Analysing Bangladeshi Consumers' E-commerce Security and Privacy Satisfaction in Small to Mid-Sized Enterprises (SMEs)

By:

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A thesis submitted in total fulfilment of the requirement for the Degree of Master of Informatics (by Research)

Central Queensland University

Australia

2017

Abstract

The world has entered the new millennium with great hopes. People understand that the world is very clearly changing in new forms of collaboration and interaction. Information Technology, and, in particular, e-commerce is playing a fundamental part in changing the old economy into a rapid new economy for this world. E-commerce has created a massive series of professional prospects for both organizations and entities from emerging countries to market the products and services overseas and earn foreign exchange for the countries. It is a fact that the majority of consumers use the Internet to complete their online buying and selling. Even if people do not directly shop the products online, shoppers believe a trustworthy business must have an e-commerce system.

While a significant number of e-commerce systems have been implemented effectively in special areas of business and industry in developed countries, a considerable number have been unsuccessful, especially in small to medium projects. No prior study has been found in the area of e-commerce security and privacy satisfaction of Bangladeshi SMEs.

Thus, the aim of this research study is to develop a model by increasing an e-commerce success, termed *E-commerce Security & Privacy Satisfaction (ESPS)*. This thesis also involves about the study of various *Security & Privacy Factors (SPFs)* in e-commerce operation with the plan of using them as standard presentation displayers for evaluating ESPS. In this research study, an effort has made to centre on the execution of e-commerce in Bangladesh and identify the fundamental hurdle - cybercrime. This thesis also presents a plan that will let the users in Bangladesh browse online securely, transact with e-commerce in safety and provide the information related to e-commerce without cybercrime.

This research applied the qualitative method. This is a method that is based on interviews that using focus groups and case studies. The research project was conducted mainly in Dhaka, the Capital of Bangladesh. The research used the semi-structured and individual in-depth interview method to collect data from Bangladeshi university students, academics, government officials and IT professionals. It also attempts to gain a real snapshot of the e-commerce sector in Bangladesh through seeking their responses & opinions, feedback and expectations. The general opinions of all the interviewees were sought through in-depth

interviews. This investigation included an analysis of interviews. As this research is the first comparative study into small and medium businesses (SMBs) using secured e-commerce in Bangladesh, it is also seen as a relatively innovative topic in Bangladesh. Currently, there is no standard for measuring ESPS. Various documents, projects and case studies were also analysed and examined that allowed for awareness of e-commerce in Bangladesh, including the definition and description and overall background information. In order to fill the gap between abstract and genuine application of the e-commerce framework as well as the security and privacy requirements in Bangladesh, it was very important to gather field records from the field.

The findings of this research point out that e-commerce not only have the consensus of business, but also play a big part in peoples' daily life in Bangladesh. However, it is still not being used comprehensively in Bangladesh and the Bangladesh government and individuals are not yet fully convinced of the reliability of using e-commerce in business in order to achieve workable progress. It also says that one of the most powerful reasons contributing extensively for the non-operation of e-commerce in the past in Bangladesh is that the IT framework was not very technically supportive. The slow speed of the internet and mismanagement of e-devices in Bangladesh are some important reasons for slow progress in e-commerce. Much of the top or middle management in Bangladeshi businesses do not use online methods frequently because of the simple reason that they were not raised in the current IT age. The findings also recommended that both the private sector and the community sector in Bangladesh can provide substantial evolvement of secured e-commerce through its promotion in its industry associations.

Keywords: e-commerce, e-business, Security & Privacy, e-commerce Satisfaction, Security & Privacy Factors, Evaluation, Service Commerce, Small and Medium Businesses-SMB.

Preface

This is to certify that

- The thesis contains only the researcher's original work towards the Master of Informatics (by Research)

- Due acknowledgement has been made in the text to all other materials used

- The thesis is less than 100,000 words in length, exclusive of tables, figures, bibliographies and appendices.

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Shakir Karim   22/09/2016

Acknowledgments

DECLARATION OF AUTHORSHIP AND ORIGINALITY

The research and discussion presented in this thesis are the original work of the author and has not been submitted at any tertiary institute or University for any other award. Any material with has been presented by any person or institute is duly referenced, and a complete list of all references is presented in the bibliography.

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CO-AUTHORSHIP STATEMENT

Title of Paper	1. A study to analyse Bangladeshi Consumers' E-Commerce Security and Privacy Satisfactions in Small to Mid-Sized Enterprises. 2. A Comprehensive Analysis on the Adaption of Big Data in E-commerce: Overview of small to Midsized Enterprises-SMEs in Australia.
Full bibliographic reference for Journal/Book in which the Paper appears	1. Gide, E. & Karim, S. 2016, 'A study to analyse Bangladeshi Consumers' E-Commerce Security and Privacy Satisfactions in Small to Mid-Sized Enterprises', 7th World Conference on Information Technology, Bali-Indonesia, 10-12 September 2016. 2. Karim, S. & Gide, E. (2016), 'A Comprehensive Analysis on the Adaption of Big Data in E-commerce: Overview of small to Midsized Enterprises-SMEs in Australia', Global Journal of Computer Sciences: Theory and Research. 6(2), 54-66.
Status	1. Accepted and In Press 2. Published

Nature of Candidate's Contribution

Candidate's Contribution is 75% including literature review, data collection and analysis

Nature of Co-Authors' Contributions

Co-Author's Contributions is 25%, final revision

Candidate's Declaration

I declare that the publication above meets the requirements to be included in the thesis as outlined in the Research Higher Degree Theses Policy and Procedure.
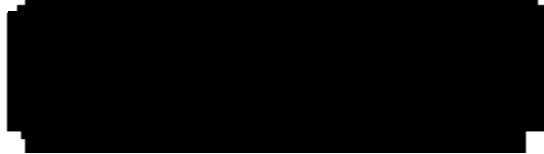
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Date: 17/08/2017

ACKNOWLEDGEMENT OF PROFESSIONAL SERVICES

Professional editor, Kathleen McKenzie, provided copy editing and proof-reading services, according to the guidelines laid out in the University-endorsed national guidelines, 'The editing of research theses by professional editors'.

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(Signature of Candidate)

Date: 17/08/2017

Table of Contents:

List of Tables

List of Figures

List of Publications and Conference Papers

Journal

Gide, E. & Karim, S. (2015), Analysing Bangladeshi Consumers' E-commerce Security and Privacy Satisfactions in Small to Mid-Sized Enterprises, SMEs. Global Journal of Information Technology, 5(1), 10-17.

Conference Paper

Gide, E. & Karim, S. 2016, 'A study to analyse Bangladeshi Consumers' E-commerce Security and Privacy Satisfactions in Small to Mid-Sized Enterprises', SMEs in Proceedings of the 2016, 7th World Conference on Information Technology, 10-12 September 2016

Karim, S. 2015, 'Analysing Bangladeshi Consumers' e-commerce Security and Privacy Satisfactions in Small to Mid-Sized Enterprises', SMEs in Proceedings of the 2015 1st Research Symposium, School of Engineering and Technology, CQUniversity Australia 12-13 October 2015

Gide, E. & Karim, S. 2015, 'Analysing Bangladeshi Consumers' e-commerce Security and Privacy Satisfactions in Small to Mid-Sized Enterprises', SMEs in Proceedings of the 2015 5th World Conference on Innovation and Computer Sciences, 28-30 April 2015

Glossary of Abbreviations

SME	Small to Mid-Sized Enterprises
B2B	Business-to-Business
BTTB	Bangladesh Telegraph and Telephone Board
BTRC	Bangladesh Telephone Regulatory Commission
BB	Bangladesh Bank
B2C	Business-to-Customer
B2G	Business-to-Government
BASIS	Bangladesh Association of Software and Information Services
BCC	Bangladesh Computer Council
BSB	Bangladesh Shilpa Bank
BSRS	Bangladesh Shilpa Rin Sangstha
BKB	Bangladesh Krishi Bank
CS	Customer Service
CSF	Critical Success Factor
DoS	Denial of Service
ESPS	e-commerce Security and Privacy Satisfactions
EFT	Electronic Fund Transfer
EDI	Electronic Data Interchange
EDF	Export Development Fund
FDI	Foreign Direct Investment
IT	Information Technology
ISP	Internet Service Providers
ICT	Information and Communication Technology
IOC	International Oil Companies
IPR	Intellectual Property Rights
LC	Letter of Credit
BMoSICT	Bangladesh Ministry of Science, Information and Communication Technology
NCST	National Council for Science and Technology
NOIE	National Office for the Information Economy

NEAF	National Ethical Application Form
PSA	Pre-Shipment Agents
PATC	Public Administration Training Centre
RFP	Request for Proposal
RMG	Ready Made Garments
RQ	Research Questions
RO	Research Objectives
SPF	Security & Privacy Factors
WWW	World Wide Web

CHAPTER 1: INTRODUCTION

E-commerce is a thriving sector and has become a field of study for modern businesses and the development of information technology over the last 15 years. It is a latest business principles that addresses the needs of the business, stakeholders to reduce costs and improve the quality of products and services and, increasing the speed of service delivery. It contributes to GDP growth as well as improving the lives of common people living in cities and rural areas alike In e-commerce, business is linked and performed via online (e-commerce 2014).

E-commerce is a method to promote commerce, and use IT knowledge as the enabler (e-commerce 2014). Definitions of e-commerce are really diverse and do not describe this term accurately.

Roger Clarke (2012, p.3) said:

> *"E-commerce is as the performance of commerce in goods and services, with the support of telecommunications and IT based tools".*

Goldsworthy (2012, p.22) said:

> *"E-commerce is fast becoming the expression used for the automated means of communicating information and conducting business transactions".*

The fastest developing area of e-commerce is online services use for exchanging knowledge, publicity and promotion, retailing and purchasing, investment, and collaborating with individual entities and groups.

Hazelton (2013, p.3) noted:

> *"E-commerce is much more than buying and selling over the internet. It is now promising to conduct effectively any old business task automatically, from marketing to sales to sending to post-sales maintenance to office, customer service and business-to-business relations".*

Computer crime involves ICT offences. It includes offences where an electronic device is used as an instrument of crime. Whilst making e-commerce systems accepted as a norm in business, there has been a considerable number that have failed, particularly in small and mid-sized enterprises, (SMEs). The concern is that most of the analysis to date on of e-commerce methods is on the foundation of consumer safety and confidentiality approval.

This chapter outlines the purpose and scope, objectives, research background, research aim, research questions. This research brings the study of current security and privacy factors and responses of e-consumers in Bangladesh. It also progresses strategies to help individuals and corporations provide an environment with more security and privacy on their e-commerce web sites so that more companies will be encouraged to implement this technology and more consumers will use e-commerce in Bangladesh.

This research seeks to block this opening in information by evaluation of e-commerce success, termed e-commerce Security & Privacy Satisfaction (ESPS). This research also contains analysis of noteworthy achievements in e-commerce operation to backing a complete structure for assessing ESPS.

Although e-commerce systems are put into practice for worldwide business purposes, it is considered that the success of e-commerce security system acceptance might be powerfully reliant on the home trade background. In order to analyse this, an in-depth study is undertaken in a developing Asian country (Bangladesh). This research seeks to prove that there are some general factors for e-commerce security & privacy and that they can be implemented for the improvement of a successful and comprehensive evaluation for the acceptance of e-commerce systems for SMEs services.

IT and e-commerce are matters of interests for Bangladeshi people and there are numerous software development centres, centres for data entry, lots of IT training centres, countless computer centres etc.   This sudden boom has persuaded the government to declare this industry as a sector of economic power.

In the research study, the factors for e-commerce security and privacy are identified from a business perspective that encourage organisations to be strengthened through the use of e-commerce systems. The research method is modified purely based on opening findings from

the list online/offline focus group meetings. In this first step, the paper centres on e-commerce prospects and improvement, e-commerce systems in Bangladesh and also in identifying the security and privacy problems in e-commerce system. Then it moves to uncover computer crime in Bangladesh and what kind of security they really need to check for each problem. The research study looks at providing a structure for measuring ESPS and thus determine the probability of successful acceptance of the e-commerce system.

If Bangladeshi consumers are satisfied with e-commerce security and privacy, then e-commerce increases and more people use it, eventually small businesses also implement it. This development also forces the central Bangladesh Government to spend money for internet infrastructure and new legislation to protect e-commerce consumers. Thus, the research aims to demonstrate that e-commerce helps Bangladesh's economic and social development as internet access creates a level playing field.

1.1 Identification of the Topic Area

1.1.1 Research Purpose and Scope

This research focuses on business industry. The business industry focus includes Bangladeshi areas such as property services, communication services, community services, economy, retail, wholesale, accommodation.

Bangladesh is the selected country for this research because it is a developing country which has potential IT strengths and the e-commerce industry. Below are the some of the key reasons according to Chowdhury (2014) as why these countries should focus on this issue in relation to economic growth.

- ❖ There is a huge number of educated but unemployed workforce in Bangladesh consisting of the younger generation.
- ❖ These people can be trained in the shortest period of time for skilled improvement.

- ❖ Some Bangladeshi professionals working overseas are encouraged to go back to their own country and share their knowledge and contribute to the economy.

- ❖ Universities and colleges in Bangladesh are able to produce more quality graduates in IT, e-commerce and security related courses every year.

- ❖ Bangladeshi students who are studying overseas can do more research on this sector.

- ❖ Bangladesh people are more knowledgeable and have quite reasonable skills in terms of operating systems, other IT and e-commerce related courses.

- ❖ Bangladesh offers a cost effective level of wages.

Most developed countries now have an emphasis on outsourcing because of lack of resources, especially manpower. The developing countries can play a vital role in fulfilling these needs and can eventually be beneficial in boosting economic conditions. Bangladesh has a huge opportunity growing a secured IT and e-commerce sector. It has numerous opportunities to develop this sector in Bangladesh. There is enormous young talent and professionals and they have a tendency to learn more and at a quick pace. Creativity and success are part of the makeup of young people in Bangladesh (Yacob et al 2012).

They can work within these sectors and can work against poverty to develop their economic growth. Only a secured e-commerce system can make their country well connected to the world and able to enter the global market place of ICT and e-commerce industry. Governments are trying so hard to develop the infrastructure and create their own resources, but the reality is that most of the people in these countries are struggling with poverty, a growing jobless young generation while experts are leaving the country because of poor policy and less opportunity to demonstrate and prove their capability and excellence. This research aims to help these Bangladesh and countries in a similar situation to create a strong baseline for the economic advancement.

1.1.2 Research Objectives (RO)

The problem regarding e-commerce security and privacy satisfaction in Bangladesh has enabled the project to develop the following research objectives. The proposed Research Objectives (RO) are:

Table 1.1: Research Objectives

RO 1	Finding out the background of IT, e-commerce security and privacy satisfaction in Bangladesh.
RO 2	Learning about IT status at present, e-commerce security & privacy satisfaction in Bangladesh and finding out the reasons of the slow improvement in IT and e-commerce business in Bangladesh.
RO 3	Identifying the requirements for an successful assessment in service SMEs.
RO 4	Establishing the current position of the framework for measuring e-commerce security & privacy systems accepted in Service industry.
RO 5	Categorizing common SPFs for customer and business satisfaction by the use of e-commerce systems in Service SMEs in Bangladesh.
RO 5	Extending a successful assessment for e-commerce security and privacy satisfaction (ESPS) for Service SMEs in Bangladesh.
RO 6	Learning how secured IT and e-commerce can help in the economic growth of Bangladesh.

1.1.3 The Aim of the Research

The aim of this research is to develop a model of security systems in e-commerce for the successful checking of ESPS for service SMEs in Bangladesh. It also brings about the acceptance of SPFs for businesses using e-commerce systems, in order to incorporate them as standard presentation indicators supporting completeness for evaluating ESPS. For the potential users in Bangladesh to have confidence in such online access and to use e-commerce with certainty they need to be assured that an online access cannot be monitored by external third parties. This appears to be a requirement that fits in well with the work of safe e-commerce dealings.

1.1.4 Research Questions (RQ)

This research aims to try to answer the following Research Questions (RQs) about e-commerce Security & Privacy Satisfaction (ESPS) in Bangladesh:

Table 1.2: Research Questions

RQ 1	What is the history and current status of IT, e-commerce security and privacy systems in Bangladesh?
RQ 2	What are the reasons for the delay progress in IT and e-commerce industry in Bangladesh?
RQ 3	What is the current security and privacy status of e-commerce use in servicing SMEs in Bangladesh?
RQ 4	What arrangements for evaluating satisfaction with e-commerce systems have been accepted in service SMEs in Bangladesh?
RQ 5	What is the prospect for developing a successful assessment of e-commerce Security and Privacy Satisfaction (ESPS) for service SMEs in Bangladesh?
RQ 6	How secured IT and e-commerce can help in the economic growth of Bangladesh?
RQ 7	How could Bangladesh build up the opportunity to develop e-commerce security and privacy satisfaction for its own economic growth?

1.2 Background of the Research

This section presents the previous research in relation to e-commerce. The selected subject involves multiple disciplines derived from papers from many different fields. This proposal briefly mentions why it is such a demanding issue today. E-commerce is rapidly emerging as

a powerful business tool and through e-commerce; almost all businesses can take part in the rapid global exchange of goods and services over the internet.

Figure 1.1: Map of Bangladesh (Worldatlas 2015, n.p)

As Figure 1.1 shows, Bangladesh, is bordered by India and Myanmar and also separated from the smallest country like Nepal and Bhutan. To its south, it faces the Bay of Bengal. Bangladesh is the world's most densely populated country (Bangladesh 2014).

1.2.1 The need for E-commerce Growth

E-commerce is thriving sector in this world. It is an arena of exchanging information via online and by using mobile devices, computers, television, radio, direct e-mail, catalogues, and so on. People are now accessing websites within a short period of time and short notice. Small to midsized and even large companies are entering into a business market by using e-commerce, because it offers more business opportunities (E-commerce Marketing and Advertising 2015).

1.2.2 Studies e-commerce in Service SMEs

E-commerce may be a prioritised vehicle of delivery for many service SMEs and as a support for SMEs to establish themselves in foreign markets (DFAIT- MAECI, 2013).

Firstly, SMEs play a significant part in many countries towards financial improvement. The SMEs of these countries play a most important part of the finance. Secondly, SMEs can accept and implement new technology quickly (Bologna 2012). Thirdly, e-commerce

9

provides an improved direction for SMEs to compete in the business world. Finally, the internet usage growth rate and use are assisting the e-commerce acceptance.

1.2.3 Statement of the Problem

Advanced countries are able to freely use of their technology resources in their development as a nation. Developing countries such as Bangladesh are still in the process of making use of technology resources and e-commerce because they do not have enough exposure to secured technology and e-commerce (Salim 2011). Some of the recent developments in the ICT industry have provided the developing countries with the opportunities for progress and overall economic development. Most developing countries such as Bangladesh have various limitations such as financial, infrastructure and access to get accurate information. There are also some limitations in technology infrastructure and e-commerce systems as well as lack of proper education. Below is a graph that shows the number of internet users in developed and developing countries.
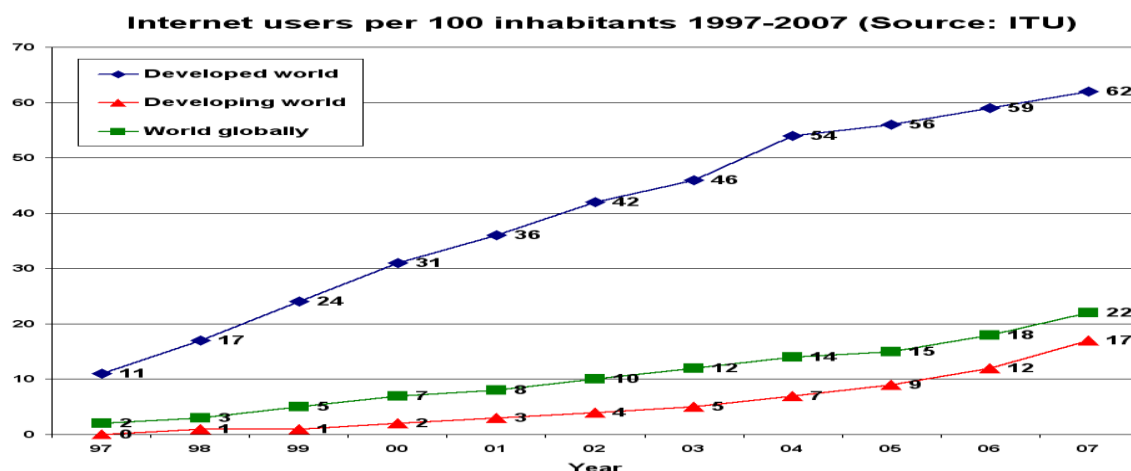
Figure 1.2: Internet users of population in developed and developing countries (ITU 2012, n.p)

1.2.4 Service Industry in Bangladesh

The service industry is one of the major areas of opportunity for Bangladeshi businesses entering into global business markets while other major areas presenting business opportunities are mining & energy, agribusiness, manufacturing, construction, ICT and regional developments.

Bangladesh's service zone is one of the least industrial in the world. There are a few reasons; those are as follows:

- ❖ Bangladesh must expand its service area for employment formation.
- ❖ With an enormous amount of people, this area offers the most prospects.
- ❖ Service SMEs will be very active in the global market in terms of continuous service and wealth-creation ability in a growing domain (Chowdhury 2012)

1.2.5 Why Study Satisfaction?

The numbers of e-commerce systems have been professionally accepted in global business are greater than the failures; and while a number of these are happy with e-commerce systems there are also those who have had unhappy experiences. Some e-business and their solutions had been either poor or unacceptable; some have neither registered approval nor disappointment (Gide & Wu 2012).

Therefore, an assessment of e-commerce should be planned for the prosperous engagement of future e-commerce. However, many commercial profits from e-commerce development are seen as hard to assess because there are not many old records or knowledge to draw upon to measure this (Ming 2016).

1.2.6 The Structure of Research Project

This research will contain eight (8) chapters with respective appendices and reference section, including:

Chapter 1: Introduction/Background – This defines the character, research purpose and scope, research objectives, aims of the research, to gives valid reasons why the research needs to be done and will record research questions and research objectives, and the background of the research project. It also shows the correlation between the nature of the research and Mode 2 Knowledge management and Mode 2 culture.

Chapter 2: Literature Review – This discusses previous and most recent and comparative research study. By examining and analysing the past and current studies concerning the e-commerce privacy and security satisfaction, the current situation is revealed.

Chapter 3: Methodology – This discusses the proposed research methodology and its grounds during the research project. It also explains the research model chosen, the strategies undertaken and the instruments for data collection. By checking the advantages and disadvantages of qualitative methodology, the qualitative method is accepted. This chapter also explains the data collection method including in-depth interviews.

Chapter 4: Data Collection and Analysis – This focuses on the method of assessment for design, focus group study, interviews and the data collection process. It also analyses the collected data. It focuses and analyses the discussion of qualitative findings together with appropriate references. This chapter is the most significant one in this study. This chapter is also divided into a couple of sections and sub-sections according to the findings from the qualitative data. These are also related to the findings from the literature review.

Chapter 5: Discussion of Research Data Analysis and Key Finding – This summarises the research results / key findings.

