. The researcher has collected data from participants of varied backgrounds. Therefore, this information represents a broad number of people. It has chosen 6 banks with that have different types of online integrations. However, the findings chapter has merely clarified the findings. It showed what people think about banking service, customer satisfaction, efficiency of service and so on. This chapter clarified; how banks are adopting newer technology and improving customers' services. The findings have been shown in excel sheet and it presents different situation. The chapter has broadly analyzed the online banking service, internet/technology based banking service and so

on. However, in this chapter the researcher pointed the findings and analysis. In the next chapter S/he will not discuss the findings with what previous authors said.

Chapter Five: Discussion and Recommendation

5.1 Introduction

In the previous chapter, the researcher has analyzed the research findings. The findings showed broad issues regarding customers' satisfaction, online banking, customer service and costs of banking service. A varied outcome has been asserted through the findings. Here in this chapter, a discussion on the research findings will be provided and then a set of recommendations will be made based on the findings from the respondent and literature analysis. The discussion will be cross matching with the previous literature. A compare and contrast among the current findings and previous studies will be presented here.

5. 2 Discussion

At the very beginning of the findings the researcher showed, the number of people using e-banking or online banking facilities. However, the finding showed that, a good number of people (around 75%) are using online banking services, similarly, the study of Hasan *et al*. (2010) and Chowdhury and Ullah (2013) have asserted that, the number online banking service users are gradually increasing. A large number of people are also using mobile-based banking service. The rates of technology users are increasing therefore, popularity of online baking are getting higher day by day. The researcher also found that, around 70% people believes technology based banking increases the efficiency of banking service, which is also supported by the study of Ali (2007) and Ahmed (2012). They have also said that, due to the swiftness and efficiency of technology driven banking service, it is becoming popular. Now, the customers of the different banks are using internet banking, mobile banking, any branch banking, ATM and debit card / credit card services and so on. In the findings chapter, we have seen that, more than 75% respondents said that, banks will be able to increase the customer

service by adopting newer technology and only a few (10.66%) said that, technology would not improve banking service toward the customers. The study of Modal and Saha (2013) customer service has been increased due to the internet banking but at the same time their study showed a large number of customers face problems using internet banking services. Therefore, banks have to consider this issue to ensure flawless service to the customers.

The study has analyzed that, costs of banking service are major concern regarding the online or technology based banking. Currently more than 50% people do not think the charge is fair. Moreover, they do not believe that; costs of getting modern banking service are lower. Only a small portion of respondents (24%) said that costs are lower than before. On the other hand, the finding from study of Musara and Fatoki (2010) does not match with the result of this study. In their study, they showed that, technology driven banking has reduced costs of customer service and it increased customer satisfaction. In fact, the findings indicate that, banks have to work on reducing customers costs. Qayyum and Khan (2007) also said it increased banking efficiency.

The findings showed that, 54% respondents agree that, transaction speed is now fair but 30% people did not agree with this statement. A number of previous studies (Musara and Fatoki (2010), Ali (2010) Mondal and Saha (2013) and Hasan (2010)) found that, internet and technology based banking service have increased banking efficiency and transaction speed. Although, around 30% people in the findings did not agree that, banking efficiency in Bangladesh has been increased. It has been considered that, problem solving is becoming easier due to the adoption of online banking but the question is about the speed o problem solving. Around 40% people do not agree on the other hand 43% people do agree that now a day problems are solved faster. This findings clearly an indication toward the banking sector that they have to be more effective in problem solving as it is highly related to the customer satisfaction.

The study also focused that, more than 70% people believe that, internet based banking would be able to bring better opportunities for the bank to ensure better customer service. Only a small number of respondents did not agree to this point. However, the study of Chowdhury and Ullah (2013) and Ali *et al*. (2007) also asserted that, banking

service in improving with the adaptation of modern technology. On the other hand, Mondal and Saha (2013) stated that customer satisfaction in online banking or e-banking service depends on several factions including; costs, benefits and speeds of the transaction and so on. Around 50% respondents said they are satisfied with online banking service of their banks but 41% are not satisfied. It actually asserts the customers demand are not fulfilling completely. The research also analyzed what customers prefer most from a banking service. Not surprisingly, majority of the respondents (32%) said that, they prefer costs and benefits in a banking service. In addition, they have responded about service quality, problem solving, and ease of transaction and so on. Similarly, Salehi and Alipour (2010), Hasan, *et al* (2010) and Mondal and Saha (2013) have said that customer satisfaction in online banking service depend on several perception including the services, costs, efficiency and so.

Finally the researcher would like to say that, this study has clarified and discussed properly about the findings. It has focused on the online banking or the technology based banking and how it serves customers' demand to satisfy them. The researcher research objectives has been accomplished through the study and it has answered the research questions.

5.3 Recommendations

The study has widely discussed about online banking in Bangladesh and about its outcomes. In fact, internet based banking or technology driven banning is getting popular in Bangladesh. Currently, a good number of people are using e-banking faculties in Bangladesh, which is not limited to money withdrawal from ATM booth. However, based on the study findings, here the researcher would like to assert some recommendations.

Improved efficiency in online banking

In terms of online banking, all the banks in Bangladesh have to improve their efficiency to provide services. Currently different problems are found in network, cash distribution

and customer service. They need to set up a strong ICT department that will deal technological functions. The team has to be properly trained in addition, latest technology and software has to be installed to ensure high quality service. Number of ATM booths or Fast track customer corner has to be improved. Technological improvement should be simple and customer friendly.

Improve network and security system

To provide better banking service in online, banks in Bangladesh should have better network around the country. Therefore, they should build and maintain a secure Network. In addition, security system of online banking has to be improved. Before introducing any new advanced technology, banks should have a compatibility test on usage and security. Banks should protect Cardholders' data and inform them about any changes. They should employ skilled employees to help customers in order to use newer technology.