Chapter 6: Case Study – This centres on a business case to test the results/findings in order to draw the final conclusions.

Chapter 7: Conclusion & Recommendations– This presents ideas for both the service industry and e-commerce solution companies, shapes research boundaries and provide short-term and concluding suggestions for further research.

1.2.7 Significance of the Research

This research is valuable for the people of Bangladesh. This research would be able to reach the policy makers for the country and go towards allaying concerns in relation to the development costs through a secure IT and e-commerce division. IT and e-commerce are being widely used and this is moving rapidly to become the public feature of an up-to-date community and commercial life and reducing the gap for easy access to global trade as well as opening new opportunities for people internationally. Most countries have already reached a reasonable and smooth level of achievement in IT. From most places around the world, people accept online shopping, online banking and e-commerce dealings on many platforms.

The approval of cyber access provides wide-ranging prospects for the modernisation and development of industries. Over the last few years, advances have led to a change in the way trade is directed, from providing different and advanced facility structures for Business to Business-B2B, to gradually cultured, Network 2.0 facilities to improve the Business to Consumer-B2C user understanding. Altogether, these developments in e-commerce systems have enabled greater independence in the way business is directed (Gide & Wu 2012).

The internet and e-commerce offer exclusive prospects for people, industries and management to pursue new methods of providing facilities that are qualitatively offered at substantially lower costs. Given the dynamic nature of information technology, there is a wide range of activities that must be achieved to implement an interactive and online business system.

This research is also considered important because it involves the investigation of numerous Security & Privacy Factors (SPFs) in e-commerce to be accepted with the purpose of using them as standard presentation displays to support a broad structure for assessing ESPS.

- ❖ Evolving a successful extent of secured e-commerce achievement from an industry sense.
- ❖ It will be the first relative study for indicators to investigate SMEs using secured e-commerce systems in Bangladesh.
- ❖ This will provide a planned guiding structure for Bangladesh service SMEs to improve the proposal they use (Gide & Wu 2012).

A secure e-commerce in Bangladesh would improve the standard of living for the entire population with the development of the science and technology. The National Council of Science and Technology will be able to provide more value for the progression of the ICT industry after reading the outcomes of the analysis of this research (Salim 2012).

Recommendations of effective steps and solutions to develop secure IT systems and e-commerce in Bangladesh would likely be the result of this research. They should be able to remove the domination of international organizations when Bangladesh strengthens its IT and e-commerce sector. E-commerce Security and Privacy Satisfaction can boost economic

growth, raise living standard and reduce overall poverty. Secured e-commerce must reach its full potential in order to raise the domestic economy. This would eventually improve the people of Bangladesh and their business entry into the global marketplace.

This research would benefit the students who are getting their education from the institutes in these countries those offer ICT and e-commerce courses. Private organizations in the ICT sector would also benefit in preparation for entering into the global market from this research (Rahman 2013).

Bangladeshi people who are working overseas in the ICT and e-commerce sector would realise from this research how their country needs their skills in order to grow the economy in the corporate world.

This research would also be significant for the colleges, universities and vocational institutions, corporate industries to encourage them to take part in leading the way for youth towards appreciation and enthusiasm for the IT and e-commerce fields especially in the rural areas.

1.2.8 Involvement to Knowledge

This proposal expects to contribute the following knowledge to the e-commerce research field:

❖ A list of common SPFs that can be used as benchmarking indicators to measure ESPS.

❖ A model for effective measurement for the secured e-commerce systems achievement from a commercial viewpoint and the framework for analysing ESPS.

1.2.9 Utilisation of Results

This research will be the first comparative study for analysing service SMEs using secured e-commerce systems in Bangladesh. This study aims to find out the common strategic success factors through analysing the SPFs in service SMEs in Bangladesh as the developing countries. Its results/findings will show the general significance for analysing e-commerce

security and privacy success in service SMEs. The ESPS framework will be explored based on these results/findings.

1.2.10 Justification of the Research & its Importance

Computers, e-commerce and the internet are now a fixture for world use and the impact of information technology is increasingly showing up on almost all aspects of our lives. The concept of 'e-commerce' which was no more than mere theory a few years ago has now become a reality, and more and more services are now available to us via the internet. The increasingly important role played by conducting business across cyber space is for each one of us to see. This new development brought with it a whole new world of possibilities – today what we can do with a computer and internet makes for a mind boggling world of opportunities.

1.2.11 Fulfilment of Research Conditions

1.2.11.1 Intellectual Property

Intellectual property involved in this research will follow CQUniversity Intellectual Property and Moral Rights Policy and the related Bangladesh Laws and regulations in Intellectual Property, such as copyright, design, plan varieties, confidential, trade mark and business reputation.

1.2.11.2 Ethics

- Ethical clearance is done before the research is undertaken according to CQUniversity Human Ethics Research Policy.
- The information on the ethical principles will refer to the *National Statement on Ethical Conduct in Human Research*.
- Ethical approval involving Bangladeshi issues are obtained from the approved organisations by Ethics Committee.
- Participants and businesses in every phase of this research are ensured of transparency and privacy.

CHAPTER 2: LITERATURE REVIEW

This research detail of the Business Critical Success Factor - BCSFs is considerable in order to determine e-commerce success in safety and confidentiality. The BCSFs supports e-commerce success and promotes e-commerce professional safety satisfaction. The literature review provides evidence of e-commerce satisfaction and provides a proper explanation of e-commerce business and security satisfaction as well as providing a projected study for analyzing SPFs and e-commerce satisfaction.

The importance of e-commerce delivered in this theis is grounded mostly on the next foundations: current worldwide literature, interviews with academic and industry based experts and professionals of Bangladesh. The details establish the facts that e-commerce is about new methods of doing business online. E-commerce involves all programmed communication used in business. The Internet has released a new visualization for e-commerce. The Internet, through progressive applications of data transmission systems, launches worldwide connections between customers and stakeholders regardless of their geographical site. E-commerce uses online facility in the publicity, certification, compensation and proper distribution of products and services. It includes order processing in company websites and securing online payments. Enquiry and study of the works relevant to all these issues is the base for this research project.

2.1 Meaning of E-Market

An e-market is an online environment that brings consumers and businesses in a single and virtual centre. This is an internet site where products and services can be seen and read by a large number of stakeholders. E-markets offer easy and speedy online transaction process, quick decision-support procedure, e-company profiles and financial services financial institutions and online transaction processing (Aberdeen 2013, p. 72).

2.2 The Technological Dimensions of E-commerce

In e-commerce, commerce is connected through networks and computer arrangements. E-commerce includes buying and selling over the World Wide Web and the Internet,

transferring balance, using smart phone, and doing business over digital networks. (E-business 2013)

Initially, e-commerce was defined as business transactions over electronic communication, and the exchange of information by electronic communication.

Table 2.1: Definition of E-commerce by the National Office for the Information Economy (Electronic Trading Concepts 2013)

Publication	Definition
The Sectoral Effect of e-commerce: a Scoping Study (Electronic Trading Concepts 2013)	A form of profitable transactions involving both organisations and individuals which are based upon automated processing and transmission of data (p.3)
E-commerce (Allen Consulting Group)	E-commerce is any type of business transaction in which the participants transact business electronically (p.5)

E-commerce states to the buying and selling of products and/or services through the internet and other computer networks. Internet combines a range of process such as: Electronic Data Interchange (EDI), Electronic Mail (E-mail), World Wide Web (WWW), Internet Applications, Network Applications.

Some common applications related to e-commerce are the following: E-mail, Instant Messaging-IM, Online shopping, Online banking, Domestic and international payment systems, Teleconferencing, E-tickets purchase etc (E-commerce Concepts 2013, p. 22).

The following table provides some brief definitions of other key terms of e-commerce.

Table 2.2: Definitions of key terms in e-commerce (E-commerce Concepts 2013, pp. 46-47)

Term	Brief Definition
E-commerce	Every type of business deal in which the participants (i.e. suppliers, end users etc.) prepare or transact business or conduct their trade in goods or services automatically
Business-to-Business E-commerce (B2B)	The use of e-commerce between two companies.
Business-to-Customer E-commerce (B2C)	The use of e-commerce between a business and a customer.

Table 2.3: The definition of e-commerce from four perspectives (Lawrence et al 2013, p. 22)

Perspective	Description
Communications	e-commerce delivers information, products/services and payments over telephone lines, communication networks or other means
Business	e-commerce automates business transactions and work flows
Service	e-commerce cuts service costs while improving the quality of goods

Table 2.4: E-commerce Business Models (Timmers, 2013)

Term	Brief Definition
E-shop	Web marketing shop
E-procurement	Electronic procurement of goods and services
E-malls	A collection of e-shops
E-auctions	An electronic implementation of contracting, payments and delivery
Information brokers	Provision of information and consultancy services,
Trust services	Services provided by trusted third parties including certification authorities

2.3 The Role of E-commerce in the Age of Globalisation

E-commerce through internet, e-mails, websites, and other forms, enables an organisation to link people to every corner of the world and open up greater opportunities in the business market. The most important factor is the time for completing an online business transaction. A rapid, reliable and replicable transaction required in this sector. Delay processing will make negative impacts on business goodwill and customers' expectations. A firm and proper method of communication, and e-payment is an important part of a business organization (Anderson 2013, p. 31).

2.4 The presented Situation and prospective of e-commerce

Internet services for e-commerce and proper access are reliant on the enthusiasm and capacity to use this medium as well as that of the buyers of final products and the sellers of intermediate products and services.

Figure 2.1: The Three Dimensions of e-commerce, Source: International Telecommunications Union, Millennium, Geneva, October 2009 (Hossain, 2010, n.p)

The above figures shows the three heights of e-commerce. Business-to-Consumers (B2C) e-commerce in Bangladesh is almost absent and very limited level of Business-to-Business (B2B) and Business-to-Government (B2G) e-business occur (Ali 2013).

2.4.1. Business-to-Consumer (B2C) Scenarios

Ali (2013, p. 21) said:

> *"Business-to-Consumer (B2C) e-commerce is of questionable use in the foreseeable future in Bangladesh. At the national level, low per capita revenue, limited infrastructure services, a weak legal environment, and lack of confidence and reassurance between business and consumers are a interruption to B2C".*

2.4.2. Business-to-Business (B2B) Scenarios

The B2B application already exists in the export sector of Bangladesh, especially in the Ready Made Garments (RMG) industry. The fashion companies do commerce with the buyers (foreign companies) over Internet. RMG has the lion's share of the export earnings in Bangladesh (RMG in Bangladesh 2013).

2.4.3 Business-to-Government (B2G) Scenarios

The private sector always considers the government as a major buyer of products and services. Basically, the government gets products and services by sending proposals. This is the old-fashioned method of any government finding goods and services (B2B and e-commerce 2013).

2.4.4 Consumer-to-Consumer (C2C)

Consumer-to-consumer means that a consumer sells his products to another customer. Some of the biggest and most successful Bangladeshi e-commerce companies belong to this class.

2.5 Supportive Framework

E-commerce makes competition, income and earnings. Consequently, it is an encouragement for stakeholders to invest closely obtainable arrangements. According to the below figure, the 'magic triangle'-access, trust and know-how in e-commerce must be positively proven between both the public and the private sectors. This triangle can only be set properly if it receives the full support from the stakeholders.

Figure 2.2: The Magic Triangle of e-commerce (International Telecommunications Union- ITU, 2013)

2.6 Telecommunications: An Integral Part of E-commerce

The telecommunication sector of Bangladesh is very poor in performance with high cost to access, a lengthy waiting period for a new telephone connection (Barua 2013). Below is a figure that shows the number of telecom users of south east Asian countries.
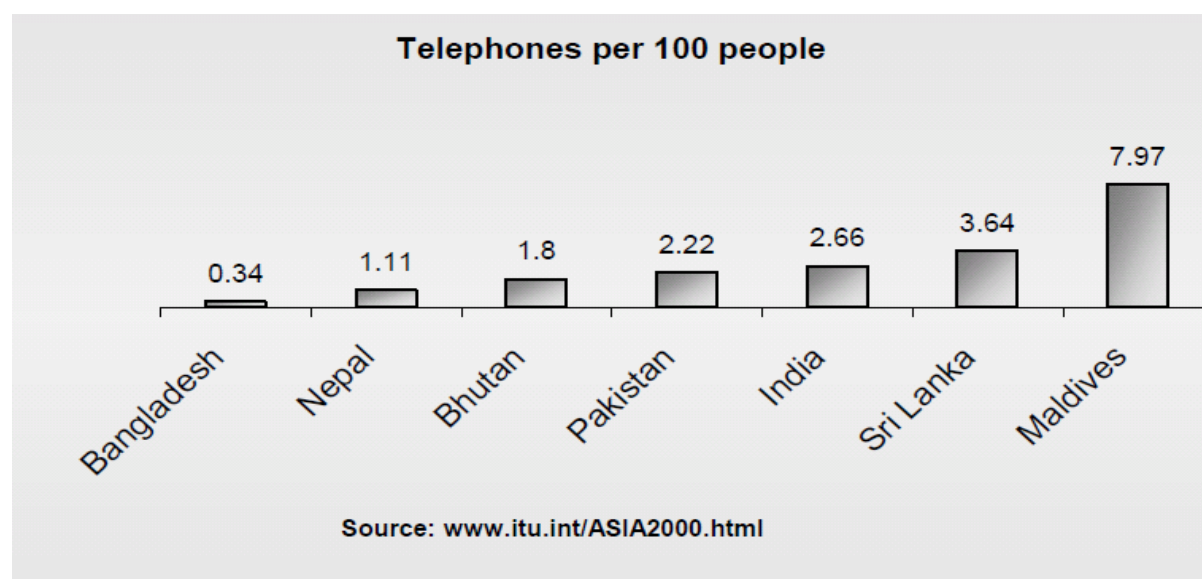
Figure 2.3: Telecom Indicator in South-Asia in 2000 (International Telecommunications Union- ITU, 2010, n.p)

Table 2.5: Telecom Users (World Bank data sets 2015)
Telecom users (per 100 people)

Country name	2008	2009	2010	2012	2013	2015
Bangladesh	2.5	3.1	3.7	5.0	5.8	7.0

Below is a figure that shows the number of internet services in Bangladesh.

Figure 2.4: Internet Service in Bangladesh (Bangladesh Telephone Regulatory Commission 2011, p.30)

Below is a figure that shows telecommunication sector in Bangladesh.
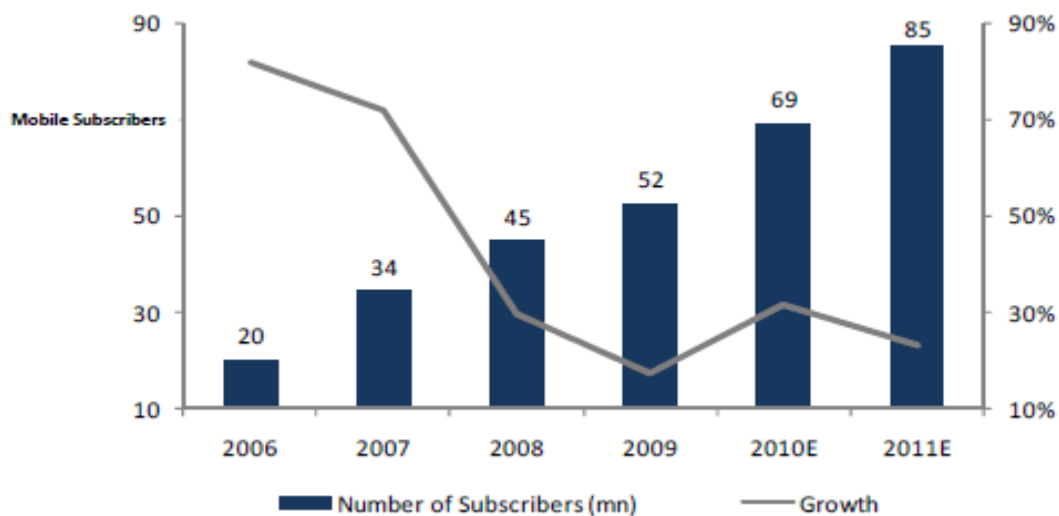
Figure 2.5: Bangladesh Telecoms Sector (Enjoying Rapid Growth, Asian Tiger Capital Partners 2012, p.31)

2.7 Different Reports in E-commerce

According to Ming (2006), a huge amount of South Asian e-commerce small to medium enterprises had already begun to recover investment in e-commerce within 12 months. Singh

& Byrne's (2012) research also illustrates that Bangladeshi e-business is adopted by 10% of small and 12% of medium enterprises. However, many smaller manufacturing enterprises in South Asia were still failing to understand the cost saving benefits of e-commerce.

2.7.1 Existing Knowledge with e-commerce

Gide et al (2012, p.44) said:

> *"Manageable works related to the User Information Systems (UIS) and Customer Service (CS) as a measure for e-commerce achievement were limited in capacity for organizations to fully describe secured e-commerce achievement and required depth in capturing the full functionality of successful and secured e-commerce systems".*

2.7.2 A Proposed Definition of e-commerce Security & Privacy Satisfaction (ESPS)

E-commerce success is mainly based on the use of people, technology and strategies (Onto Web 2012). This proposal believes that ESPS will be a better measure of secured e-commerce success than customer satisfaction. So ESPS is a measure of satisfaction that a business has with a secured e-commerce system meeting its necessities and prospects. This description will be experienced over the course of this research (Wu 2006).

2.7.3 CSFs is the Crucial Solution

The start of CSFs (Critical Success Factor) in the IS/IT literature is well-known. All parts or functions of e-commerce must work accurately to guarantee successful viable performance for an organization (Trueman & Ahmed 2013).

Molla & Licker (2011, p. 22) said:

> *"Some e-commerce researchers have focused on the system aspects of successful and secured e-commerce systems that establish the web presence of companies while others investigated the quality of the content displayed on the web system as distinct from the technical quality of the secured system".*

Trueman & Ahmed (2013, p. 38) also said:

"Most of the studies dealing with e-business model design, classification and measurements are endeavouring to define some CSFs in order to be able to compare the performance indicators used by e-business companies which use competing similar business models".

2.7.4 Global e-commerce

IT and e-governance can make a developing country like Bangladesh industrialized and modernized, also more productive and international competitor. IT products, IT applications in society and in the economy as a whole and the internet can boost efficiency and enhanced market integration in Bangladesh (Bhattacherjee 2013).

2.7.5 Internet usage and e-commerce Industry in Bangladesh and Bangladesh- not yet fully ready

Bangladesh has made significant progress in different spheres of human development especially in ICT which has filtered down to other areas of modern government (Bhowmik 2014).

It is true that internet usage is increasing day by day, but internet penetration is still very low in Bangladesh. Aside from a few divisional cities, there is no good internet connection in rural areas. Even in big cities it is impossible to have uninterrupted internet connection. Frequent electricity outage, technical difficulties, and natural disasters like storms create frequent problems. The high price of internet bandwidth is also another problem. Although the Bangladesh Telecommunication Company Limited (BTCL) brought down the bandwidth price significantly, regular users are yet to reap the benefits. The government and internet service providers must work together to make the internet more affordable. No doubt, this will definitely increase the internet use among people (Bhowmik 2014). The internet connection came in Bangladesh in 1996. Over the last few years the internet has been growing rapidly, although speed limit is very low (Internet usage and E-commerce Industry in Bangladesh 2014).

Below is a figure that shows the number of internet users in Bangladesh.

Internet users as percentage of population
People with access to the Internet per 100 inhabitants. More info »

Data source: World Bank, World Development Indicators - Last updated May 8, 2010
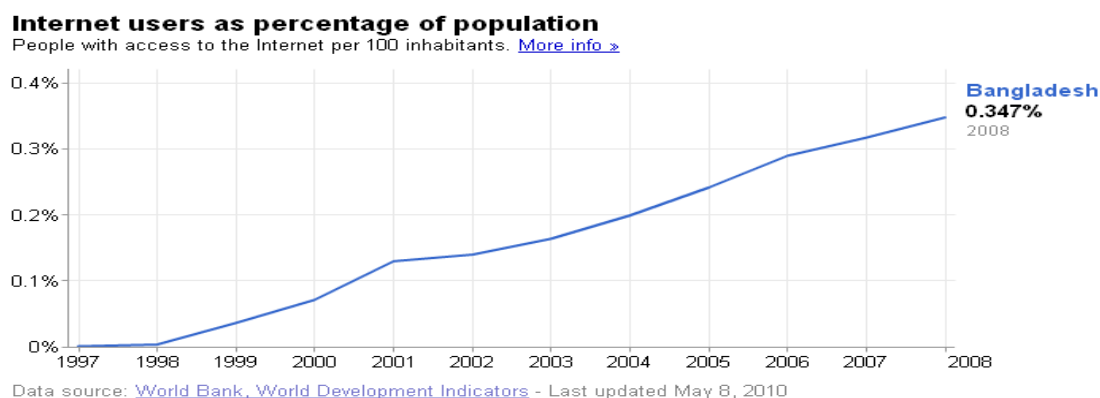
Figure 2.6: Internet users of population in Bangladesh (World Bank 2010, p.130)

Table 2.6: Internet usage and population statistics in Bangladesh: Per Capita GDP in US dollars (United Nations Department of Economic and Social Affairs 2015)

YEAR	Users	Population	% Pen.	GDP p.c.
2000	100,000	134,824,000	0.1 %	N/A
2007	450,000	137,493,990	0.3 %	US$ 466
2009	556,000	156,050,883	0.4 %	US$ 574
2010	617,300	158,065,841	0.4 %	US$ 624
2011	5,501,609	158,570,535	3.5 %	US$ 700
2012	8,054,190	161,083,804	5.0 %	US$ 700
2014	10,867,567	161,411,249	9.00%	US$ 800
2015	53,941,000	168,957,745	31.9 %	US$ 1,080

Below is a figure that shows the number of internet users and total population in Bangladesh.
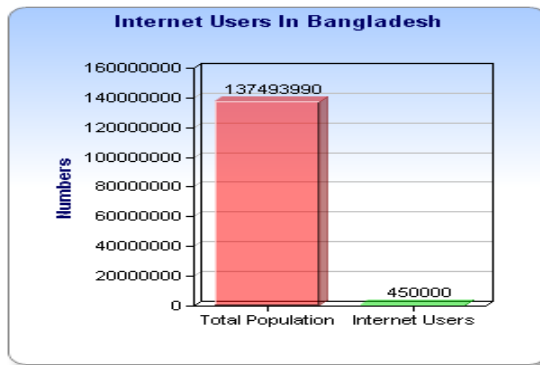
Figure 2.7: Internet usage and population statistics in Bangladesh (United Nations Department of Economic and Social Affairs 2012, p.200)

Below is a figure that shows the number of internet services in Bangladesh and the world.
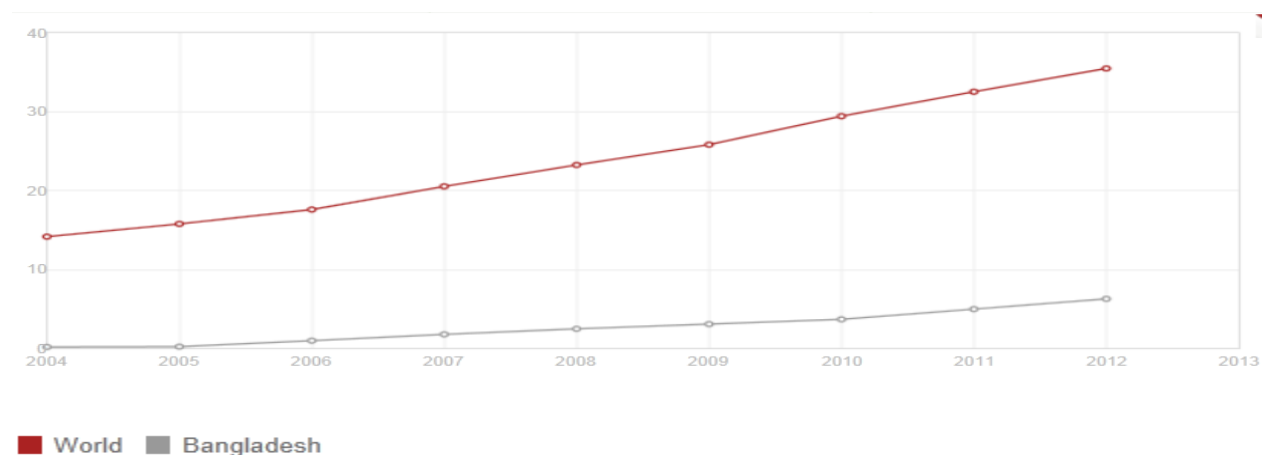
Figure 2.8: Internet users' comparison between the worldwide network and Bangladesh (International Telecommunication Union 2014, p.311)

The broadband connection is available in Bangladesh, but the cost is very high. As a result, e-commerce in Bangladesh is developing slowly. Though the WiMAX service is now available but the process of WiMAX Internet service is still not up to standard level (Chowdhury 2014).

2.7.6 Internet Usage Difference Between Australia and Bangladesh

Below is a figure that shows the number of internet services in Bangladesh and Australia.

Figure 2.9: Internet users of population in Australia and Bangladesh (International Telecommunication Union 2012, p.312)

Australia already has a matured e-commerce market. Australian consumers are spending more and more online (International Telecommunication Union 2012).
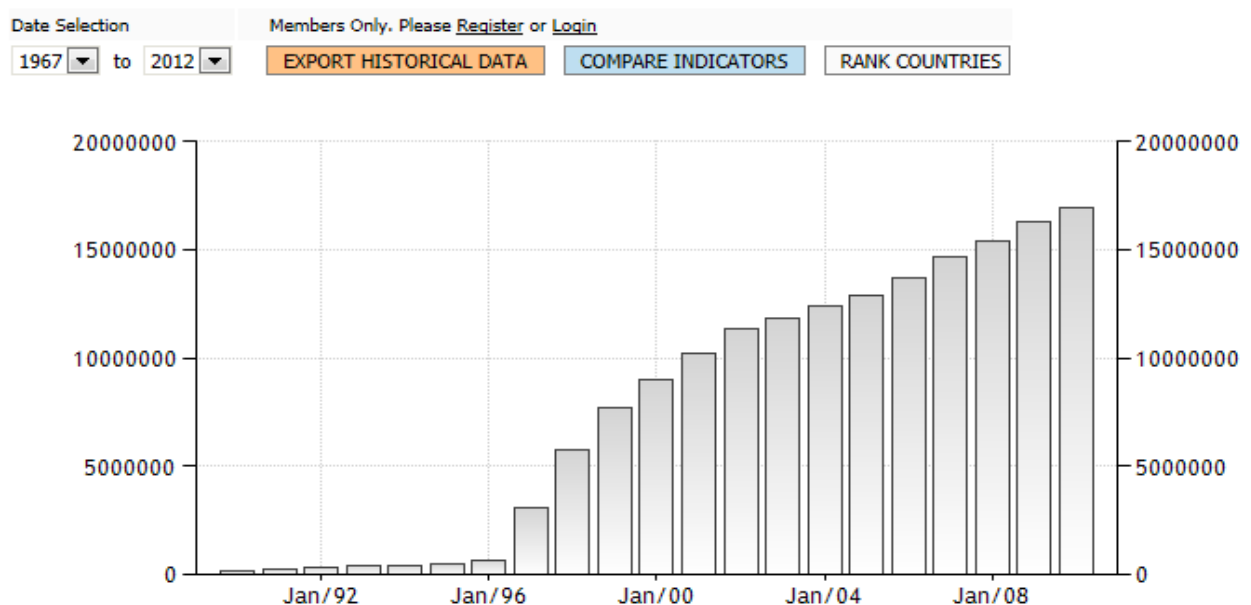
Figure 2.10: ICT Development Index (Selected economies, 2012, p.313)

2.7.7 E-commerce in Bangladesh

From 2000 to 2008, the e-commerce sector in Bangladesh showed slow growth. There were a few e-commerce websites available but there were no systems for online transactions in Bangladesh. Finally, Bangladesh Bank allowed online payments in Bangladesh and formally opened e-commerce sector. Bangladesh Bank gave official permission for online transactions in the country which became very popular all over the country (Chowdhury 2014).

2.7.7.1 Rise of Freelance Outsourcing

After opening online transactions, the outsourcing sector of Bangladesh has a rapid growth. Elance and Odesk are the two most popular sites for freelancing jobs. Between 2012 to 2014, a total of 435, 249 jobs had been run through by Bangladeshi freelancers (Digital Bangladesh and Expectations 2015).

2.7.7.2 Freelancers

Freelancing is the outstanding sector in Bangladesh and Bangladesh Bank issued a circular stating that Bangladeshi outsourcers could bring up to $500 at a time into the country through the Online Payment Gateway Service.

2.7.7.3 Payza

Bangladesh Bank has permitted Online Payment Gateway Service to operate in Bangladesh. Under this proposal, Alert pay started its operation. Originally, Payza started as alert pay (Digital Bangladesh 2015).

2.7.7.4 Year 2013: The Rise of e-commerce

The year 2013 was the most important year for Bangladesh. First "e-commerce Week" was being observed ever in Bangladesh (e-commerce Industry in Bangladesh 2014).

2.7.7.5 Dhaka e-commerce Fair 2013

Realizing the importance of the e-commerce field, Computer Jagat (the first ICT magazine and the pioneer in the ICT movement in Bangladesh), as well as the then Ministry of ICT (MoICT) and District Commissioner (DC) Office, Dhaka, Bangladesh, organized the first ever e-commerce fair in Bangladesh. The slogan of the fair was- *Festival for buying and selling at your premise* (Ganguly 2013).

2.7.7.6 E-commerce Fair in Sylhet and Chittagong

Computer Jagat organized two fairs in Sylhet and Chittagong, two other prominent districts of Bangladesh. Fifty one companies participated were the part in the fair (E-commerce Fair in Bangladesh 2013).

2.7.7.7 UK-Bangladesh e-commerce Fair

Computer Jagat, the Ministry of Post, Telecom and Information Technology and Bangladesh High Commission, London organized the first international e-commerce fair and it was held on September 7-9, 2013 in Central London. Nineteen organizations from Bangladesh and thirteen organizations from UK were in this fair (Ganguly 2013, p. 44).

2.7.7.8 Success of e-commerce Fair in Bangladesh

The successful points of the fair are as follows:

- ❖ A showcase the products and services of the e-commerce organizations in the country.
- ❖ Removal of all fear and confusion about e-commerce from peoples' minds and motivate people to buy products and services using e-commerce.
- ❖ Helping the Bangladeshi e-commerce to grow and reach its full potential.
- ❖ Spreading the e-commerce fair all over Bangladesh.
- ❖ Organizing e-commerce fairs abroad to spread awareness among the non-residential Bangladeshi communities as well as the international audience.
- ❖ Promoting new talents and young e-commerce entrepreneurs.
- ❖ Creating a platform that would bring together people involved in the e-commerce industry (Hasan 2014).

2.7.7.9 International Credit Card Use

In May 2014, the Bangladesh Bank allows to purchase products from overseas via international credit cards. E-commerce has opened the golden doors of unlimited prospects for the deprived people of Bangladesh. The e-commerce sector in Bangladesh is flourishing now and will continue to grow for many years (Hasan 2014).

2.7.7.10 e-commerce Sites in Bangladesh

E-commerce sites have been operating in Bangladesh since late 90s. At the moment, there are more than hundred e-commerce sites at present. For the last few years, Ramadan - the biggest Muslim occasion became the biggest online shopping season. During Ramadan, there is major traffic jam and huge crowds in the shopping malls and markets in big cities. For hassle-free, comfortable shopping, many people are now turning to Internet. This year, the volume of festival-based online shopping exceeded Taka (Bangladeshi currency) 4 billion. People can buy various products and services online. The same way, people in cities can buy products from villages. Understanding the potential of the rural e-commerce, the current government's Access to Information (A2I) Programme signed MoUs in May 2014 with eight private company providers. The companies are- Future Solutions for Business, Chal-Dal dot com, Computer Jagaat, e-Cash limited, Casada Technologies, Sonar Courier, Sundorban Courier and e-Courier dot com. Initially, A2I will provide e-commerce services through 200 UISCs (History of e-commerce in Bangladesh 2014).

Table 2.7: Few Bangladesh's e-commerce sites (e-commerce Directory of Bangladesh 2014)

Name	Details
Aarong	Web address: www.aarong.com/ Summary: Brings positive changes in the lives of disadvantaged women.
Address Bazar	Web address: www.addressbazar.com/ Summary: an online address book of Bangladesh.
Adhuli.com	Web address: www.adhuli.com Summary: One of the largest online shopping portal
AETechbd.com	Web address: http://www.aetechbd.com/ Summary: AEtechbd is leading Importer of Original Products in Bangladesh. People can Buy favourite Products from aetechbd.com the largest Online Store for Electronics, fitness, Hair Care, Health Care, Skin Care, Fitness, Home Appliance, Apparels - best deals in the Market.
AjkerDeal.com	Web address: www.ajkerdeal.com Summary: ajkerdeal.com features a daily deal at an unbeatable price on the best products in order to make the best shopping decisions. This is a deal and discount website where buyer can find all the attractive discount offers, special deal of the country in one place.
Ajkeroffer.com	Web address: www.ajkeroffer.com/ Summary: Ajkeroffer.com is the fastest growing Daily Deal website in Bangladesh. Inspired by "Group buy" concept. Ajkeroffer.com offers services through a website that features discount coupons redeemable at local or national merchants.

akhoni.com	Web address: www.akhoni.com Summary: an online marketplace
Akmatro	Web address: www.akmatro.com/ Summary: Akmatro.com, an online megastore was established in 2012 with the aim to provide Bangladeshi people top quality products at their homes at an affordable price. Buyers can purchase the products from the homes. Akmatro.com offers cash-on-delivery, free after-sales service.
All Sky Shop	Web address: www.allskyshop.com/index.php Summary: the largest Online shop
Amardesh e-shop	Web address: http://amardesheshop.com/ Summary: online marketplace
Amar Gadget.com	Web address: www.amargadget.com Summary: AmarGadget is the 1st Bangladeshi Gadget e-commerce site.
Arnim eShop	Web address: http://arnimeshop.com Summary: ArnimeShop established in 2010 based in Dhaka. ArnimeShop is a proprietorship company, Owned and Operated By Anisur Rahman. ArnimeShop is an exclusive Fashion House & Boutique in Bangladesh.
Bangladeshbrands.com	Web address: www.bangladeshgiftshop.com Summary: Bangladesh gift shop is a place from where people can send gift to any Bangladeshi. If people are from Bangladesh, Bangladesh gift shop can also help people for send gift to anywhere on world through the international partner.
Bangladesh Railway E-ticketing Service	Web address: www.esheba.cnsbd.com/ Summary: Purchasing tickets through Internet is another convenient way to travel with Bangladesh Railway. People can do register with the mobile phone number, book online and the ticket details will then be emailed to the people instantly after payment through the VISA/MASTER cards.
BDcost	Web address: www.bdcost.com/ Summary: very simple Price comparison Web site.
BDdrugstore.com	Web address: www.bddrugstore.com/ Summary: BDdrug Store takes the initiative to create a common platform for all kinds of information regarding drugs of Bangladesh. BD Drugstore is the best source of drugs index, price information, doctors' directory and their reviews provided by their patients.
BDGolds	Web address: www.bdgolds.com/ Summary: BDGolds.com is a property of Petrassia Nivalaecae Precious Metals and Diamonds Pte Ltd., Singapore. BDGolds can shop exclusive 24K Gold Bars, Gold Coins, Gold Gifts, White and Yellow Gold Jewelry, Diamond Jewelry, with BDGolds.com

2.7.7.11 Classified E-commerce Websites in Bangladesh

In 2013-14, consumers in Bangladesh have seen tremendous and explosive growth in the classified advertisements online. Traditionally, people were used to seeing classified advertisements in popular daily newspapers. Normally, such advertisements were posted

about jobs, tuition, houses to-let, buying and selling etc. Posting such advertisements was inexpensive but not free. Posting a classified advertisement online has many benefits both for the sellers and buyers. Posting an advertisement is, most of the time, free for the seller. Secondly, the ad stays as long as the website is alive. For buyers, the benefit is to see a large number of advertisements in one place and buyers can compare easily before making a decision (Hoq et al 2014).

2.7.7.12 Computing and Web Hosting

E-commerce adds a lot of value to webhosting. Normally, when people buy a domain and hosting those most of the time, the demands are limited. All the need is a web space of few gigabytes (GB), some bandwidth (monthly) and the ability to work with some common programs and CMS. However, when people need hosting for an e-commerce website then they need some extra items or features in hosting. Until now, most of Bangladeshi local webhosting companies merely act as the agents or middlemen between the big US webhosting companies and the local customers of Bangladesh. e-commerce websites face heavy traffic before the Eid-Muslim festive season and Pohela Boishakh-Bengali Happy New Year. So, web hosting companies in Bangladesh also try to arrange quality cloud hosting (Hossain 2014).

Table 2.8: Bangladesh's webhosting sites (e-commerce Directory in Bangladesh 2014)

Name	Details
ABH World	Web address: www.abhworld.com/
Access InfoTech Limited	Web address: www.aceunified.com
Amazing Soft	Web address: www.amazingsoftbd.com/

It is sad, but true, that still the e-commerce activities are confined in large cities of Bangladesh. Computer Jagat envisions the time when anyone living in any village of Bangladesh will be able to just go to the local Union Information and Service Centre (UISC) and order any product through a UISC agent. Bangladesh also dreams that e-commerce will generate huge revenue for the postal service companies both in the public and private sector (Howladar 2014).

In fact, e-commerce and online transaction will generate many new jobs in Bangladesh. They will add more value to banks, webhosting companies, courier service companies etc. The current GDP growth rate in Bangladesh is around 6%. If government wants to increase this growth rate then we surely need to ensure more flows, circulation and movement of money (Ferose 2014).

A good sign is that the PC and internet users are in a large numbers these days and both personal and commercial use has increased. It is also sad to say that there are also certain factors that exist affecting Bangladesh development such as bad politics and policy making, time variation, misuse of manpower and resources. As globalization conquers the world, time variation between the developed and the developing countries becomes an advantage for e-commerce users. While the western countries have stopped the work after office hours, the people of Bangladesh start their office hours around that time. In terms of IT and e-commerce work, Bangladeshi people can easily do their back office jobs such as data entry, data collection and conversion, medical transcription online shopping etc (e-commerce in Bangladesh: Status, Potential and Constraints 2014).

In terms of IT infrastructure and secured online business, Bangladesh has a long way to go, but it is not impossible. The government is working very hard to build up safe and secure IT and e-commerce systems and infrastructure. This huge population can be an asset if Bangladesh uses them to develop more IT and secure e-commerce related businesses in the country (Laisuzzaman et al 2014).

Recently in Bangladesh, there is an increasing popularity for Facebook commerce (f-commerce) and mobile phone commerce (m-commerce). This is a very positive sign. There are around 5-10 million Facebook accounts in Bangladesh. Many small companies and individuals are using Facebook to promote their businesses. Often, they display their products on their Facebook pages, mentioning the price and providing contact addresses.

Compared to other countries, Bangladesh is a late entrant into e-commerce. Yet, this sector grew in a very short time. The young people are the main driving force behind this growth.

According to the latest data of Bangladesh Telecommunication Regulatory Commission (BTRC), that at the end of July 2014, there were more than 3.7 million active Internet users

and 11.6 million Mobile subscribers. The majority of these users are young people. There is a big market for mobile phone and internet subscribers and its potential still remains largely untapped. Mobile phone companies provide value added services. Sending money through a mobile phone is very popular in the country. It has become popular for all kinds of people - rich and poor, educated and uneducated, urban and rural etc. It shows that people in Bangladesh are getting used to use their mobile phones as a medium of sending and receiving money. E-commerce, F-commerce, and M-commerce-these three things are related to each other and included under the broad umbrella of e-commerce (Internet & e-commerce in Bangladesh 2014).

In 2013, The Boston Consulting Group and Telenor conducted a research for determining the economic impact of the internet in Bangladesh. By 2020, the internet will contribute 2.6% of the GDP, provided the government ensures all the steps are in place to increase internet penetration in the country (Imran 2013).

Below is a figure that shows GDP Growth in Bangladesh.
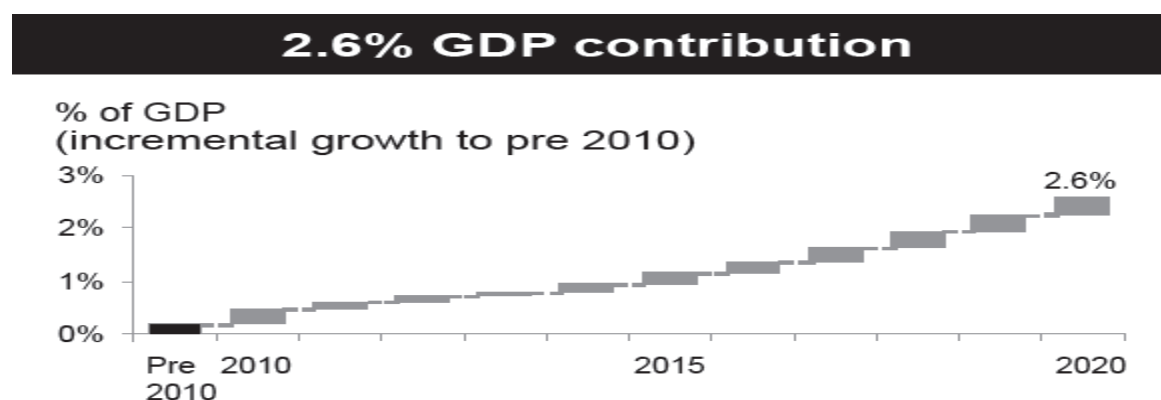
Figure 2.11: Bangladesh GDP Growth (World bank 2012, p.329)

It will also drive new business creation up to 42000 and add 1,29,000 jobs.

Figure 2.12: Bangladesh New Business Activities (World Bank 2012, p.330)

Below is a figure that shows Economic growth in Bangladesh.
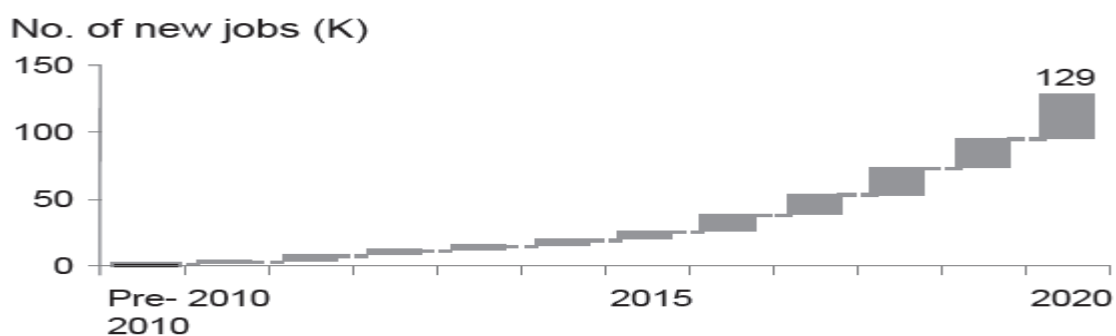
Figure 2.13: Bangladesh New Jobs: With economic growth government revenue will also increase (World Bank 2012, p.331)

Below is a figure that shows Government revenue in Bangladesh.
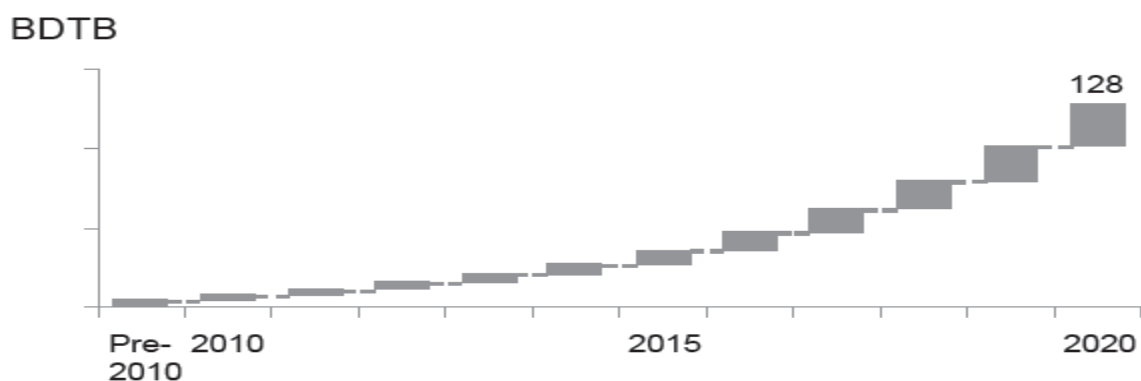
Figure 2.14: Bangladesh Government Revenue (World Bank 2012, p.332)

The study clearly shows that e-commerce can be a major driver of economic growth. In the 90s, the Ready Made Garment-RMG sector brought about major economic changes in Bangladesh. It helped create jobs for many poor people. In the same way, with proper impetus from the government, the e-commerce sector can be as big as the garments sector creating jobs for thousands of educated people in the country. To reduce the difficulties, the Bangladesh Railway introduced the e-ticketing system and it became very popular. Twenty-five per cent of the tickets sold every day by Bangladesh Railway were sold through e-ticketing and all the e-tickets are always sold out (Mottalib 2014).

A BRAC Bank official said that since 2011, his organization observed the sales of nearly 30,000 e-tickets through Visa or Master Card. Aside from the festivals, 18,000-21000 tickets are being sold each month. Bus tickets were also sold online. In Bangladesh, 90 percent of the private sector enterprises are SMEs. 70%-80%of the non-agricultural workforce is working in the sector. Around 6 million SMEs employ 31 million people. SME accounted for 25% of Bangladesh's GDP in 2012 (Mottalib 2014).