Focus on costs of service

Many customers complained that, costs are higher in the network based banking service. To satisfy customers, service costs should be rational or logical to the demand of customers. Mainly the costs of card service, transaction fees have to be minimized or removed.

Increased problem solving and transaction speed

Customers are now busier; they want speedy and fast services. In any customer faced any problems in terms of online banking it should be resolved very quickly. Skilled employees and effective network can improve transaction speeds of the banks. Decision making process should be faster. Touch points or customer care service should be available for the customers to solve their problems.

Some other recommendations are;

- Banking sectors need promotion of their services and they need to create awareness among the customers regarding the benefit of technology driven banking or online banking services.
- Use and regularly update of software and check the system to avoid any kind of system failure.
- Making online banking completely hassle free and easy to the customers.

6.0 Chapter Six: Conclusion

The research is about to be finish. Here in this chapter, the researcher is going to conclude the research. At the very beginning of the research; the researcher had given a brief on economic situation of Bangladesh that indicates the country is a third world developing country. It does not have modern banking system. However, in the background of the research the researcher showed that, banking sector of Bangladesh is gradually accepting the newer innovation and technologies in the banking sector. Customer satisfaction is a core issue in the banking sector; therefore, banks have to work on this. Research aim and objectives have been set properly in the chapter. A research question has been set to be answered. A model has been showed based on the overall research planning approach. In the second chapter, the researcher has discussed about the findings from the previous studies. Different factors of adopting e banking have been discussed. How ICT and technology is shaping the banking service have also been discussed in the literature review. Different types of online banking services and facilities have been clarified in the chapter.

In methodology chapter, the researcher has designed the methodology of the study. An overall approach to the research method has been showed. Research design, philosophy and research approaches have been well clarified in the methodology. Data has been collected both primary and secondary form. Mainly the researcher has chosen six sample banks. The samples have been taken properly that represents SCBs, FCBs, PCBs simultaneously as well as Islamic banks. Data has been collected from 150 respondents. Ethics of the research, limitation of the study has been properly stated.

In findings and analysis part, the researcher has discussed broadly about the findings and analyzed the results. It showed that, the level of customer satisfaction is not yet up to the desired level. Nonetheless, the consumers have positive attitudes regarding online banking and technology based banking. They are well accepting newer forms of banking. However, efficiency of banking sector has been improved. In fact, customers have to make compatible with the banking service. A good number of customers are not

satisfied by the charge of online banking, they want, costs have been reduced. However, the chapter has narrated and analyzed the findings. In the next chapter, the researcher discussed about the findings. A compare and contrast among the findings and previous studies have been made. However, there are different similarities and dissimilarities between the findings and previous studies. Then the researcher has given a set of recommendation based on the findings of the chapter. In the recommendation part, several points asserted to satisfy customers' needs and to ensure banking efficiency has been mentioned.

The research questions, to what extent technological innovation and E-banking has increased customers' service, satisfaction and reduced costs. However, in different part of the research, the researcher showed that, more than half of the respondents said current banking service is efficient. More that 60% people said they are satisfied with the online service on their banks. A number of people said that, internet based banking or technology driven banking would provide better customer service. On the other hand, more than 60% people said the costs of banking service are a little more. Therefore, the researcher believes that, all the portion of researcher questions has been answered. Moreover, it has accomplished research objectives regarding online banking, customers' satisfaction, efficiency of banking sector and the costs of banking services. Finally, the researcher believes that, this study has achieved its aim and objectives.

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8.0 Appendices

Appendix A: Questionnaire of Survey

Name:

SURVEY QUESTIONNAIRE

Please read the questions carefully and "check" the answer you find most appropriate & **please answer all the questions listed below**.

Part A

Instructions: Please put the tick mark (√) on the right answer choice (s).

Age: □ 18-30years □ 31-40 year's □ 41-50 years' □ 51-up years

Occupation: □ Students/ Teachers □Govt. Employees □Businessmen □Private employees & others

Sex: □ Male □Female

PART B

1. Do you use online banking facilities (Online banking, ATM, Debit/Credit card services etc.) of your bank?

1) Yes 2) No 3) sometimes

2. Do you believe technology based banking service and online banking increased banking efficiency?

1) Yes 2) No 3) Neutral

3. Banks will be able to improve customer service level and tie their customers closer to the bank by adopting new technologies

1) Yes 2) No 3) Neutral

Part –C

Instruction: Please indicate how strongly you agree or disagree with each by using the following scale.

1= strongly disagree 2= Disagree 3= Neutral

4=Agree 5= strongly agree

Sl No	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
4	The costs of banking service is lower than before due to online banking services					
5	Transaction process is fast and fair	1	2	3	4	5
6	Online banking is hassle free and can be used by almost all network peripherals	1	2	3	4	5
7	Now a day efficiency of banking services has been increased	1	2	3	4	5
8	Any problems are sorted out fast	1	2	3	4	5
9	Internet technology would provide better opportunities to establish a distinctive strategic position compared to other traditional forms of banking services	1	2	3	4	5
10	You are satisfied with online banking facilities of your current bank	1	2	3	4	5
	Technological innovation and	1	2	3	4	5

1 1	implementation has increased customer service, satisfaction and reduced costs in the Banking sector of Bangladesh					

12. Which one from the following gets your top priority while you think about banking Services?

1) Costs 2) Efficiency in Service 3) customer satisfaction 3) All of the above
5) None of the above

13. What would be your suggestions for your bank to increase its online integrations and customer services?

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Thank you for your participation