2.8 Financing and Banking Mechanism

2.8.1 Financing Mechanism

Nabi et at (2015, p. 32) said:

> *"There are three types of export financing in Bangladesh: pre-shipment financing in local currency by commercial banks; pre-shipment financing in foreign currency by commercial banks through the Export Development Fund (EDF); and back-to-back letter of credit (L/C) facilities".*

2.8.2 Banking Mechanism

In Bangladesh, some banks have branches in almost all the sub districts, this is a geographical region in Bangladesh used for administrative or other purposes. Almost all the banks have branches in all 64 districts of the country. Banks focus on implementing some e-commerce style products for their clients. Sending bank statement through email, Internet banking, transferring money through the bank account from home are just some of the examples. In

Bangladesh, there are thousands of SMEs and they need to adapt and implement e-commerce or else may face extinction. One of the challenges for the e-commerce sector in Bangladesh is the fear or anxiety among card users about safety. It is a win-win situation both for the banks and e-commerce companies. There will be more clients for banks if the e-commerce sector flourishes in Bangladesh (Noor 2013).

Online Banking is yet to become popular in Bangladesh. Many debit or credit card holders do not feel safe doing transactions online (Noor 2013).

2.8.3 International Credit Cards

The local credit cards and debit cards have become very popular in Bangladesh. The Central Bank is very much concerned about issuing international credit cards from Bangladesh. Because of not proper secured network available in Bangladesh (Parvin 2014).

2.8.4 Illegal Cross-border Payment

Businessmen are not allowed to carry unrestricted amount of foreign currency but many of them using the illegal process called "Hundi" in Bangladesh. The demand of this system increases whenever the official rate of international currencies varies significantly from the market rate (Parvin 2014, p. 39).

2.9 Human Capital

Bangladesh has too much deficiency on skilled manpower and knowledgeable people in IT sector. Electronic devices are primarily used for general administrative jobs in business environment. However, the communication is not fully controlled by online such as emailing (Rajon 2015).

2.10 Government Legislation

The Intellectual Property Rights (IPR) Bill exists in Bangladesh. However, e-commerce related consumer protection and copyright protection are not covered in IPR (Hossain et al 2013).

2.10.1 Bangladesh ICT Policies & Security Challenges

Bangladesh Government has created the National Council for Science and Technology (NCST). It has given the most priority to the ICT development, ICT skilled professionals development, and construction of ICT organisation (ICT Policies & Security Challenges 2013).

Bangladesh e-commerce challenges are mainly formed because of lack of IT security and proper education about computer security issues. Bangladesh is planning right awareness raising. Bangladesh has become conscious that it is necessary to ensure effective public-private partnerships for information security and to develop cybercrime laws that protect cyber security (Hossain 2012).

2.10.2 Governance

Bangladesh has enormous problem of poor governance. This has been noticeable because of active participation of politicians and public officials, often in collusion between them. Bureaucracy and too much internal corruption also discourage domestic investment (Salim 2014).

2.10.3 Governance and Policy Implementation Constraints

Bangladesh has a difficult problem of poor authority. The poor power makes the e-commerce process extremely slow. The lack of trust and confidence in e-business is available among the business market (The Daily Star, 2013).

2.11 Major Constraints to E-commerce

This research highlights various constraints to e-commerce.

- ❖ Poor telephone connections.
- ❖ Not enough law practice.
- ❖ Very poor number of Pre Shipment Agents (PSA).
- ❖ Fines and penalties not in practice for violation of rules.
- ❖ Very rigid foreign exchange management for international credit cards.

- ❖ Business associations and organizations have very poor awareness about the benefits of e-commerce.
- ❖ No offer of short courses at training centres or educational institute.
- ❖ Poor political commitments are available between political parties (Hossain 2013, pp. 33-34).

2.12 Impacts on the Bangladesh Economy

E-commerce rearranges entire business industries in Bangladesh over the next age. It helps lowering the business, lowering transaction costs, faster payment process, increases cash flow, adopt new business models, develop customer support, develop market reach, increasing speed to market (Ecommerce and impacts on economy 2014).

Table 2.9: Implications of ecommerce for industry (Impact of e-commerce 2013)

Sector	Observations
Health	Modes of operation, such as telemedicine.
Education	Education and administrative functions.
Banking and Finance	The branch structure.
Business Services	Professional 'knowledge' services

2.13 Internet Banking in Bangladesh

Internet Banking is one of the few online services where the customers and banks are mostly benefitted. Internet Banking helps bank and customers to access accounts and general information about bank products and services through electronic devices mostly computers and smart phone.

2.14 Bangladesh Bank underscores e-commerce & Challenging Issues in e-commerce for Bangladesh 2012/2013

Bangladesh Bank gave the highest priority on online banking to accelerate e-commerce.

The Interviewee G4 said:

"Once people become habituated with IT the success of e-commerce is just a matter of time. The financial institutions will have to ensure payment security and products will have to be delivered as promised".

The Interviewee G4 said:

"In India, 58 percent of the electronic transaction takes place for air and train ticket purchase. To popularise the e-commerce service in Bangladesh, he suggested introducing pre-paid cash card services to attract low-income people. He also suggested that all the financial institutions are put on the same electronic payment platform so that individual banks need not develop their own".

The Interviewee A5 said:

*"Online payment is more secure than card transactions at shops as the customers pay directly to the banks and not the online portal. **T**he company wants to see rapid growth in e-commerce in Bangladesh. The participants-ranging from foreign and local IT experts to bankers, banking regulators and business people-called for introduction of all kinds of debit and credit cards and mobile payment facility for ease of online shopping".*

❖ Online fraud is a major challenge for the growth of e-commerce. In Bangladesh, e-commerce is currently an emerging sector. The entire process of e-commerce is done through computers. Buyers, sellers do not meet face to face. Online fraud hinders the growth of this sector. The fraudulent activity of one company or individual affects the entire industry. The government and the companies involved in e-commerce sector should work together to introduce different laws that will provide protection to buyers and sellers both (Rajon 2015).

❖ Online piracy is a big threat for these companies. There are many websites that allow visitors to download books, songs and movies for free. It deprives the producers from their revenues. No strict copyright laws are in place to stop online piracy.

❖ Bangladesh's e-business environment is still challenging because of poor infrastructure, road networks and electricity supply.

❖ The economy is extremely reliant on the farming sector.

❖ Largely unskilled people and the poor quality of education.

❖ Political unsteadiness.

❖ Poor law practice (Rajon 2015)

2.15 E-banking in Bangladesh

E-banking is a part of electronic business and performs through electronic networks. Establishing e-banking is a strong task for the developing countries like Bangladesh. At present, there is very weak ICT infrastructure for e-banking activities in Bangladesh (bdnews24 2013).

2.15.1 Current Scenario of e-banking in Bangladesh

E-banking is reasonably new idea in Bangladesh. Previously Standard Chartered Bank, HSBC bank provides this service, now some of the banks are offering e-banking services as a main service. Eastern Bank Ltd. is the most important local commercial banks in Bangladesh to offer e-banking services (Rahman 2014).

2.15.1.1 Classical Banks

Classical bank includes those profitable banks, which don't provide or provide very minimum e-banking facilities. In Bangladesh, this category mainly includes mainly −

2.15.1.2 Commercial Banks in Bangladesh

- ❖ Sonali Bank
- ❖ Janata Bank
- ❖ Agrani bank
- ❖ Rupali Bank (Banks in Bangladesh 2014)

2.15.1.3 Specialized Banks in Bangladesh

- ❖ Bangladesh Shilpa Bank (BSB)
- ❖ Rajshahi Krishi Unnayan Bank
- ❖ Bank of Small Industries and Commerce Bangladesh Ltd.
- ❖ Bangladesh Shilpa Rin Sangstha (BSRS)
- ❖ Bangladesh Krishi Bank (BKB) (Banks in Bangladesh 2014).

2.15.1.4 Local Top Private Commercial Banks in Bangladesh

- ❖ Oriental bank Ltd.
- ❖ First Security bank Ltd.
- ❖ Social investment bank Ltd.
- ❖ Al Arafah bank
- ❖ The Standard Bank Ltd
- ❖ Bangladesh Commerce Bank Ltd (Banks in Bangladesh 2014).

2.15.1.5 Modern Banks in Bangladesh

Few banks of Bangladesh are providing e-services but majority banks are not following electronic way. But banks, customers and employees will be beneficiated after applying technology in banking sector because this system has some advantages over old system.

Advantages are as follows:

- ❖ FDR and Loan process handling becomes quicker (Skinner 2015).
- ❖ Government officials do not need to go to banks to collect information within few minutes.
- ❖ Electronic system in balance or money transfer can be used to transfer money within a few seconds (Skinner 2015).

2.15.1.6 Debit card and credit card in Bangladesh

Debit cards and credit cards are already reasonably popular in Bangladesh. Major companies like Visa, Master card, American Express are now having a presence. In 2009, the Bangladesh Bank allowed online transactions in the country. After that, the e-commerce sector in the country witnessed overwhelming growth. The credit card is closely related to e-commerce. The main reason people shop online is to save time and money and avoid all the difficulties of physical shopping. People use credit cards to pay for online purchases. In Bangladesh, the credit card is not widely used. According to Syed Mohammad Kamal (2014), Bangladeshi people are not interested in using plastic cards because they have to pay more.

Then, there are hidden charges. In addition, many people do not feel secure. The government, banks and financial institutions are not fully working together to remove these obstacles (Shailendra 2014).

2.15.1.7 Courier Service Companies in Bangladesh

Courier services are seen as significant support behind e-commerce growth. After a consumer places an order in an e-commerce based website, the company has to send the product through a courier service the growth of e-commerce for Bangladesh in turn, grows more business for courier service companies. One of the major problems related to e-commerce in Bangladesh is delivery time. So, ensuring faster delivery is needed to make e-commerce popular in Bangladesh. Same day delivery can really go a long way in this regard. At least in cities like Dhaka and Chittagong this might be adopted. The courier service companies have to come up with online tracking facilities so that consumers can track their products (Skinner 2015).

2.15.1.8 Mobile Network Operators in Bangladesh

Mobile phones are currently the most popular devices in Bangladesh. Within just 20 years, the country has seen more than 100 million users. According to Bangladesh Telecommunication Regulatory Commission (BTRC), the country has more than 116 million subscribers. At present, people do not use mobile phones only for communication. With the advent of powerful smart phones, people perform a wide range of functions with their mobile devices. At present, only 13% of the population of Bangladesh has access to banks. In order to fill this huge gap, mobile phones are playing a big role. Banks, in association with Mobile network operators, have started to offer different services to rural people. Mobile Banking started in Bangladesh 2011. The Bangladesh Bank issued Mobile Banking Guidelines in September 2012. Initially, it gave permission to 23 banks to offer Mobile Financial Services. In just three years there have been more than 15 million registered mobile banking subscribers. According to Bangladesh Bank data, as of April 2014, mobile banking subscribers of 20 banks performed more than 35 million transactions worth 8 thousand 96 crore taka. BKash, a division of BRAC Bank, is one of the most successful Mobile Banking organizations in the country with more than 85,000 agent locations around the country. It has around 12 million subscribers and the number is increasing. It is providing its services through major mobile network carriers like Banglalink, Robi and Grameen phone. The

Bangladesh Postal Department's Electronic Money Transfer System (EMTS) is another successful example. Launched in 2012, it is now available in all three thousand postal offices across the country. Mobile commerce is another emerging trend in the country. 3G Internet came to Bangladesh 2011. 3G enabled Smartphones are already popular. The 3G technology will drive the mobile commerce sector. People will buy and sell things using their phones and mobile devices like tablet PCs (Udo 2014).

2.15.1.9 Online Advertising Platform in Bangladesh

With the increasing attractiveness of cyber world, online advertising is becoming very popular. In Bangladesh, online announcements have become a major trend. Many noticeable newspapers in Bangladesh have already stopped publishing or are not getting advertisements. Online advertising is still in an embryonic stage in Bangladesh. However, it is slowly becoming visible. Facebook is the most accepted communal medium in the country. The majority of the Bangladeshi Facebook users are young people. Hence, companies that develop products for the youth are now focusing on Facebook marketing. Few online advertising companies have started operating supporting websites with Bengali language content. In Bangladesh, Bengali language websites are always popular. In the newspaper business, Bengali language newspapers totally control circulation statistics. In electronic media, the same can be said as there is no English language TV channel or FM radio station in the country (Ali 2013).

2.15.1.10 Freelance Sites in Bangladesh

Freelance outsourcing is possibly the big thing for Bangladesh. Already thousands of young workers from the country are enthusiastically working in different freelance marketplaces. The government is also supporting this field. In 2012, Gartner included Bangladesh on its list of Top 30 Countries for Offshore Services. In 2014, Bangladesh was ranked 26 in The 2014 A.T. Kearney Global Services Location Index (ODESK Blog 2012).

The Bangladesh Government is actively supporting this field. The Central Bank (Bangladesh Bank) has taken some steps to help the young freelancers. The ICT Division, under the Ministry of Posts, Telecommunications and Information Technology, is also doing its best to support the freelancers. In fact, to create skilled workforce from all parts of the country, the

ICT Division has implemented a project called Learning and Earning Development Program (Freelancing in Bangladesh 2014).

2.15.2 Major Limitations of e-commerce especially in E-Banking

❖ Rural areas in Bangladesh have poor communication facilities.

❖ Village people in Bangladesh have no knowledge about e-banking.

❖ The officials of the village have poor knowledge about electronic banking.

❖ Poor proper education is a great problem in carrying out of e-banking activities (Anderson 2014).

Table 2.10: Challenge and Pointers of E-Banking (Challenges of e-commerce in Bangladesh 2014)

Challenge	Pointer
Knowledge Barriers	Limitation of skilled people
	Misuse of Technology
	Deficiency of Technological knowledge
Security Barriers	Lack of law practice
	Weak security measurement
	Not trustworthy
Socio-cultural Barriers	Poor awareness about e-commerce
	Not qualified and educated
	Language barrier
Economic Barriers	Not yet full convinced with latest infrastructures
	Poor level of Internet service

2.16 Computer Crime-a Growing Threat

Computer crime is an illegal activity which takes place through Internet, smart phone and wireless technology. It is simply an illegal activity including unlawful access, prohibited

interception, data intrusion, systems intrusion, misuse of electronic devices. It also includes hacking, child pornography, cyber nuisance, virus distribution, software piracy, chat crime, credit and debit card scam, phishing, money laundering, information theft, email violence, worm attacks, logic bombs, web jacking, harassment, password sniffing, fraud & cheating (Daniel 2014).

2.16.1 A means to an Offence

Crimes involve in the use of information and communications technology and the Internet. The top offence is committed through the technology and it is a straight crime such as technological fraud.

2.16.2 Electronic devices as targets

The next type engages offences which target the computers themselves. The disturbance can be put into effect by Trojans, worms, viruses and hackers (Computer Crime 2013).

2.16.3 Hackers

Hackers are people with technical capability to have access to other networks and individual computers (Computer crime 2013).

2.16.4 Worms, Viruses and Trojans

A computer worm is a program which does not require to attach with another program in order run. A virus is a piece of program code which copies itself and attaches to a computer program. Trojans are a separate program which transferred intentionally through email (Cyber crime 2013).

2.16.5 Used as Storage

This category includes offences in which the devices are used as share drive, for example a illegal item in which delivery records are kept on the electronic devices for future records.

2.16.6 Crime and the internet

2.16.6.1 Internet access

The internet access through a personal computer and smart phone are very common phase. The development of accessibility of personal electronic devices has end up with growth of online criminal activity. The Internet and few criminal activities are as below:

- ❖ free online access;
- ❖ ambiguity; and
- ❖ Lack of security consciousness (Boham 2014).

2.16.6.2 Unregulated Enterprise and Access

Internet Service Providers are not required to be constant regulated. Gmail, Yahoo and Hotmail require smallest amount of information from the user. It is also very possible to create fake email address and full access (Bhuiyan 2012).

2.16.6.3 Anonymity

Online illegal activity is carried out by vagueness of online environment. Free e-mail services allow the configuration of as much dissimilar email uniqueness as user wants, without constructive information in sequence (Bhuiyan 2012).

2.16.6.4 Chat Rooms

Chat Rooms on the Internet are explained as a conference call on a telephone. Chat rooms allow a group of people to talk about same topic using the one Internet position. The problem in a chat room is the closeness and somewhat secret environment (Bhuiyan 2012).

2.16.6.5 Safety and Community Awareness

There are two areas of vulnerability for internet users. One is access by children to unsuitable content and the other is a lack of common awareness of computer security. This helps the users to be safe not only from email which bothers but also from nasty content.

2.16.6.6 Child Sex Offences

Three main areas of concern:

- ❖ Online access to distribute pornographic and child sex images;
- ❖ The 'grooming' in chat rooms with the child; and
- ❖ Physical inappropriate contact with children (Bhowmik 2014).

2.16.6.7 Pornographic Imagery: Possession and Access

Unwanted subject matter sent by email can create an offence of ownership of pornography. The situation has the probability to criminalise activity which may not justify that description.

There are few possibilities:

- ❖ When it comes in email account;
- ❖ When it is access by the e-mail account holder;
- ❖ When it is downloaded by the e-mail account holder and saved into computer or laptop and printed in future (Bhowmik 2014).

2.16.6.8 Use of Chat Rooms by Children

Knowledgeable children can simply use the electronic device. The Bangladesh Police has noted that many paedophiles accept the on-line profile of a young child, and 'groom' them for later meetings, all of which goes undetected (Bhowmik 2014, p. 88)

There is an indication of risk to those who may be in danger of being victims of Internet sexual offenders. The profiles includes under aged children with low confidence and who have been attacked through online.

2.16.6.9 Banking, Credit Card Fraud and Money Laundering

The prospective for cyber fraud covers a number of banking areas. They include internet banking, credit and debit card fraud, money laundering, identity theft.

2.16.6.10 Internet Banking

Internet banking allows bank customers to check online bank statements, pay utility bills, balance transfer, B-Pay, and account enquiries. Internet banking also involves crime like money laundering (Computer Offense 2013).

2.16.6.11 Credit and Debit Card Fraud

Credit or debit card skimming involves a small device which records the card details to reproduce card. This device is also used at Automatic Teller Machines (ATMs) and card scanning can be used to obtain individual information from key cards (Digital Bangladesh and Expectations 2013).

2.16.6.12 Identity Fraud

Identity frauds are including banking, personal or home loan applications, credit or debit card fraud and online banking. Internationally, this crime is now one of the highest cyber problems.

2.16.6.13 Money laundering

Money laundering is the dealing out of criminal earnings to act as a façade to their illegal foundation. This process creates a dangerous position, as it allows the unlawful people to be benefitted from these profits (Ganguly et al 2013)

2.16.7 Computer Crime in Digital Bangladesh

According to antivirus maker Symantec, junk mail is providing nasty software, or 'Malware'–2% of spam contained malware. Economic deception, money laundering, credit card frauds and online betting are the most common used method by fraudulent Bangladeshi people. The copyright breach and software piracy, password cracking or cheating others Ids, cyber pornography, email intimidation, sending false emails to obtain personal data are now very obvious complexities in Bangladesh (Ganguly et al 2013).

2.17 Cyber Crime: The rising threat in Bangladesh

In Bangladesh, cybercrime started with junk e-mails and Trojan attacks, but now it has spread into diverse areas such as Hacking, Virus introduction, Distribution of illegal content, Infringement of privacy rights, copyrights, Threats through email (Hossain 2013).

From 2010 to 2015, some major examples of cybercrime in Bangladesh are vague loss, jeopardized the Prime Minister through email hacking, hacking into a Government website. Rapid Action Battalion (RABs) website had been also hacked on 2014, but RAB was prompt responder against the hackers (Hossain 2013).

2.18 Present situation of Cyber Crime in Bangladesh

Some individuals use internet for pass on false and misleading information, under aged women and child trafficking, pornography etc. Bangladesh Government is still not careful about these cyber criminals. The RAB (Rapid–Action–Battalion) website was hacked in Bangladesh few years back. When this incident was circulated and broadcast almost all the government institutions became alarmed. Nobody wanted to believe it. Soon RAB arrested the culprits and those individuals are now serving a prison sentence. One hacker said that nobody should use his computer abilities in cyber crime. Although the 2006 ICT Act has many legal phases, but unfortunately not enough practices done. In Bangladesh currently, minorities are progressively more using cyber cafes to access social networks. Heaps of troublemaking actions take place at these places. According to section 57 of the ICT Act 2006, a person sentenced for cyber crime action up to 10-years in jail and fine up to 10 million dollars. No one cares because Bangladesh people still do not have any successful cyber court and it is quite common for cyber criminals in Bangladesh to keep away from penalty (Cyber Crime in Bangladesh 2014).

2.19 Bangladesh is not safe from cyber crime

According to a public survey organized by the Bangladesh Computer Council, only 1.22% had access to internet in 2014-2015. Denial of Service (DoS) incidence affects Internet Service Providers (ISPs) in Bangladesh. Data packs were sent out from data centre and caused server breakdown, slowing internet service. These attacks cause serious damage of

internet service. The Bangladesh government did not take any significant and prompt action after the cyber attack (Hasan 2015).

2.20 Bangladesh is in Danger

The police force of Bangladesh does still not have experts like the Foreign Bureau of Investigation. It is very common for cyber criminals to do crimes in Bangladesh. In Bangladesh people still do not have enough practice of cyber laws. Today in Bangladesh numerous people use Facebook on the internet. Facebook is a social utility that connects people. Students are very frequent users of Facebook by uploading pictures, sending messages to friends. Some people also use this social website for business reason. They post banned information and publicize it on Facebook. They invite students to join many fake organizations. As a result, many crimes have occurred already through this social website. Almost all universities impose a restriction on their students opening Facebook in the computer lab during class time (Hasan 2014).

2.21 The Recent Cyber Crime in Bangladesh

In Bangladesh, four students of a non-government university hacked the Rapid Action Battalion-RAB website. On 2015, RAB arrested JMB- a political party IT head who used the online as a search engine to make explosives to use in violent activities as he confessed that "I download information on explosives from internet, translate those in Bengali and send those to Mizan through Bashar (The Daily Star)," which is a severe alarm for national security. Being a part of the international economy, Bangladesh has to accept latest digital infrastructure to maintain consistency of its information connections with rest of the world These countries have applied–the necessary tools and laws while continually trying to improve security. Advanced countries have already adapted their economic, conditions, broadcasting, public values. Although Bangladesh is in the initial stages of this hi-tech, once they apply it efficiently, they will be able to deal positively with cyber crime (Bdnews24 2015).

2.22 Future Trend

With 116 million subscribers, mobile phone is the most popular electronic device of the country. 3G networks came to Bangladesh in 2012. Teletalk, the state-run mobile network operator, is planning to establish free Wi- Fi zone all over Bangladesh. Teletalk rolls out its 2G and 3.5G network all over Bangladesh. In the next phase, a powerful Wi-Fi router is installed near the towers. These routers cover 1.5 square miles. The Wi-Fi service is provided for free with an initial speed of 256kbps. Smartphones and tablet PCs are becoming increasingly popular. Walton, the Bangladeshi consumer electronic company, introduced smartphones at affordable prices. In addition, Chinese smartphones, phablets and tablet PCs are quite popular. According to 2013 news report, sales of second-hand 3G smartphones increased rapidly. By December 2013, there were 11.5 million banking. Now is the opportune time for e-commerce in Bangladesh. The way RMG sector created jobs for large numbers of people and improved Bangladesh's economy; e-commerce can do the same. The Digital Bangladesh initiative of the current government also played a big role in this regard. In order for the e-commerce sector to develop, the public and the private sector must work together (Ferose et al 2014).

CHAPTER 3: RESEARCH METHODOLOGY

Research methodology is a complex part of research work where researchers outline the processes and techniques that they used for primary data collection. Research methodology analyses the reliability, the data collection processes present the conclusion reached at thesis completion stage.

Many researchers found methodology as the hardest part of the thesis. Most researchers have not completed methodology a completed version and, therefore, are not used to with the consideration of the concepts and theories which underlie the methods. Also, many researchers are unable to provide a full comprehensive description of methods they employed in primary data collection, but rather provide common procedure (Coolican, 2013).

Research methodology is viewed from numerous resources, then the explanation of the type of methodology is given. The research included a review and case study. In addition, a prototype of multi-model information will be developed and evaluated by user and usability testing process. This research differs from one proposal to another and depending upon whether it is a scientific technique, a comparative analysis, failure analysis or proper use of some other academic and analytical techniques etc (Coolican, 2013).

This chapter illustrated the proposed practical approach and the methods to be adopted during the research project. It also discussed the chosen research paradigm, data collection strategy and instruments and data analysis.

3.1 The Chosen Research Paradigm

Qualitative research is about the collected works and analysis in a non-mathematical form. In qualitative research, the information is not entered in mathematical form. The importance is based on the participants who generate rich and valid findings that are based on a wide-range of cross-referenced sources from the data collection.

This research used the qualitative method based on interviews to conduct a study that includes focus groups, pilot projects, case studies. It also included an analysis of interviews, forecasting and statistical modelling. The researcher gathers rich and valid information from

various sources in the data collection. Additionally, the researcher observes the participants' attitudes and behaviours based on the in-depth research interviews. In order to achieve the research objectives through the research questions, the researcher implemented an intensive examination on the topic of the e-commerce industry in Bangladesh and the issues that surrounded the effects on the economic growth of the country. A background study is conducted to find the records of the IT and e-commerce industry of Bangladesh and why it is related to economic development. It also highlighted factors to be considered that greatly affected the IT and e-commerce industry of Bangladesh (Coolican, 2013).

Evaluation

The method used in this research project is qualitative in nature. Qualitative research was embedded individual assumptions. These assumptions constructed social realities from which the meanings of phenomena are the result.

On the other side, the quantitative method is different than qualitative analysis. Quantitative research means that the problem is often based on a rather narrow aspect of behaviour. Using the quantitative method centres on a very specific question, this, in turn, was set about achieving an understanding of a specific situation. The quantitative method may constrain results which were variable by taking into account how fast situations and global influences changed.

The qualitative approach is individual and generalized. The information is categorised so that the results often differed considerably from one researcher to another. There were a variety of ways in which qualitative analysis researchers tried to demonstrate the consistent findings (Coolican, 2013).

3.2 The Research Strategy

The research is designed mainly to focus on the qualitative approach. This design works very well and provided a consistent model for the research study. In this research study, the qualitative approach is selected because of the potential that amount of useful data it provided. There were benefits from using this approach. Further, this approach is able to

gather information about the stakeholders' professional life, their attitudes, behaviour and overall values and beliefs.

This research starts with analysing available minor sources that provided a wide picture of the research topic. This underlying understanding about the e-commerce security and privacy satisfaction of Bangladeshi ventures was introduced by analysing the subordinate information from peer reviewed papers and reports. The participants examined and collected possible solutions from secondary sources. The next phase of the data collection fell under a qualitative research approach, in which research interviews were conducted to collect data from a various people such as IT experts, government and non-government officials, IT students, university academics. The development of the data analysis and assessment between the past and current situation of e-commerce privacy and security satisfaction in Bangladesh aimed at producing a set of proposed recommendations (Anderson 2014).

Figure 3.1: The research strategy flowchart

3.3 Data Collection

A set of data collection methods was implemented and generated multiple points of view from the research activity. The table below showed the connection between the stages of the research study, the focus of inquiry, the group of people as respondents and data collection techniques.

Table 3.1: Summary of Research Methodology

Research Approach	Qualitative

Stage of the research	In-depth Interview
Focus of Inquiry	❖ The impact of secured e-commerce in Bangladesh ❖ E-commerce, business potentials and prospects ❖ The operations of e-commerce in Bangladesh ❖ The progress of e-commerce in Bangladeshi small to midsized enterprises ❖ The concerns of Bangladesh people about privacy and security satisfaction ❖ E-commerce in Bangladesh, the network infrastructure and operations ❖ The confidence level of people in Bangladesh about e-commerce ❖ Promotion and progress of e-commerce in Bangladesh ❖ The responsibility of the private and public sector in Bangladesh in the growth of secure e-commerce. ❖ Overall communication system in Bangladesh.
Group of People as respondents	IT professionals, university students and academics, government and non-government officials
Data Collection Techniques	Semi-structured and in-depth individual interviews

3.3.1 Research Area Selection
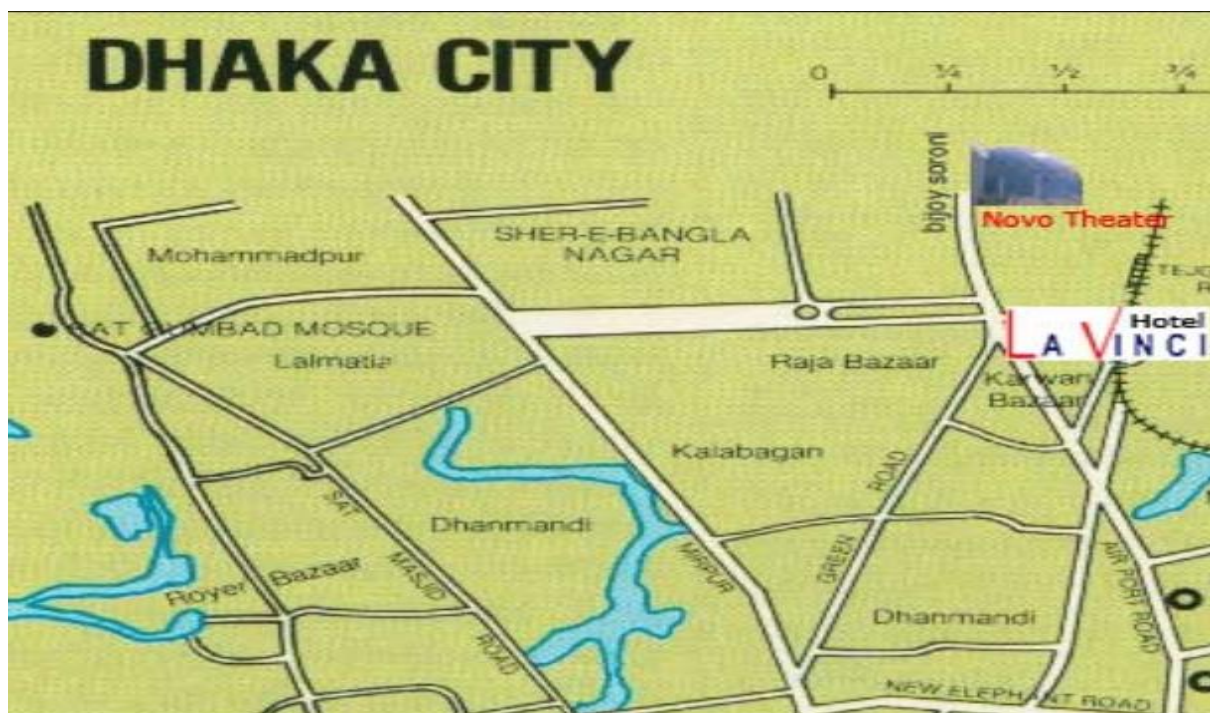
Figure 3.2: Map of Dhaka City and Major research areas (Google 2015)

This research was basically conducted in Dhaka, the capital of Bangladesh. This city was selected because it is major city. Other reasons to choose this city: because this is the most prosperous city in Bangladesh and the most populated; the education rate is high; and major government and non-government corporations, the universities and the IT experts are located here. Also, the success rate of privatisation and prosperous development of small to mid-sized enterprises is significant. This city not only has great experience in the e-commerce field, but demand and access to finance made it possible to develop further secure e-commerce projects.

This city is also well known by the researcher. Social relationships and networks were utilised to assist the researcher in this project. It is very important in the research field to become fully involved in order to understand the participants' viewpoint.

3.3.2 Document Analysis

Document analysis required the researcher to design the interview, formulate the study design and to create the questions to be asked of the respondents. Gathering information through interviews allows the researcher to organize and analyse a range of answers to questions.

Analysing secondary data is one of the best options to extract information from research problems, thus it developed policy and improved decision making for the research study. In this research study, it was found that the approach to produce an overall view of e-commerce security. Security is costly in terms of time and effectiveness, but a precious part of the research. Secondary resources allow the researcher to compare the difference between the previous and current scenario (Hair 2013).

The analysis was made more efficient by the use of search engines, journal articles and databases, local or public libraries and online libraries. In addition, the researcher needed to talk with government and non-government organisations and agencies to obtain valuable, and sometimes, sensitive data. The researcher also contacted selected international agencies to collect data such as statistics or publications which proved valuable for secondary data. In conclusion, using document analysis to get a better picture of the research topic is the aim of the research project.

3.3.3 Sampling

Sampling was the course of action that took the total population and divided them into small groups and sub groups and then selected those who were incorporated into the study (Sarantakos 2013). In the research, the data gathered is always from the sample and not from the total population. However, people were interested in what the total population thought. For that reason, it is important to make sure the sample was representative of the population. Therefore, the selected sample was reliable for learning the views and experiences of the total population (Neuman 2013).

For this research, random sampling has been selected and allowed the researcher to get a realistic figure from the interview with university students. Using random sampling in this situation means the researcher assumed that all the students from the university have the same and equal chance to become a member of the sample and played their role properly and equally. In addition, random sampling gave the research the better picture of the overall population.

3.3.4 The qualitative method

This section focuses on the qualitative stage of data gathering. It also included the contact process for participants, the collection techniques of the participants, moral consent process, focus group and semi-structured and in-depth individual interviews (Berger 2012).

3.3.4.1 Participants Chosen

A selected group of the participants from government and non-government officials, university students and academics, IT experts were involved in this section of the research study. These were the key people and stakeholders in this research and they played a vital role in relation to gathering data for this research study.

This research used local (Bangladesh) IT experts and e-commerce to get a better understanding of e-commerce security & privacy satisfaction. Since IT experts already studied and worked this field, they had an extensive amount of knowledge, experience and ideas which added to the relevance of the outcomes for this study. It is very important to get the opinions and concerns from both governments and non-government officials.

Gathering information and views from different groups of stakeholders added to the existing amount of knowledge. In order to make sure of the quality of the research, there was a minimum of 15 participants each from government and non-government officials, and university students.

3.3.4.2 Communication Method

The aim is to make the participant feel comfortable so that they were cooperative and friendly during the interview sessions, and in relation to this, respondent-driven sampling techniques were followed. The researcher endeavoured to create a good relationship through ease of communication with IT experts, government and non-government officials and university students. By doing this, the researcher ensures a reliable and thorough gathering of information.

This research topic was a very serious and sensitive topic. It required a strong commitment between the interview and interviewee, trust and a good working relationship. Confidentiality was assured at interview sessions. In this case, an easy and simple invitation letter or introductory letter helped in establishing the veracity of the interviewer at the beginning of the interview. In this way, it also helped the interviewees to think positively and thoughtfully. The researcher further requested that other people become part of the interview process through contact with existing interviewees. Therefore, the sample group extended the number of potential interviewees and helped the research progress.

Once the universities and corporate industries are finally scheduled, they will be invited through email. The key people for interviews were made up of organisation heads and university lecturers, representatives of government and non-government bodies. University lecturers invited specific students to volunteer through email invitations that were sent out.

To receive the consent of the proposed organisations and universities, the researcher had to make the first approach. That meant, all selected groups were contacted. In the case of university student volunteers, once the selection was made, that part of the methodology is ready to begin. The necessary steps were taken then to arrange all the interview sessions.

The researcher fully informed the interviewees about the aim of the research, potential risks and the confidentiality of the sessions.

3.3.4.3 Ethical Clearance in Research

It is necessary in this research to obtain ethical approval. The research involved the business privacy of the selected service SMBs. Security and privacy satisfaction measures were met as interviewees were requested not to disclose names, personal details or business details. At the start of the research interview, the researcher ensured the confidentiality of respondents. A coding system was used. For example, students: S1, S2, S3........., For Academics: A1, A2, A3.........., for IT Professionals: I1, I2, I3..........and for Government Officials: G1, G2, G3. In addition, the researcher chose the interview location, venue and time for the interviewees. Individual interview sessions allowed more in-depth questions and flexibility.

3.3.4.4 Interviews

Interviews are very important in the qualitative approach. As Coolican (2013) pointed out, there were a variety of talents that interviewers needed to collect important data. These expertises entailed creating a strong relationship with the interviewees (PhD Methodology & Analysis 2013).

There are a range of matters involved in taking interview information. Initially, most people wanted to be seen in the best possible light, and provided beneficial rather than truthful answers to individual questions. This difficulty arose because the interviewer asked supplementary questions. Secondly, the data acquired from an interviewer made open more about the common considerations between the interviewer and the interviewees than the interviewee's considerations. Thirdly, report is needed to be taken of the self-fulfilling guess. Sometimes interviewer had to be alert to any bias surfacing when interviewing (PhD Methodology & Analysis 2013).

The interviews mainly focused on the interviewee's ideas, judgment, expressions and the body language. The interviewer and the interviewees talk briefly and shared their knowledge and made necessary comments about the interview topic. These sessions were a great opportunity to gather more ideas and quality information. As previously mentioned in this research project, in depth interviews were conducted based on semi-structured design in the

interview session. Open ended questions were asked by the researcher in this session, as well as questions that arose from the interview. The in-depth interview used open ended questions that gave a deeper insight into the interviewees' thoughts and ideas that encouraged the research work. As a result rich, valuable and relevant information was included in the research project.

The use of interviews is selected rather than a survey, or focus groups or other forms of data collection because the interviewees of the organisations and universities will provide a broad range of new ideas and independent views. It was helpful to include the current generation's ideas. The interview approach is independent and it often differed significantly from one person to another. The interviewee endeavoured to demonstrate that their personal opinions and concepts were reliable.

It was clear that the participants were reassured that the interview had no effect on their study or job, and that the confidentiality meant that no one knew who participated in the interviews. In addition, the session was scheduled for the interview to be completed at participant's earliest convenience. Finally, information was collected safely; data was anonymous and confidential and no identification was requested or recorded. Information was recorded using electronic devices such as laptops or an IPad with password protection. .Data was held in the format below: soft copy formatted into laptop files, audio tapes of interviews and hard copies that were stored safely in the supervisor's office. The data will be kept for up to five years according the CQUniversity Code of Conduct. After 5 years, the data will be disposed via recycling process in a secure bin.

3.3.4.4.1 Research Interview Questions

RQ1: What is the background and current status of IT, e-commerce security & privacy systems in Bangladesh?
IQ 1.1: Can you share your views about the impact of secure e-commerce in Bangladesh?
IQ 1.2: How is e-commerce an emerging business potential and providing more opportunities in Bangladesh?
RQ2: What are the reasons for the slow improvement in IT and e-commerce industry in Bangladesh?

IQ 2.1: What are the main reasons contributing to the non-operation of e-commerce in the past in Bangladesh?

IQ 2.2: What business restrictions exist in the development of e-commerce in Bangladeshi small to mid-sized enterprises?

RQ3: What is the current security and privacy status of e-commerce using in service SMEs in Bangladesh?

IQ 3.1: Do you think Bangladeshi consumers are concerned about security and privacy issues in connection with the implementation of e-commerce?

IQ 3.2: How economically significant or appropriate is secured e-commerce to SME in Bangladesh as a developing country and to the foreign marketplace in particular?

RQ4: What structures for evaluating satisfaction with e-commerce systems have been accepted in service SMEs in Bangladesh?

IQ 4.1: Should the network infrastructure and operations be well equipped to provide secure e-commerce services in Bangladesh?

IQ 4.2: What industrial solutions can give consumers confidence that their security and privacy in e-commerce are being protected?

RQ5: What is the possibility of developing a successful assessment for e-commerce Security & Privacy Satisfaction (ESPS) for service SME in Bangladesh?

IQ 5.1: How can the general population and the government can make progress in developing secure e-commerce?

IQ 5.2: How do you justify the collaboration between the two sectors- Where the public sector will ensure the infrastructure and the private sector will come up with different business ideas?

RQ6: How can secure IT and e-commerce help in the economic growth of Bangladesh?

IQ 6.1: How can the Bangladeshi consumer get involved in the advertising and progress of the secure e-commerce among SMEs?

IQ 6.2: How does secure e-commerce have significant economic impact on business costs and productivity as well as facilitating the development of business of Bangladesh in a global scale?

RQ7: How could Bangladesh build up the opportunity to develop e-commerce security and privacy satisfaction for its own economic growth?

IQ 7.1: How the private sector and the public sector can make significant progress in developing a secure e-commerce promotion through its industry association?

IQ 7.2: Can Bangladeshi enterprises create both high speed and ease of communication between the buyers and sellers?

3.4 Data Study

All interview sessions took approximately one to two hours. The interviews were recorded digitally. In the case of face-to-face interviews, IPad and Laptop were the electronic devices used and Skype was used as internet software. After the data collection, all the data and information was sorted and analysed.

This research used qualitative data analysis with relevant computer software, NVivo. NVivo software worked with rich text-based information, where in-depth levels of analysis on a small or large data were required. This software allowed the researcher to categorize and organise information and helped to examine the depth of the information. It helped the researcher to organise and analyse the non-numerical or unstructured data. Also it helped to sort, arrange and priortise information.

The researcher categorised all the transcripts into alphabetical order of interviewees using the family name. Key issues were checked thoroughly and noted. Duplication of the key words was avoided. Also the researcher prioritised the common responses down to the individual comments.

In summary, Chapter 3 had set out the research methodology used for the search project. This research based the interview system on the qualitative method. It also included an analysis of interviews. Data collection techniques include document and analysis of the interviewees' responses. The research also used the qualitative data analysis software NVivo.

CHAPTER 4: DATA COLLECTION AND ANALYSIS

This chapter focuses on the method of assessment design, focus group study, project, interviews and the data collection process. The previous chapter has illustrated the proposed practical approach and the methods to be accepted during the research project. It also has discussed clearly the selected research paradigm, data collection strategy and instruments. In-depth interviews established the research methodology. Qualitative data analysis is the dominating method in this research study. This chapter is principally organised into in-depth interviews according to qualitative methodology. The main mission of this chapter is to define the key issues created by in-depth interviews, which collate the major results that relate to the relevant literature review. A comprehensive discussion of the research findings is also presented in chapter five.

This sector defines qualitative results from FACE-TO-FACE interviews. The outcome is the result of the interviews with stakeholders such as IT experts, the government and non-government officials, academics and IT students, identified as I1, I2, I3, I4, I5……,G1, G2, G3, G4, G5……., A1, A2, A3, A4, A5 and S1, S2, S3, S4, S5……which are shown in Table 4.1. The interview data is concerned primarily with e-commerce privacy and security satisfaction in Bangladeshi small to mid-sized business. This method of investigation is shown in the results in Table 4.1: the current views concerning the impact of secure e-commerce in Bangladesh; emerging e-commerce and its business potential and the creation of opportunities in Bangladesh; the prime causes that contributed to the non-operation of e-commerce in the past in Bangladesh; limitations on commerce in Bangladeshi small to mid-sized enterprises; Bangladeshi consumers' a e-commerce activities; the economic importance of secure e-commerce to SME in both Bangladesh as a developing financial player of e-commerce on business costs and efficiency to the smooth progress of global growth for Bangladesh business that includes the current transport network and e-commerce to solve industrial service problems that will give consumers self-confidence when using this system. Thus, the data collection and analysis concerns the Bangladeshi consumers' endorsement and growth of the secure e-commerce among SMEs, the role of the private sector and the public faster and easier between the purchasers and vendors.

The table below summarises the main findings related to the key issues above and the information from interviewees.

Table 4.1: Research analysis and initial finding of the data obtained

Subjects	Presentation of data results collected from interview	Interviewees
Subject 1: Finding out the background of IT, e-commerce security & privacy satisfaction in Bangladesh.	1.1 E-commerce has emerging business potential and to create more opportunities in Bangladesh. 1.2 The current situation of system transportation and operations to make available secure e-commerce services in Bangladesh are limited. 1.3 High speed internet, smart phones and the tech savvy young generation are the main reasons for great potential of e-commerce business in Bangladesh. It will open up opportunities for many entrepreneurs. Also many new ventures in collaboration with established retail chains are a possibility. 1.4 Many firms can come up with different levels of e-commerce solutions and the opportunity for employment will be broadened.	Outcome 1.1, 1.2, 1.3, 1.4 came from the interviewees I1, I3, I4, G1, G2, G3, A1, A3, A4 and S3, S4, S5.
Subject 2: Learning about the the present views of the impact of secured e-commerce in Bangladesh.	2.1 Impact of secured e-commerce in Bangladesh is very high. 2. 2 E-commerce will have a noteworthy impact on lifestyle and even bigger impact on business opportunities as well as generating employment. 2.3 Overall GDP will be impacted and the balance of payments will be improved by engaging foreign buyers through e-commerce.	Outcome 2.1, 2.2, 2.3,2.4, 2.5, 2.6 came from the interviewees I3, I4, G1, G2, G3, A2, A3, A5 and S1, S2, S3, S4.

	2.4 The main reason to contribute strongly for the non-operation of e-commerce in the past in Bangladesh is the IT Infrastructure was not very helpful.	
	2.5 There was lack of availability of personal computers, internet, smart phones etc. in the past.	
	2.6 In Bangladesh, people now are using e-commerce over the internet. For example, people are now paying electricity bills and starting to think about using secure e-commerce from home.	
Subject 3: Finding the reasons of the poor improvement in IT and e-commerce industry in Bangladesh.	3.1 Huge business restrictions exist in the development of e-commerce in Bangladesh for Small to mid-sized enterprises. 3.2 Slow speed of the internet, misuse of electronic devices are some vital reasons for the slow improvement in e-commerce.	Outcome 3.1, 3.2 came from the interviewees I1, I2, I3, I4, I5, G2, G3, G4, G5……., A1, A2, A3, A4, A5 and S1, S2, S3, S4, S5.
Subject 4: Identifying Bangladeshi consumers' worries about security and privacy issues in association with the achievement of secure e-commerce.	4.1. Online payments are a big concern in Bangladesh. 4.2 Organizations need to assure people that their money is secure and their information is kept private. Otherwise they will not make use of e-commerce.	Outcome 4.1, 4.2 came from the interviewees I1, I2, I3, I4, I5, G3, G4, G5, A1, A2, A3, A4, A5 and S1, S2, S3, S4, S5.
Subject 5: Identifying the Bangladeshi consumers' presence for the endorsement and development of the secure e- commerce among SMEs.	5.1 Consumers will eventually promote e-commerce if they can find the services useful and generating value. 5.2 Bangladeshi people are very communal and frequently share their knowledge with others who are like-minded. 5.3 People can raise awareness among the population and also by addressing	Outcome 5.1, 5.2, 5.3, 5.4 came from the interviewees I1, I2, I3, I4, I5,G1, G2, G3, G4, A2, A3, A4, A5 and S1, S2, S3, S4, S5.

	security issues.	
	5.4 People can use the social network site such as Facebook, Twitter or similar social media to raise the latest security issues of the internet.	
Subject 6: Providing business solutions to give consumers self-confidence about security and privacy in e-commerce.	6.1 It is difficult to establish in one day. 6.2 People will share their experiences with others, thus encouraging others to use to the services, so that it can be improved. If they find any breach of security or privacy issues, they will never use it and bad news usually spreads much faster.	Outcome 6.1, 6.2 came from the interviewees I1, I2, I3, I4, I5, G3, G4, G5, A4, A5 and S1, S2, S3, S4, S5.
Subject 7: Ensuring the network infrastructure and operations should be well equipped to provide secure e-commerce services in Bangladesh.	7.1 People cannot ensure the security properly without establishing a good infrastructure that minimizes operational risks. 7.2 Without it, Bangladesh cannot access the full benefit and cannot optimise full operation processes in e-commerce. Also, without it, secure e-commerce cannot be established.	Outcome 7.1, 7.2 came from the interviewees I1, I2, I3, I4, I5, G3, G4, A4, A5 and S1, S2, S3.
Subject 8: Finding the possibility to develop a positive assessment for e-commerce Security & Privacy Satisfaction (ESPS) for service SMEs in Bangladesh.	8.1 The private and the public sector can make significant progress in developing a secure e-commerce pathway through its industry association. 8.2 Collaboration between the two sectors- Where the public sector will ensure the infrastructure & private sector will develop different business ideas.	Outcome 8.1, 8.2 came from the interviewees I3, I4, G3, G4, G5, A1, A2, A3 and S1,S4, S5.
Subject 9: Extending a successful assessment for e-commerce security & privacy satisfaction (ESPS) for Service SMEs in Bangladesh.	9.1 Bangladeshi enterprises find it very promising for their role to have quick and direct communication between the buyers and sellers.	Outcome 9.1 came from the interviewees I1, I3, I4, I5,G1, G2, G3, G5, A1, A2, A5 and S1, S4, S5.
Subject 10: Learning how secure e-	10.1 The economic significance for secure e-commerce to SME in	Outcome 10.1, 10.2 came from the interviewees I1, I2, I3, I4, I5,G1, G2,

commerce can help in the economic growth of Bangladesh.	Bangladesh- as a rising country with a wide-ranging workforece and the ability to service global markets. 10.2 This will be a key enabler for SME markets as a payment solution and also to boost efficiency of SME business concerns to achieve economies of scale through e-commerce.	G3, G4, G5, A1, A2, A3, A4, A5 and S1, S2, S3, S4, S5.
Subject 11: Bangladesh can build up the chance to develop e-commerce security & privacy satisfaction for its own economic growth	11.1 The significant financial impact of e-commerce on business costs and efficiency makes it easy for the development of business for Bangladesh on a global scale. 11.2 Though there will be some costs to establish secure e-commerce, the long term view is the benefits derived from this. 11.3 Without security, people will not use their products or services. And, any incident related to security will reduce the business reputation for long period.	Outcome 11.1, 11.2, 11.3 came from the interviewees I1, I2, I3, I4, I5,G1, G2, G3, G4, G5, A1, A2, A3, A4, A5 and S1, S2, S3, S4.
Subject 12: Bangladeshi enterprises can create fast and streamlined communication between the buyers and sellers.	12.1 Mobile applications can be a solution. 12.2 People want faster solutions. If they can get their answers instantly through an app, they will feel comfortable. 12.3 Businesses can send confirmation on payment or other business activities. 12.4 Reliable and smooth communication should be established at both buyers' and sellers' ends to ensure the development of e-commerce.	Outcome 12.1, 12.2, 12.3, 12.4 came from the interviewees I1, I3, I4, I5,G1, G2, G3, G5, A1, A2, A5 and S1, S4, S5.
Subject 13: Business restrictions exist in the expansion of e-commerce in Bangladeshi Small to Mid-Sized Enterprises.	13.1 Major restrictions in Bangladesh society is their perception towards e-commerce. 13.2 People need assurance for the	Outcome 13.1, 13.2, 13.3 came from the interviewees I1, I3, I4, I5,G1, G2, G3, G5, A1, A2, A5 and S1, S4, S5.

	security of each transaction and value from it	
	13.3 Some more restrictions: ❖ lack of infrastructure, due to complex political problems in submarine cables ❖ huge population ❖ poor political leadership ❖ social awareness in government and non-government sector ❖ political and social complexity ❖ overall high cost of electronic devices ❖ less quality people in IT sector ❖ less knowledge in e-commerce ❖ budget deficiency for advertisement ❖ Less marketing facilities. ❖ lack of knowledge for the general population ❖ lack of technical availability ❖ work business restrictions ❖ e-law is not practised sufficiently. ❖ less precise knowledge about IT ❖ government rules and regulations of e-commerce ❖ lack of accessibility of PC ❖ less fast and reliable internet service	
Subject 14: e-commerce has emerging business potential and more opportunities in Bangladesh.	14.1 Government will be able to facilitate infrastructure. 14.2 Centralised government can provide extended support through e-commerce.	Outcome 14.1, 14.2 came from the interviewees I1, I2, I3, I4, I5,G1, G2, G3, G4, G5, A1, A2, A3, A4, A5 and S1, S2, S3, S4, S5.

Subject 15: The Private sector and the public sector can make important development in developing secured e-commerce push through its industry association.	15.1 The private sector can lobby the government to establish e-commerce law and rules, regulations and standards. 15.2 They also can communicate with the international e-commerce governing body or organisations to take a collaborative approach to implement secure e-commerce with the government of Bangladesh.	Outcome 15.1, 15.2 came from the interviewees I1, I2, I3, I4, I5,G1, G2, G3, G4, G5, A1, A2, A3, A4, A5 and S1, S2, S3, S4, S5.

The previous chapter focused on the method of assessment design, focus group study, pilot project, interviews and the data collection process. The previous section illustrated the proposed practical approach and the methods to be utilised during the research project. It also discussed clearly the chosen research paradigm, data collection strategy and instruments.

This part analyses the collected data. It focuses and analyses the discussion of qualitative findings together with the relevant literature. This chapter is the most important because it is the core to this research study. It is divided into fourteen sections and multiple sub-sections according to the findings from the qualitative data.

Section 1 discusses the IT environment, e-commerce security and privacy satisfaction in Bangladesh. Section 2 talks about the existing analysis and its impact on secure e-commerce in Bangladesh. Section 3 focuses on proper reasons for the sluggish development in IT and the e-commerce industry in Bangladesh. Section 4 discusses Bangladeshi consumer anxiety about security and consumer support for the endorsement and growth of secure e- commerce among SMEs. Section 6 discusses some solutions to give Bangladeshis consumer confidence concerning security and privacy in e-commerce. Section 7 covers the network infrastructure and operations that should be well equipped to provide secure e-commerce services in Bangladesh. Section 8 focuses on the option of developing a flourishing valuation for E-commerce Security & Privacy Satisfaction (ESPS) for service SMEs in Bangladesh. Section 9 examines a successful assessment for E-commerce Security & Privacy Satisfaction (ESPS) for Service SMEs in Bangladesh. Section 10 discusses how protected e-commerce can help in the economic growth of Bangladesh. Section 11 debates how Bangladesh can bolster the opportunities to expand e-commerce security and privacy satisfaction for its own economic growth. Section 12 examines how Bangladeshi enterprises can make fast and smooth communication between the buyers and sellers. Section 13

focuses on the existing business restrictions in the growth of e-commerce in Bangladeshi Small to Mid-Sized Enterprises. Section 14 talks about the emerging business potential to create more opportunities in Bangladesh. Finally, section 15 discusses how the private sector and the public sector can make significant progress in developing secure e-commerce through its industry association.

4.1 Finding out the settings of IT, e-commerce security & privacy satisfaction in Bangladesh

In Bangladesh, e-business is still in its initial phase of growth. Bangladesh has a population of about 164.4 million people. In Bangladesh, few banking sectors and organisations are involved in e-commerce. E-banking facilitates fund transfers and payments of bills through online, allow people to do online dealings. From large industries to midsized industries, businesses are performing online, offering goods and services and helping people and business nationwide and worldwide.

Interviewee A1, an university academic states:

> *"The development of e-commerce activities, of which the traditional way of business has led to a fundamental change in the status of the consumer and made a fundamental shift, from the previous passive consumers to active status, not only through the network to find the required fast product information, but also can it easily turn any of the merchants. Therefore, in the internet time, compared to traditional enterprises, to make customers satisfied and to cultivate customers' loyalty for e-business is much more important. In addition, the current Bangladeshi consumer online shopping satisfaction and trust is not high. Online shoppers, who feeling online shopping for the latest customer service is unsatisfactory. Internet users trust the Internet less, even majority of them do not trust the Internet so much, and many Internet applications might have a negative impact on the popularity, or even affect non-Internet users involved in the Internet."*

The below sub-sections will focus more about IT, e-commerce security & privacy satisfaction in Bangladeshi small to mid-sized enterprises.

4.1.1 E-commerce has emerging business potential and creates more opportunities in Bangladesh.

As e-commerce grows and develops additional features of online, it is very likely have significant effects on the Bangladeshi nationalized financial system and business arrangements. E-commerce is an effective network of information in Bangladesh, and it is a possible method for the substitute of financial actions within a business endeavor. E-commerce responds strongly to increased levels of outsourcing opportunities within the marketplace and throughout Bangladesh.

Interviewees A1, A3 & A4, university academics say:

"Broadly speaking, e-commerce is a modern business method. This approach by improving product and service quality, improve service delivery times to meet Bangladeshi government organizations, manufacturers and consumers demand the lowest cost. This concept is also used to find information through computer networks to support decision-making. Generally speaking, today's e-commerce through the computer network the buyers and sellers of information, products and services linked to the future of e-commerce elements of the information highway through the numerous computer networks will be a link buyers and sellers."

Also interviewee I1, IT expert states:

"The Internet is only the latest stage in advances in information and communication technologies (ICTs) that have progressively made information more accessible, faster to gather, less expensive to consume, and easier to analyze effectively. The Internet is only the latest stage in advances in Information and Communication Technologies (ICTs) that have progressively made information more available, faster together, less costly to consume, and easier to analyze effectively."

4.1.2 The current situation of set of connections, transportation and function to provide secured e-commerce services in Bangladesh are limited.

Bangladesh is not well balanced for fast track in e-commerce. Bangladesh internet smooth connection, business development, consumer and business approval of e-commerce, intellectual property acceptance, and a helpful legal environment are liable for this. In Bangladesh, there are not much popular secured websites which are used for online shopping.

Some interviewees (I1, I2, I3, I4, I5, G1, G2, G3, G4, A2, A3) say:

"We can say that e-commerce is the consents of business and in our daily life. So, under the theory of ecommerce, we showed that how web site image, web site development, customer care, adaption of new

technology develop the customer satisfaction and its effect on development of e-commerce. In the past, security has been a major problem for with most e-commerce websites. Knowledge of the latest technologies is the best idea to creating a successful e-commerce website. The Internet is being one of the cheapest mediums of engaging with clients and customers doing online business. With an e-commerce web development company we can certainly buy and sell products and services in a convenient way".

Also interviewee I4, IT expert states:

"The United States, Canada, Scandinavia and Australia have the highest potential for ecommerce. This potential is largely due to high rates of internet usage and people who readily accept new technology. But Bangladesh does not have the opportunity to access internet or the infrastructure necessary to fulfill online orders. Bangladesh faces political and legal barriers to developing e-commerce. In Bangladesh, advertising is limited. Advertisements cannot target children, for example. Credit cards may not be common or trusted. Shipping systems needed for timely delivery of products to individual's homes may not exist or may be extremely expensive. No-return policies may cause customers to feel uncomfortable about buying products without seeing them".

4.1.3 High speed internet, smart phones and tech savvy young generation are the main reasons for great potential of e-commerce business in Bangladesh.

It opens up opportunities for many entrepreneurs. Also many new ventures in collaboration with established retail chains is possible. e-commerce offers economy-wide benefits. However, e-commerce is getting quite acceptable in Bangladesh and this has contributed to its growth. In relation to the comparison to other developing countries, e-commerce came in Bangladesh very lately but progressed swiftly.

With huge IT subscriptions in Bangladesh, a number of the population now have access to an electronic device and using e-commerce. Mobiles technology is questionably the most ever-present modern technology. E-commerce at the moment offers the most important ways to lift the standard of living.

Interviewee I5, IT expert says:

"Bangladesh is getting more mobile than the other developing countries in the world. In the Bangladesh, e-commerce has added additional importance to legacy announcement arrangement and has increased and extended accessible information stream. On the other hand, the emergent world is

73

following a special, mobile first growth path. Many mobile modernizations—such as multi-SIM card phones, low-value recharge, and mobile expenses—have initiated in poorer countries and are spreading from there. New mobile function that are designed close by and embedded in the realities of the developing world will be much better suited to addressing expansion disputes than appliance transplanted from elsewhere. In particular, close by industrial applications can address developing country concerns such as digital literacy and affordability".

Being a tech savvy cohort and using mobile applications not only make them powerful individual users, but improve their standard of living, their source of revenue, and thus, increase the economy as a whole. In reality, the mobile function now makes phones great as portals to the online world. The Smartphone applications, and its services, driven by high-speed internet, social networking, online crowdsourcing, and improvement, and overall e-commerce are to improve the lives of Bangladeshi people in developing countries. E-commerce and the internet not only allows people easier access, but has important flow-on effects motivating growth, free enterprise, and efficiency throughout the whole economy in Bangladesh. They do more than just give Bangladesh a voice. They authorize Bangladeshi people to make their own choices and decisions.

Interviewee I2, IT expert says:

"The introduction of smartphones and lightweight tablet computers in Bangladesh has revolutionized the way Bangladeshi people access the internet and do e-commerce from mobile devices. These powerful touchscreen devices have popularized downloadable apps that can do anything from collecting information to turn the device into a flashlight.

Scaled-down versions of popular office applications for word processing, spreadsheets, and presentations are available for smartphones and tablets as well as e-book software. These devices support internet access over cellular broadband networks and Wi-Fi and often includes built-in GPS and still and video cameras. The graphical user interfaces and touchscreens make them ideal for Bangladeshi nations particularly those with sizable illiterate populations".

Interviewee I3, IT expert says:

"Smartphone and tablet access is rising rapidly in city areas of Bangladesh. In Bangladesh, smart phone and tablets to over 100 households in a rural village to test their feasibility. The $100 'Amadeyr Tablet' (Bengali version) uses the Android operating system with software purposely designed and personalized for use by semi-literate, uneducated, and very basic users. The tablet uses a touchscreen

operated by seeing pictures and hearing instructions given in Bengali, making it user-friendly for illiterate villagers. The villagers who had never used PCs, or the internet, were able to use the tablets within a few days and noted that it is not the rural population who needs to be trained to have access to information, but the next generation communication technologies should be tailored to meet the local needs and made easily accessible to rural communities".

Mobile contact and networks are having an effect on the financial system of Bangladesh. A rise of 10 mobile contributions per 100 people in Bangladesh raised GDP growth by 0.6 percent (Waverman et al 2011, p.89). A comparable study using information in 2011 found that a 10 percent rise in mobile access in Bangladesh was connected to a 0.8 percent increase in financial expansion. The expansion in mobile networks is completely connected to foreign express ventures (Lane et al 2014, p. 43).

4.1.4 Many firms can come up with different levels of e-commerce solutions and opportunity for employment will be broadened.

E-commerce solutions help in farming, fitness, economic services, and service, government and non-government organisations. Not only software firms can come up with the e-commerce ideas, but also individual IT users and experts. For example software engineers, network engineers, appliance makers, public organisations, and other consumers can be part of this trip.

Interviewee G4 & G5, Government officials say:

> *"E-commerce is today a major source of employment opportunities in Bangladesh, on both the supply and demand side. Employment opportunities in this industry can be categorized as direct jobs, indirect jobs, and jobs on the demand side. The contribution of the online business sector to employment and entrepreneurship to date is difficult to assess, however, because the seemingly simple e-commerce can generate and occasionally eliminate employment opportunities by creating efficiencies and lowering transaction and information costs".*

The latest modernization in the e-commerce area is barriers to job openings and creating fresh job prospects for small and mid-sized firms. Some mechanisms of e-commerce support job creation, supporting industrial activity in the IT and business corporation, as well as new openings that are offered in areas such as the fundamental financial system or mobile work. It

also makes available ideas on how to maintain free enterprise and job design in the employment.

Interviewee A3, Academic says:

"E-commerce is now a major source of employment opportunities on both the supply and demand side. Employment opportunities in the industry can be categorized into direct jobs and indirect jobs, with a diverse labour force supplying each category. Direct jobs are created by mobile operators and manufacturers in professions that range from engineers to managers to sales support staff. Indirect jobs can be created by mobile operators and manufacturers as well as by third-party content and device producers, including entrepreneurs.

In some emerging markets, outsourcing of content development can also create significant numbers of indirect jobs. Faster mobile networks and more capable smartphones make e-commerce a platform for innovation across different sectors (such as health, agriculture, and financial services), supporting overall employment numbers in an economy. The greatest potential for employment growth therefore derives from demand for services enabled by e-commerce. For many entrepreneurs in Bangladesh and rural areas, a mobile device is a tool not only for contacting customers and accessing the internet, but also for making financial transactions, establishing a client database, or coordinating just-in-time supply-chain deliveries. Such critical business functions can enable small firms to thrive in locations where accessing markets or selling new products would otherwise be impossible. It is difficult to estimate the number of people establishing new companies or the employment generated as small and microenterprises expand, but mobile phones and e-commerce undoubtedly contribute to this process".

4.2 Learning about the present views of impact of secured e-commerce in Bangladesh

4.2.1 Impact of secured e-commerce in Bangladesh is very high.

Gathering information is an expensive task, predominantly so when it involves getting information from corner to corner due to nationwide restrictions. In fact, these costs can be highly expensive. The use of electronic devices and online can make the development of transacting and selling a lot easier, faster, and comfortable. The value of the internet in these cases will support business much in the same way as lifting other business hurdles would.

The interviewee I3 points out:

"E-commerce applications, reduces information costs and allows consumers and sellers to be matched and interact electronically, reducing the significance of geographic proximity and traditional business networks."

4.2.2 E-commerce will have a noteworthy contact on lifestyle and even bigger impact on business opportunities as well as employment generation.

E-commerce has a substantial impact on service industry and making a division of the fastest rising employment in Bangladesh. The accurate business change of Bangladesh is e-commerce and information technology. Research, computing, cost accounting, quality check, accounting, HRM, advertising, marketing are now be done through e-commerce. Overall privacy and security agreement in e-commerce are required in this purpose.

Interviewee G3 says:

"We buy a book only two ways. Order it via a catalogue or book club – a sometimes lengthy and unreliable process or more commonly, simply go to a shop, pay cash and take it home in a paper bag. Now, a customer can visit an online bookshop, view a book, read its blurb, browse through the shop's collection, make a selection, and pay for the book online. The book may be delivered physically or, in some cases, downloaded onto the buyer's computer. These new ways of buying a book apply to other goods and services too. And as many of the orders are international, this raises challenging issues for existing trade rules".

Interviewee I3 says:

"E-commerce is just beginning in Bangladesh. A growing number of products, from books to cars, are slightly being marketed, sold and, increasingly, delivered online, including across borders. E-commerce has opened new markets for traders, large and small. But for much of the world, ordering a book over the Internet is not yet fully a reality. Good trade policy can help bring technology closer to users and in so doing, bridge the so-called digital divide. In fact, the potential of e-commerce as a development tool is very much on the minds of trade policymakers".

4.2.3 Mobile broadband and e-commerce have been found to have a top contact on GDP growth through the drop of inefficiencies.

E-commerce has affected ICT and financial services so that e-commerce has improved efficiency, growth and is wide-reaching. Bangladesh is benefiting considerably from the

results and now able to standardize their economy and compete globally. There are many ways to go faster to increase efficiency.

Interviewee G3 says:

> *"As the developing country, the impact of e-commerce on Bangladesh could be even stronger than that on developed countries because the scope for reducing inefficiencies and increasing productivity is much larger in the developing countries. By cutting costs, increasing efficiency and reducing time and distance, e-commerce in Bangladesh could become an important tool for development".*

In recent years, organizations in Bangladesh start relying on e-commerce and consumers have increased online shopping. It is a great sign for Bangladesh market. It is anticipated that e-commerce will be making huge contribution on the general Bangladesh economy in future. Business and consumers will receive e- commerce benefit in terms of reduced costs and faster service. Continuous development of e-commerce also leads economy into greater competition. The research concluded that it could direct anenhance in effectiveness development.

4.2.4 The main reason to contribute strongly for the non-operation of e-commerce in the past in Bangladesh is the infrastructure was not very helpful in the past.

The use of technology in every sector was not common in the past. Experiences of small to mid-sized organizations selling goods and services online with weak connections have shown poor results in Bangladesh previously. As a result, the level of effort to place on online advertising was not promising. This experience draws awareness to a number of issues that come out concerning the exact e-commerce use in Bangladesh. One of the main concerns is the infrastructure that was not very supportive in the past. Many organizations were finding difficulty entering the e-commerce market because of high entry costs and technical hurdles. The technical support was so poor and unavailable that it was almost impossible to conduct business online. The service should be regular which provides changeable levels of support, such as to cut access costs for the contribution of technical assistance and marketing support tin order to encourage the distribution of products and promote awareness of resources growth to counterbalance expenses.

Interviewee S3 & S4 say:

"In this era of globalisation, Bangladeshi people can find a lot of sectors operating without using technology. So there is no doubt and it is quite natural that business world in Bangladesh is not also using technology effectively as well as efficiently and not taking full and greatest advantage which is offered by technology. One of the largest consents in technology is internet which enables people from the distant part to interact and communicate easily. It is also has made the whole globe into a single village. A new horizon for trade and commerce is e-commerce. Bangladesh could not utilize this horizon in the marketing, identification, payment, delivery of goods and services. In Bangladesh, the future of e-commerce was quite low to e-commerce development. Major legal, regulatory and institutional constraints to e-commerce in Bangladesh haven't been identified properly to make the proper implementation of e-commerce success. Specific policy hasn't been changes. At the initial stage, the future of e-commerce has not been discovered and people did not have clear idea about what e-commerce is".

Bangladesh exists very restricted use of B2C e-commerce. There are lot of causes behind this scenario. One simple basis is most of the citizens are unqualified in this area. It commonly accepted that there are few clients who are willing to shop using the internet. It will take years to develop the industrial this division in Bangladesh. The telecommunication services any country has a direct effect on the internet services because it is so dependent on it. The Telecommunications sector in Bangladesh is distinguished by: Poor transmission level, very costly entrance, and an extended waiting time.

Interviewee S5 say:

"The Bangladesh Telegraph and Telephone Board (BTTB), currently BTCL-Bangladesh Telephone Corporation Limited is the one and only management source and enjoys full control of telephone access. The private telephones organisations are at this stage are working as Internet Service Providers (ISP). It is important for easy and reasonable to access to Internet services, BTCL's though pricing and narrow strategies on ISPs are restrictive. Due to many unexpected and unavoidable reasons, B2C e-commerce will not have the competence to be of much usage in the close prospects in Bangladesh.
The Reasons are:

* ❖ *Low per capita income*
* ❖ *A non-supportive infrastructure and illegal atmosphere*
* ❖ *Lack of trust between business and consumers*
* ❖ *Less frequency of credit/debit cards*
* ❖ *Interruption and informal payments at customs authorization".*

Bangladesh B2B e-commerce was previously in action for years. By transferring money overseas has the enormous use of it.

Currently there are some e-commerce websites which running effectively in Bangladesh. Even though these sectors are in service in Bangladesh it is a very restricted process because of the small number of customers although with persistence it still has much potential. The sectors are: e-banking, airline ticket booking, convenient garments, and the oil and gas sector.

Interviewee S2 say:

> *"There are various constraints to e-especially in respect of Bangladesh. If we can overcome this barrier there is a possibility that we can successfully implement and operate e-commerce. So in order to create a prosperous future of e-commerce in Bangladesh there has to be careful watch monitoring.*
>
> *The constraints are:*
>
> - ❖ *Inadequate telephone connections in Bangladesh*
> - ❖ *There is no strong independent telecommunication sector regulatory body*
> - ❖ *Lack of encryption law that prevents approval of digital marks*
> - ❖ *There are no other options of Letter of Credit (L/C) to perform global business*
> - ❖ *Bangladesh does not issue global credit cards for cross border dealings*
> - ❖ *Interest rate maximum on selling to other countries and loans".*

4.2.5 There was lack of availability of personal computers, internet, and smart phones in the past.

In today's changing world, past is replaced by present and the present is replaced by strong future. Life is never easy, relaxed, and calm. New technology brings not only the opportunity of success, but also limitless questions regarding plan, its importance, use and appropriateness.

Interviewee S5 & S6 say:

"Bangladesh is now aiming to identify the challenges and potentials of e-commerce in Bangladesh from the perspective of employers-employees and customers. The past situation had shown that lack of availability of devices, legal and security issues in IT, socio-cultural barriers in IT, IT management issues, infrastructural barriers, IT knowledge barriers, and economic barriers issues are accepted as main challenges for e-commerce development in Bangladesh".

4.2.6 In Bangladesh, people now are using e-commerce over internet. For example, people are now paying the utility bills.

Bangladeshi people are starting to think about using secure e-commerce from home. The new development allows people to do online transactions within Bangladesh. E-commerce is changing the way of doing business. Bangladesh plans to cater to all of the clients' needs and give their clients access to all that the website. Bangladeshi organisations aims to work on successful e-commerce web site with business information.

Interviewee G1 says:

"Bangladeshi online shopping as the internet becomes more available to Bangladesh, it is clear that online sales will grow. This is leading to more availability of online purchases. Competition will become aggressive as online shopping grows so Bangladeshi retailers should not be left behind. The online retail industry is becoming more important as the internet continues to grow in significance in Bangladesh. Bangladesh Website Directory for Online Shopping Special wholesale & retail selection of e-commerce websites and excellent stores, Dhaka shops for fashion clothing, shoes & jewellery. Chittagong online retail stores for desktops, laptops, tablets & netbooks, Khulna e-commerce sites for toys, kids & baby, and Rajshahi music, movies & games wholesalers & Sylhet websites for sports & outdoors, ecommerce & e-business from Barisal. Now, as a begun with e-commerce they try to make a good platform in Bangladesh. In addition, they want customer support to make a good platform to e-commerce in Bangladesh".

4.3 Finding out the reasons of the time-consuming development in IT and e-commerce business in Bangladesh.

4.3.1 Industry boundaries live in the development of e-commerce in Bangladeshi small to mid-sized enterprises.

There have been few common efforts from industry segments to go on board on e-commerce business enterprises. The most important reason is basically the need for commercial alertness of e-commerce advantages.

Interviewee S6, the student says:

> *"Corporations working in the e-commerce field are still in the beginning stages for e-commerce and undertaking their very first projects in the field. Only few sites offer some level of transactional back office and approval instrument to provide some form of internet-enabled success for goods and services".*

Interviewee S6, the student says:

> *"The number of internet users in Bangladesh doubles once every 10 to12 months, which is half of the global rate of increase, and this rate is unfortunately decreasing. In general, the number of internet users (the potential consumer base) discourages commercial efforts to produce venues for the consumer to buy, sell, or engage in any commercial transactions. Another view is that instead of waiting for the demand, a solution could be to provide the supply of viable e-commerce sites in the local language --Bengali-- to remove the language barrier and attract potential consumers (as well as corporate customers) to transact over the internet".*

Not all companies can guarantee Secure Electronic Transaction (SET) conformity to the general people. One of the most important obstacles to establishing SET is the lack of appealing industry based case studies. Information technology is may not be able to produce a strong enough case with a small tele-density.

A strong economically sound communications service is observed as a way of steeling the countrywide financial system against a financial emergency. Bangladesh is still far behind with the standard level of strong economic service transportation.

Most recently all Bangladeshi citizens obtain a "national ID number". The nationwide number is sited in a government database. The project is performing well, however it will take couple of more years to get mission completed nationally.

Interviewee S3 & S4 say:

"The limitations of the application of computer online validation services are not currently offered as a banking service. Furthermore, the support from the Central Bank of Bangladesh for internet based transactions is non-existent; this bank has refused to be the designated bank for national settlements for credit cards. Bangladesh might soon be paying the price for not implementing the necessary infrastructure. There are many cases of local Bangladeshi companies using credit card validation services located abroad to guarantee financial transactions. Some companies pay more than 10% on every deal they make; if many other companies follow this example, this extra charge will grow into a handsome sum of money drained from the national economy".

4.3.2 Very less speed of Internet, misuse of electronic devices is some vital reasons for slow improvement in e-commerce.

The business is all the time accountable for protection of the electronic devices where customer details are maintained. Anti-Virus and a firewall are the least fundamentals. For extreme safety, trades must have security systems to keep information and customer details in a separate file. It is necessary to keep several back-ups copies of important information, and to make sure information is kept securely (Bhowmik 2014).

Safety measure is an inconvenient, expensive and complex business, but a single loose of balance can result in lost finances, proceedings and self-assurance. People and business should not wait for online disaster, but stay convenient, employing a security expert where compulsory.

4.4 Identifying Bangladeshi customers' concerns about safety and confidentiality issues in connection with the implementation of e-commerce.

4.4.1 Online payment is a big concern in Bangladesh.

Customer online satisfaction and improved e-commerce are quite related and the biggest concern in Bangladesh. Many customers are slow to complete online deals because the websites may not be clear and the technology used may not be secure. Individuals are hesitant to buy a new product if the individuals are unaware of the internet process.

The Interviewees S1, S2, S3, S4 S5 say:

"First of all, the customer must trust the company. Secondly, the customer must believe the products better than those available from traditional sources. Thirdly, the customers must feel comfortable and secure with the purchasing procedures and technology. Companies devote a great deal of resources and expertise to understanding and meeting customer needs. Companies must design user-friendly web sites with procedures that customers can trust".

Also some interviewees (I1, I3, G3, G4, S1, and S2) are agrees:

"There are several important product development activities that can improve e-commerce services for customers. For instance, Study average consumer technology skills and usages internet experience, avoid using complex technologies that are beyond the average customer's ability and comfort level, gather customer input about current web design, usage problems and ideas for improvement of the web site, organize development teams that combine expertise in hardware and software, production, marketing, finance, and customer service. And redesign web sites to improve access, reliability and security. Integrate new multimedia technologies into web sites to improve interest and communication and to provide more realistic product models. Improve programming, coding, and technology integration for web sites. Conduct users testing for new technology and web site modifications".

4.4.2 Organization needs to give comfort to people that their money is secured and information is kept in private.

Interviewee S8, the student says:

"Many CEOs and/or MDs in Bangladeshi organisations do not use e-mail for the simple reason that they were not raised in the information age. IT is not a part of their daily routine. This fact is coupled with their mindset of reluctance to invest in IT and their failure to perceive the added value. However, middle-aged managers who are currently in middle management and will rise to top-level management in the next decade are convinced of the benefits of IT and are 15 technologically adept. Therefore, we can be hopeful that the future decision-makers of Bangladesh will engage in IT ventures".

The numbers of credit/debit cards that are used in Bangladesh are still low and this happens mainly because of the lack of understanding and alertness. The lack of consumer awareness is an issue in Bangladesh considering the number of people now using credit/debit cards.

There is also the language barrier. Eighty-two per cent of websites are English written and that is an enormous barrier for Bengali native language speakers (Ganguly et al 2014).

4.5 Finding out the Bangladeshi consumers' existence in the support and improvement of the secured e-commerce among SMEs.

4.5.1 Consumers will eventually promote e-commerce if they can find the services useful and generating value.

Today, a huge number of Bangladeshi people are living overseas including Asia, Europe, Africa, America and South America. Many people want to buy Bangladeshi items as gifts, food, or send items to people in Bangladesh, but it is difficult to find a website that is trustworthy and safe.

Interviewees (I1, I3, and G1-G7) are agreed that:

- ❖ *"Consumers can widely use of the Internet for e-mail because of the recognized cost and efficiency benefits;*
- ❖ *They can use of websites more for promotion than for online sales or e-commerce, indicating that SMEs in Bangladesh are still in the early stages of e-commerce;*
- ❖ *They can commonly use of the Internet for basic research; and*
- ❖ *They can engage people and inspire more in online transactions to promote e-commerce with explaining briefly security concerns".*

4.5.2 Bangladeshi community are very societal and frequently share their knowledge with others in nature and via social media.

Social networking is not only about e-commerce. It also makes a new opportunity for citizens in Bangladesh and around the world to connect for issues concerning equality, self-determination, and civil rights. There are various views about the depth these tools have. Some disagree that social networking tools give people authority to protect independence (Gladwell 2014).

Interviewees (S1, S2, and G1-G7) say:

"Others argue that, while these applications make it easier for people to express themselves, it is 'harder for that appearance to have any impact.' In other words, applications like Facebook and Twitter make it achievable for large numbers of Bangladeshi people to put forward their own views".

Sending messages, videos and pictures from smart phones are valuable tools for monitoring social choice and fairness. E-commerce also carries well-built suggestions for the Bangladeshi people. On an individual stage, Bangladeshi people will be proficient to increase their business transactions by buying and selling products and improving quality of life. Bangladeshi industrialist will have the chance to start small to midsized businesses with worldwide market access (Hasan 2014).

4.5.3 People can raise awareness among population by addressing security issues.

Since the profit-making events in cyber space or basic reality, unlike the traditional arrangements are done online, be it the buyer or the seller, may stimulate destructive consequences for one of the parties or both of them, or the disinterested party, insurance companies or banks. The assessment for approving the e-transaction is a difficult step in the e-commerce field. These disputes can be discussed in relation to the security, legality and trustworthiness of events. For safe e-commerce, a built in level of confidence is essential for the actual receivers of the e-commerce request. Among key issues in establishing the level of trust in e-commerce, the following are important: knowledge, skills, capability and familiarity of an individual in decision making to obtain essential information, choosing a right product or service, buying decisions and behaviour. Elimination of security concerns requires basic safety knowledge in e-commerce. This knowledge includes: violation of privacy, privacy of information, distribution of personal information, spam messages, cyber space robbery or theft, e-trust etc. People can raise awareness amongst the population by addressing above security issues (Ganguly 2014).

4.5.4 People use social network site such as Facebook, Tweeter or other website to raise the latest security issues of internet.

Electronic communications and social networking have progressively developed into contributions of advice, comments, forums, and dynamic input of function. The increasing accessibility of these tools and applications on e-devices is enhancing the user's status. Workers in Bangladesh are working approximately in the limitations of less expensive handsets that do not have internet facility by providing spot messaging as a social networking application such as Facebook, allowing users to send and receive information of available e-

commerce, e-banking and send messages to Facebook (Social Network and e-commerce 2014).

4.6 Providing business resolutions to give consumers self-assurance about security and privacy in e-commerce.

4.6.1 It is difficult to establish in one day.

To get customer security and privacy satisfaction in e-commerce, businesses should accept fair business practice when engaging in B2C e-commerce.

The interviewees A1, I1 & G1 say:

- ❖ *"In particular, businesses should not engage in conduct that is misleading or unreliable or is likely to mislead or deceive;*
- ❖ *Business should not misrepresent goods or services they supply;*
- ❖ *Businesses should not hassle or pressurize consumers either when seeking to sell goods and services online or when seeking to obtain online payment;*
- ❖ *Businesses should not engage in unconscionable conduct, including ensuring that contractual terms are realistically essential to defend the supplier's genuine interests;*
- ❖ *Businesses should make sure that the goods supplied are linked to the report of the goods;*
- ❖ *Businesses should ensure that the goods supplied are of merchant value and fit for any purpose made known to the supplier by the consumer; and*
- ❖ *Businesses should guarantee that services supplied are made with due care and skill and are realistically fit for any purpose made known to the supplier by the consumer."*

4.6.2 E-commerce will be established by people sharing the experience

If people share their experiences with others and encourage others, e-commerce will be established however, if there is security and privacy issues have been encountered, it seems that bad news spreads much faster.

The interviewees A4, I5 & G2, G3 say:

"In the past going shopping was fun, something that consumer did with friends or relatives. It was a social event. Today, Facebook and other social media networks in Bangladesh are the driving force behind online shopping. Bangladeshi Companies target potential customers and online

communities. If they advertise their brands and products in the right way people will talk about them, and news spreads throughout the online world much quicker than in the real world".

4.7 Ensuring the network infrastructure and operations should be well equipped to provide secured e-commerce services in Bangladesh.

4.7.1 People cannot ensure the security properly without establishing a good infrastructure and operational risks minimized.

The best case scenario in e-commerce is one of complete customer privacy and security satisfaction. However, unfortunate security circumstances can stop or lead to a loss of customer faith (Hoq 2014).

Interviewee I5 says:

> *"E-commerce sites have three ways to meet the PCI DSS requirements. Merchants can either:*
>
> ❖ *Using a payment gateway which involves integration with an Application Program Interface (API) to facilitate the transmission of the Primary Account Number with or without the storage of this information;*
>
> ❖ *Transmit and store the Primary Account Number internally; or*
>
> ❖ *Choose to outsource the transmission, storage and/or processing of payment data".*

Overall, e-commerce dealings must be completed in an approach that helps build consumer trust and ensure the customer privacy and security. The huge number of breaches definitely has to be played down to a zero point (Howladar 2014).

4.7.2 Without secured e-commerce, Bangladesh cannot get full benefit and cannot optimise full operation process in Bangladesh.

E-commerce helps Bangladeshi people to quicken financial development and businesses to grow. With more Bangladeshi consumers doing online shopping, e-commerce companies have grown considerably. For e-commerce success, businesses and consumers must be protected at the time of online transaction (Information Technology in Bangladesh 2015).

Interviewee G3, Government Official says:

"Cybercrime includes hacking and viruses. So be aware all of online supermarket when deal money transfer and every transaction system. If want to developed in e-commerce then first all we have to look after advertising system. Advertisers are always looking for the best return on their investments. Establishing an e-commerce business then need some rules as like first step is determine the purpose of the business. Secondly study target on customer satisfaction, including their needs and internet abilities. Thirdly plan the online business strategy. Fourthly obtain a web server and domain name. Fifthly develop order processing and customer-service procedures. Sixthly design the web site and last most important element is more creative advertisement is attracting the customer".

4.8 Finding the possibility to develop a successful assessing for e-commerce Security & Privacy Satisfaction (ESPS) for service SME in Bangladesh.

4.8.1 The private sector and the public sector can make significant progress in developing secured e-commerce push through its industry association.

Using e-commerce is a means of bringing governments and the public closer together. In the public area, e-commerce now provides better service delivery and huge responsibility. Today, governments observe the potential for e-commerce to create simpler and more cost effective public services for its citizens, by creating interactive services, and establishing transparent governance (Miyazaki et al 2014).

Interviewee G1 & G5, Government Officials say:

"Bangladeshi government considering the opportunities natural in government should focus on enabling technological e-commerce based transformation and building the institutional capability needed to act in response to citizens' difficulty. Governments looking to adopt e-commerce tools to become approachable, accountable, and transparent should bear in mind that this process will prove successful and in fact transform the government-citizen connection only when governments take into account both elements e-commerce and government. Despite the general unconditional support toward IT, Internet, and future e-commerce implementations at the variety of policy levels needs to be more in agreement and cooperation in the various public and private sectors. All of these blockages are caused by the lack of a broadcasted national IT policy. Complex and unclear business rules form one of the most serious barricades toward e-commerce; one that exists in Bangladesh. The Bangladeshi government should try to give confidence consumers and corporations by developing a clear coordinated set of rules".

The responsibility of the Bangladeshi government towards e-commerce is huge. E-commerce is in heart of the Bangladeshi government's idea for building better finance. E-commerce has an enormous responsibility to raise efficiency and success in future years. It encourages financial development, breaks down barricades for market entry and allows companies to compete in a global challenging market. The government plans to grow efficiency through continuous improvement, so that it would close the gap with its industrial competitors. The government also plans to advance e-commerce by developing cost effective broadband services. The Bangladesh government is trying to build up community responsiveness on e-commerce sector's growth. They are working very closely with the private sector and foreign associates, including USAID for speedy development.

4.8.2 Collaboration between the two sectors- where the public sector will ensure the infrastructure & private sector will come up with different business ideas.

The community and private sector have to work together for future commerce in Bangladesh and should provide policy suggestions for increasing the variety of e-commerce for future development. The e-commerce and broadband facility have a positive impact on growth and development in Bangladesh. It is expected to show a constant higher constructive effect on financial development, especially in Bangladesh. Thus, e-commerce growth across the financial system is a subject matter of Bangladeshi guidelines (Kelly et al 2013).

E-commerce has an important effect on financial development in Bangladesh. Many studies have found a constructive connection between e-commerce and financial development, particularly in Bangladesh (Kelly et al 2013).

The interviewees G1, G2, G3 advised that:

> *"The following policy recommendations focus on the expanding the e-commerce in Bangladesh.*
> - ❖ *Ensure sufficient availability of quality range to deploy cost-effective mobile broadband networks.*
> - ❖ *Eliminate technological or service restrictions on range*
> - ❖ *Focus on expansion of network coverage rather than on spectrum proceeds.*
> - ❖ *Require transparency in traffic management and safeguard competition.*
> - ❖ *Limit range notice that could misrepresent spirited conditions in the market.*
> - ❖ *Promote the development of national broadband backbone networks.*
> - ❖ *Ensure the accessibility and affordability of broadband enabled devices.*

❖ *Enable increasing affordability of broadband services".*

Development of e-commerce flow in developing countries like Bangladesh requires suitable policy actions to allow and give confidence.

The interviewees G1, G2, G3 said that:

> *"Policy-makers from the Bangladesh government side should evaluate local conditions before applying specific policies, screening for market failures on each of side of the ecosystem. The most common market failures are security issues and networks. Limited availability of affordable broadband-enabled devices and services, as well as the lack of local applications and content, also contribute to the main market failures. The policy makers should provide leadership on how to address these common barriers and explain the potentials of mobile applications and e-commerce to transform different sectors of the economy while assistance in the livelihoods and lifestyles of Bangladeshi citizens and communities. Mobile broadband is a significant part in that process, because it will offer the tools, from smartphones to services that enable that transformation to take place: from access to applications."*

4.9 Widening a booming review for e-commerce security & privacy satisfaction (ESPS) for Service SMEs in Bangladesh.

4.9.1 Bangladeshi organizations' role to make super-fast and easy going contacts between the buyers and sellers are very hopeful.

Customer satisfaction in online business and shopping online are the two key concerns in Bangladeshi enterprises. In past, it was actually very hard to do business between two altered places. At present, by the existing online services, Bangladeshi enterprises can check the details of products online. It opens a new window for doing business and considerably decreases the expenses.

The interviewees S3 says:

> *"At present, the quality of customer services has improved using online facilities. Every company is trying to provide best possible service in the demanding business atmosphere."*

4.10 Knowledge how secured e-commerce can help in the financial development of Bangladesh.

For SMEs in Bangladesh, e-commerce poses the return of reduced information search costs and transactions costs. There is uncertainty whether there is enough appropriate and important information on the web for the SMEs in a developing country like Bangladesh. Formerly most SMEs in developing countries rely on local substance and information. For this ground, there is a need to increase the excellence of local substance significantly on the internet to make it functional, predominantly to low-income people (Laisuzzaman 2014, p. 88).

4.10.1 Cost-effectively significance about secured e-commerce to SME in Bangladesh- as a developing country and to the export market is very noteworthy.

E-commerce has become a successful pathway for employment, business, marketing and shopping around Bangladesh. The growth of internet users in Bangladesh shows enormous hope (Salim 2013).

The interviewees S3, S4, students, gave some more information below:

> *"Despite the existence of diversified inhibiting factors, such as low accessibility, lack of skilled human resources, technological and legal infrastructure etc., there remains a high potential to utilize ICT in B2B sectors in order to ensure economic development. The government has given it the highest priority in developing the ICT sector, through the modification in national ICT policy 2009 which reiterates the develop Digital Bangladesh by 2021 policy.*

> *Like many other countries, SMEs have a positive contribution to make which accounts for about 45% of manufacturing value added in Bangladesh. SMEs also account for about 80% of industrial employment, about 90% of total industrial firms and about 25% of the total labour force. Its total contribution to export earnings varies from 75- 80% based on the Economic Census 2001-2003. According to the Bangladesh Bureau of Statistic, SME's provide about 44% employment of the country. In this context Bangladesh's economic development is largely dependent on the development of SMEs. In order to boost the performance and productivity of SMEs in Bangladesh the adoption and use of e-commerce is considered vital. The effects of perceived innovation characteristics and perceived risk in explaining the adoption of e-commerce by the SMEs in Bangladesh are very significant".*

4.10.2 This will be a key enabler for SME market as a payment solution and also to boost efficiency of SME business concern to achieve economies of scale through e commerce.

SMEs and e-commerce enhance the business and economic role in bringing about structural changes in the economy For Bangladesh; SMEs have assumed special importance for deficiency decrease and potential payment to the overall industrial and economic growth. One the many challenges facing Bangladesh is preparing general people and government for globalization and ICT development. With allowing Information and Communication Technologies (ICTs), Bangladesh can face the challenge of the information age (Skinner 2015, p. 77).

The interviewees S6, S7, the students say:

> *"With developments in the Internet and Web-based technologies, distinctions between traditional markets and the global e-marketplace-such as business capital size, among others-are gradually being narrowed down. The name of the game is strategic positioning, the ability of a company to determine emerging opportunities and utilize the necessary human capital skills (such as intellectual resources) to make the most of these opportunities through an e-business strategy that is simple, workable and practicable within the context of a new economic environment. With its effect of levelling the playing field, e-commerce coupled with the appropriate strategy and policy approach enables small and medium scale enterprises to compete with large and capital-rich businesses. On another plane, Bangladesh is given increased access to the global marketplace, where they compete with and complement the more developed economies. Bangladesh is already participating in e-commerce. However, to facilitate further e-commerce growth in Bangladesh, the relatively under developed information infrastructure must be improved".*

4.11 Bangladesh can build up the opportunity to develop e-commerce security and privacy satisfaction for its own economic growth.

4.11.1 The important economic impact of e-commerce on business costs and productivity and facilitates the development of business of Bangladesh in a global scale is significant.

E-commerce is a new way of conducting business through online. Already, it on communications, finance and retail business.

The interviewees S1 says:

> "E-commerce holds potential in areas such as education, health and Bangladesh government departments and services. The largest effects may be have the largest impact (e.g. customised products, the elimination of middlemen); but with less observable, and possibly more general, effects on routine business activities (e.g. ordering office supplies, paying bills, and estimating demand), that is, on the way businesses interact."

The interview I3, IT expert says:

> *"E-commerce has a catalytic effect. E-commerce will serve to accelerate and diffuse more widely changes that are already under way in the economy, such as the reform of regulations, the establishment of electronic links between businesses (EDI), the globalisation of economic activity, and the demand for higher-skilled workers. Likewise, many sectoral trends already under way, such as electronic banking, direct booking of travel, and one-to-one marketing, will be accelerated because of electronic commerce".*

E-commerce over the internet massively increases interactivity in the economy. These connections now filter down to small to mid-sized businesses in Bangladesh. People can progressively have the capability to connect and manage business anywhere, anytime. This will have a thoughtful impression, not the least of which will be the erosion of financial and physical limitations.

The interviewee G5, Government official says:

> *"E-commerce alters the relative importance of time. Many of the routines that help define the 'look and feel' of the economy and society are a function of time: mass production is the fastest way of producing at the lowest cost; one's community tends to be geographically determined because time is a determinant of proximity. E-commerce is reducing the importance of time by speeding up production cycles, allowing firms to operate in close co-ordination and enabling consumers to conduct transactions around the clock. As the role of time changes, so will the structure of business and social activities, causing potentially large impacts".*

4.11.2 Though there will be some costs to establish secured e-commerce, but businesses will get the return in long term.

In this case, the Bangladesh government has to take the initiative. Governments should not minimise the access to the internet and mobile networks; it may be more costly for them in the long run.

The interviewee I4 says:

> *"The direct costs to the Bangladesh government of closing down the internet and mobile phone networks during peak times is very high per day, with a much wider economic blow when factoring in industries such as e-commerce, tourism, and business processes and outsourcing. The Bangladesh government has the ability to limit website access or shut down the request with short notice or without reason and restricting access also tends to have a reverse effect: such as blocking networks which causes people to be more active and creative in finding ways to communicate and organize their own internet activities. Short of a complete blackout, users can work around blocked applications by using substitutes; if close enough, they can also pick up cellular signals from neighbouring countries."*

4.11.3 Without security, Bangladeshi people will not use for their products or services. Any incident related to security will collapse the business' reputation for a long period.

Security and privacy in payments and online business are the key to the main agreement of e-commerce. But lack of faith is a major barrier in here. Additionally, use of credit card in many districts and sub districts of Bangladesh is still reasonably small. In Bangladesh, the lack of legal action against fraud on credit card (Security concern in e-commerce 2013).

The interviewee G4 & G5, Government Officials have said that:

> *"While it has been generally decided that the private sector should take the lead role in the development and use of secure e-commerce, the government plays an influential role in encouraging secure e-commerce growth through real possible measures such as:*
> *1. Creating a favourable policy environment for e-commerce; and*
> *2. Becoming a leading-edge user of e-commerce and its applications, in its operations, and a provider to citizens of e-government services, to encourage mass use.*
> *Among the public policy issues in electronic commerce that governments should take heed of are:*

- *Proper acknowledgment of e-commerce;*
- *Consumer safety from fraud;*
- *Safety of consumers' right to privacy;*
- *Legal protection against unauthorized access to electronic device; and*
- *Protection of intellectual property"*

The interviewee I4 & I5 have said that:

"Among e-commerce users in Bangladesh, including SMEs, there is very low passion to provide open economic information via online. On the other side, consumers have suspicions about transacting with SMEs through the internet due to the lack of a clear policy practice. To deal with this anxiety, Bangladesh government can encourage companies/SMEs to make their privacy policy open to all on their websites. Bangladesh government can undertake a Certification Authority to ensure security in e-commerce. Government can also provide guidelines for SMEs in the development of a system to assure their consumers of security. Government can also design and establish an official and judiciary framework that provides for minimum standards of and requirements for transparency, objectivity and suitability."

4.12 Bangladeshi enterprises can make fast and easy going communication between the buyers and sellers.

4.12.1 Mobile Application is the great solution for Bangladesh.

The interviewee G2 said:

"Mobile communication has questionably had a larger impact on civilization in a short period time than any other development in human history. Mobile phones, applications and wireless internet prove to be the most emerging technology of economic development in the world. In Bangladesh, barbers or farmers who do not have a bank account can use mobiles to send money to relatives in villages, saving costs and growing security."

Bangladesh is progressively more well situated using the benefits of mobile communications. Bangladesh is growing well economically so more consumers can have enough money to use mobile devices for more than voice messaging. Also, the mobile sector has become a noteworthy financial strength in the Bangladesh economy (Adler et al 2013).

4.12.2 People want to get faster solution. If they can get their answers instantly through an application, they will surely feel more comfort.

E-commerce is creating amazing opportunities for employment, education and empowerment in Bangladesh. The environment of the communication business itself is changing considerably, opening new prospects for Bangladeshi nations in designing applications and increasing substance, pointing products and services (Rajon et al 2013).

Although mobile communication is rapidly advancing in most parts of Bangladesh, an important section of the Bangladeshi population remains unable to use the latest mobile technologies (The Facilities of Electronic Devices in Bangladesh 2013).

Mobile broadband introduction is still limited to urban areas in Bangladesh, and current smartphone prices are not reasonable for everyone in districts and sub districts. Bangladeshi users are using what they have. For many users, especially in rural areas of Bangladesh, these changes are happening where finding the electricity to recharge a phone is more difficult than purchasing prepaid airtime (Yilmaz et al 2013, p. 22).

4.12.3 Businesses can send confirmation on payment or and other business activities.

Companies allow consumers to have full control over products and services to give the consumers the ability to choose from various types of the same product. They can customize and add multiple product options for the customers to select. After configuration of own product options, the company shows up on Home Page so customers can select based their own choice. This is a very important e-commerce feature and will give customer a lot of flexibility to take full control of an online store (Website Development and e-commerce 2014).

The company also gives customers a sales option to create sale prices which display as the crossing out of the normal retail price and showing the discounted price next to it. This is a very positive tactic to draw on peoples' attention. The company also adds custom product description in the Product Page, and they have the power to do some basic styling such as using bold, underline, italicize, and inserting bullet points (Yilmaz 2013).

The company has also enabled social sharing buttons for each Product Page to share products with friends and family through the social network accounts.   This is a very powerful way to promote the company's e-commerce (Website Development and e-commerce 2014).

Overall, enabling the company to create Product Pages, Service Category Pages, e-commerce gives flexibility to shape the website into a full online store.

4.12.4 A good and smooth communication should be established at both buyer's and seller's end to ensure developing of e-commerce.

Successful contact is an essential part of a well management business organisation. The information is communicated in the form of a message. A customer may request a new part from a supplier, in order on how to operate that part. The dealer will then exchange a few words with the customer how to operate including copy. Gradually more these interactions will be carried out by e-mail communications and through website (E-business Communication 2013).

The interviewee G4 & G5, Government Officials have said:

> *"Online communications have become particularly important with the development of e-commerce. Most large companies have own websites helping customers to buy online. The organisation can create a website which enables customers to fill the details online, also a website helps customers to find out information about products and servicing online. Newspaper companies in Bangladesh provide real case scenarios about organisations both in an online format and in photocopiable resource packs which are sent out to university students in Bangladesh. Students from all over the district and sub districts of Bangladesh study and browse online, examining research topics, and testing knowledge through quizzes and activities."*

4.13 Business restrictions exist in the progress of e-commerce in Bangladeshi Small to Mid-Sized Enterprises.

4.13.1 Major restriction in the society of Bangladesh is peoples' perception towards e-commerce.

The interviewee G2 says:

> *"Bangladesh is still far away from advance of e-commerce specially B2C (Business to Consumer) e-commerce. Online procurement purpose and its permanence depend on approach of customer that is ultimately subjective by trust on online shopping."*

Internet transactions are growing and the success of e-commerce business is also growing. Most consumers have been sluggish to implement on-line shopping. Many vendors are using online transaction to attract the customers (Salim 2013).

The interviewee I2 says:

> "E-commerce is one of those biggest sectors which need more attention if Bangladesh wants to be in global business. Online business would increase the Gross Domestic Product growth and help Bangladesh to achieve improvement goals. The internet has gone through pioneering changes, and in Bangladesh, e-commerce has become a community regular way of doing business."

4.13.2 People have to have assurance for security of each transaction and value from it as well.

Trust is a particularly significant issue under conditions of doubt in e-commerce.

The interviewee G1 says:

> *"In today's business, trust is the centre factor between the consumer and business. Researcher found trust very important in the relationships between consumers and businesses. There should be a firm relation between consumer and businesses trust that focuses the whole business processes in an e-commerce website".*

The interviewee G4 & G6 say:

> *"As a new form of commercial activity, e-commerce involves more uncertainty and risks that traditional commerce because e-commerce are less well known to consumers. Factors that affect trust in e-commerce for consumers include security risks, privacy issue and lack of reliability e-commerce processes in general. A consumer cannot monitor the safety and security of sending sensitive personal and financial information. Online business organizations should search for high-tech security mechanism to protect itself from intrusion and also protect it customer from being indirectly invaded".*

4.13.3 Some more business restrictions exist in the growth of e-commerce in Bangladeshi Small to Mid-Sized Enterprises

❖ **Lack of infrastructure**

Lack of infrastructure facilities continue to create problems in the growth of e-commerce in Bangladesh. Bangladesh lags behind China in many infrastructural facilities like electricity, gas, connectivity, etc, which hampers the growth of exports from Bangladesh. An additional problem facing Bangladesh is the large amount of manpower, but lack of skilled people. From observation, Bangladesh has the potential to become one the largest exporters in the world, but this would be contingent on how fast Bangladesh can develop the e-market and get better arrangements (Bangladesh IT infrastructure 2013).

❖ **Problem in submarine cable**

The significant damage to SEA-ME-WE-4 cable interrupts internet services across Bangladesh regularly affecting private and businesses including e-commerce sector. Bangladesh does not have an alternate submarine cable or any other connection. Almost all Bangladeshi internet users are facing same problems in accessing internet (Hossain et al 2013).

❖ **Huge population in Bangladesh**

Population problems in Bangladesh is one of the most talked about topics of the world today. In Bangladesh, it has been declared as the number one national problem. Hence, Bangladesh is called an over populated country. In fact, her present population has come to a stage of explosion and it is one of the biggest restrictions in the development of e-commerce in Bangladeshi small to mid-sized eenterprises (Zhou 2014).

❖ Poor leadership in political leadership

Effective leadership is basic to successful development and improvement of e-business. Since Bangladesh is now facing the challenge of reforms in business, skilled people need to acquire a current knowledge of leadership theory to give them the theoretical understanding of leadership that are likely to make their e-business more successful. It is very important to explore how business leaders of Bangladesh understand leadership theory and investigate the leadership challenges faced in their e-business. The findings show that the leaders of business have adequate experiential knowledge for leading their organisations but they lack theoretical knowledge of company leadership, as they have not had opportunities to participate in formal leadership training programmes. It is suggested that professional leadership programmes should be provided for most of the leaders to run e-business more effectively.

❖ Political and social complexity

Greed, profiteering and a lack of clearness and ethics support the rise of political and social difficulties, also dishonest values are common within the business industry and e-business sector due to the involvement of corrupt officials and politicians. To reach ruthless daily business targets, workers may avoid regular jobs and work long hours. The impact and stress level are very high among these workers. It affects the business sector, too. It is another restriction in the development of e-commerce in Bangladeshi small to mid-sized enterprises (Achrol et al 2013).

❖ Overall high cost price in electronic device

Bangladesh cannot afford suitable electronic devices which is most important for e-commerce. The other problem in Bangladesh is smooth connectivity. Most small to mid-sized companies do not have Wi-Fi connection. Also, the ratio of lab based computers to employees is very low. Significantly slow internet access is another limitation in the development of e-commerce (Zhou 2014).

❖ **Less quality people in IT sector and less knowledge in e-commerce**

E-commerce is not just an additional tool to stand or improve current business practices. It is a model that is fundamentally shifting the old-style ways of doing business. The major error made by many organizations is that they would be succeed without having concern for trustworthy and well-informed people in IT and e-commerce sector within the organization (Achrol et al 2013).

❖ **Budget deficiency for advertisement**

There is a massive connection between budget deficit and e-commerce of Bangladesh. There are few views about this relationship. There is an optimistic connection between e-commerce, budget shortfall and economic growth while neo-classical views point to an inverse relationship between budget shortfall and financial development. There is also unbiased relationship between budget deficit and financial development. Not enough of the budget was allocated annually for the development of e-commerce in Bangladesh in past which placed a huge restriction on growth (Budget and e-commerce in Bangladesh 2014).

4.14 E-commerce has emerging business potentials and makes more prospectuses in Bangladesh.

4.14.1 Bangladesh government will be really facilitated.

The transformative effect for the e-commerce can effectively transform the Bangladesh government and the functioning of its institutions. As a practical example, government service delivery has become more "customer-focused". As the number of community division online programs increase, another consequence is becoming gradually noticeable: e-government can be the most important section of e-commerce. Usually, Bangladesh governments have focused on supporting e-commerce development through laws (Caldow 2013).

The Interviewee I3 says:

"E-government and e-commerce are effectively two sides of the same coin, this new and evolving governmental role has significant implications for the future development of e-commerce. Governments participate in e-commerce in a variety of ways. They both use and, in some instances, supply enhanced telecommunications services-which provide the necessary foundation for both e-government and e-commerce services".

The Interviewee I4 says:

"Through online business, they provide different types of services to their citizens and others, ranging from comparatively simple information transactions to issuing driver's licenses, accepting payment of taxes and fines, to issuing permits and providing a means to register or form business and other business entities. The Bangladesh government also sells and purchases goods and services online and, in so doing, has the opportunity not only to set terms for government-related e-commerce transactions but also to influence more generally the performance of private e-commerce transactions. In the search for funding sources for e-government operations or in response to funding difficulties caused by private sector e-commerce activity – government sometimes commences functions that are identical from those of for-profit e-commerce entities. In other cases, in order to cut costs, government takes advantage of the capabilities provided by the internet to sub-contract non-core functions to the private sector and, in this way, lend their economic support to private sector ecommerce providers."

The Interviewee S5 says:

"Government's participation in e-commerce has the potential to create a number of beneficial effects. First, as both a consumer and supplier of e-commerce services, governments have the opportunity to learn firsthand about the economic and business realities of online transactions. Second, as e-commerce participants, governments have a strong self-interest in adopting rules and regulations that will facilitate their own online activities. If done in an even handed manner, these rules and regulations also will facilitate the growth of private e-commerce transactions. Third, government expenditures on e-government/e-commerce infrastructure and systems, and the outsourcing of non-core e-government functions, will help support the development of private e-commerce businesses".

Approval of the link between government and e-commerce is necessary for the significance of e-government. Appreciation of the connection is expected to guide to more sensible and

fair guidelines for e-commerce activities, as governments begin to become familiar e-commerce contributors and that the regulations they plan for that marketplace affect not only private companies and citizens but also governments (E-government 2014).

4.14.2 Centralised government should provide extended support through e-commerce.

More agreement and collaboration are required in public and private sectors of IT, internet, and future e-commerce implementations. A policy in Bangladesh should be more helpful for secure selling of products/services on the internet as well as assisting in good practice in e-commerce. The Bangladesh government should be familiar with user-friendly electronic communications such as contracts, notarized documents etc (Rahman 2014).

Bangladesh's actions indicate that the thought is determined in the government top policymakers' mind, but there is no direct campaigner of e-commerce in all sectors of the government and of society in Bangladesh. It is important that the lack of support for e-commerce will result enough damage from international e-commerce to national economies (Rahman 2014).

4.15 The Private sector and the public sector can achieve valuable developments in promoting secure e-commerce through its business society.

4.15.1 The Private sector can lobby with government to establish e-commerce law and rules, regulations and standards.

Governments and the community have a role to play in promoting e-commerce for business and economic expansion. Governments can be encouraged by the possibility of e-tools to taking ICT expansion to another level through easy-to-use functions with internet connectivity over wireless networks. Also they can work co-operatively to create ideas for e-commerce law and rules, regulations and standards. Ultimately, the government will the only body to pass the laws. E-commerce initiatives produced by both the public and private sector could help generate mass availability of e-commerce in Bangladesh (Parvin 2014).

4.15.2 The Private sector can communicate with the international e-commerce governing body or organisation as a collaborative approach to implement secure e-commerce with the government of Bangladesh.

It takes ages for the Bangladeshi government departments and agencies to work directly with the private sector. This new advance was not part of the work culture. Moreover, the guidelines were not well stated and followed for its benefits. Hence, it did not obtain the proper answers from both the public and private sectors. They were less open and straight in their viewpoint. However, with better approval of the need for close co-operation, the atmosphere has made a gradual improvement. Strengthened agreements and hard work made by the supporting management and leading civil service officials to give confidence to review panels to strengthen their activities have considerably contributed to the effective operation of the Bangladesh Incorporated Concept. They encouraged public servants to send high quality services and enlarge their contact with the private sector. This was further balanced by specific measures to intensify training of the middle and lower level areas of government to improve the considerate of the Bangladesh Incorporated Concept and bring about a transformation in their attitude and work culture. Further, the planned, and logical way in which the Bangladesh Government put these policies into practice added to its success (Secured e-commerce approach in Bangladesh 2013).

The interviewee I4 says:

> *"E-commerce has a broader sense than that accorded to its usual meaning – purchases made over networks by end-consumers. There are also transactions between firms which organise their supply and distribution chains with the support of public and private information infrastructures. These changes are affecting all sectors of activity. For example, one large bank already carries out some ten million electronic transactions per day. Another bank indicated that about 70% of its transactions are already automated. A major retailer reported that the entire volume of its business with suppliers, amounting to over $10 billion, is carried out electronically. An important car manufacturer reported that it maintains electronic links with over 800 suppliers, and an aerospace company reported that 60% of orders for spare and replacement parts are fully automated, enabling delivery to any part of the world in less than 24 hours. By this way, the Private sector and the public sector can work together and make significant progress in developing secured e-commerce".*

CHAPTER 5: DISCUSSION OF RESEARCH DATA ANALYSIS AND KEY FINDINGS

This chapter summarises the research results presented by the key results. E-commerce is growing quickly in developed countries but it is totally diverse in Bangladesh because e-commerce is measured as an important tool for Bangladesh economy. Businesses using the internet have not been quick to adapt in Bangladesh because significant amount of obstacles that have blocked implementation of e-commerce. There is a huge difference between Bangladesh and other developed countries in the services provided for businessmen. This huge difference is the result of industrial and economic development that flourishes in the developed countries. This growing space allows for a bigger number of top rank services being offered to businessmen and the businesses. Since Bangladesh is still on the increase phase, it is not capable to replicate the developed countries' practice. Bangladesh wants to move into complete e-commerce because it has the prospective manpower and population and cannot afford to be left out. The problem is financing the sector. The Bangladesh government has launched enterprises to implement the latest method of trade such as the Bangladesh's e-commerce enterprise. This can be very important in extracting important issues, increasing knowledge, and recommending resolutions and actions to put into practice for future troubles.

Research Key findings are as below:

5.1. The Bangladesh government and people are not yet fully convinced of the use e-commerce in the business in order to achieve its aims (e.g. supportable growth).	**5.11. Many CEOs and/or MDs in Bangladeshi organisations do not access e-mail for the straightforward reason that they were not raised with the modern technology.**
5.2. E-commerce has the approvals of business for use in daily life.	**5.12. Bangladeshi people are very social and frequently share their experiences with others in personally and via social media.**
5.3. E-commerce is an operative as a well-organized channel of information in Bangladesh and it is a	**5.13. The private sector and the public sector in Bangladesh can make significant progress in**

possible mechanism for additional of economic activities within a business enterprise.	their secure e-commerce push through business associations.
5.4. E-commerce is still not being used extensively in Bangladesh but it is today a main source of employment opportunities in Bangladesh.	5.14. In Bangladesh there is a high obstruction in use of e-commerce.
5.5. In Bangladesh, there are not many popular websites which are used extensively for various online buying and selling.	5.15. The Bangladesh Telephone and Cable Limited (BTCL) is a government provider enjoys a monopoly in providing basic telephone connections.
5.6. The most important field of the use of e-commerce in Bangladesh is the Readymade Garments (RMG) sector.	5.16. The Bangladesh government has a critical role in paving the way for the practical implementation and utilization of the current technology.
5.7. At present, mobile contacts and networks are having an emerging impact on the Bangladesh economy.	5.17. Development of the e-commerce flow in Bangladesh requires appropriate policy actions to enable and encourage e-commerce systems.
5.8. One of the main reasons for the slow uptake of e-commerce in the past in Bangladesh is that the communication infrastructure was not very stable.	5.18. Bangladeshi standards in e-payment systems are not fully developed and implemented on a national level, and are not well-matched on a worldwide level.
5.9. The slow speed of the internet, the misuse of electronic devices is some vital reasons for the slow improvement in e-commerce.	5.19. Privacy and security satisfaction in e-commerce are the biggest concerns for Bangladesh. Privacy, intellectual property safety and security are all major questions to be confronted when breaking into new frontiers of "traditional" government.
5.10. Customer satisfaction with online and improved e-commerce is inter related and one of the biggest concerns in Bangladesh.	5.20. The appropriate telecommunications and information infrastructure in Bangladesh does not exist to ensure the necessary suitable market access.
	5.21. The Bangladeshi government has launched several initiatives to promote Bangladesh's e-commerce initiative.

Bangladesh government and inhabitants are not yet fully committed of the use of e-commerce. Common obstacles include: lack of proper business application, lack of ICT skills, network organization; ICT equipment and networks cost, security costs and security issues (Howladar et al 2014).

Table 5.1: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
The Bangladesh Government and people are not yet fully convinced of the use e-commerce in the business environment.	Partial (Hossain et al 2013, Howladar et al 2014)	The Bangladesh Government and people are not fully convinced with the value of the internet and e-business. A lot of people still do not use the internet for business because they study that internet and e-commerce do not suit their type of business and/or products. (Participants I1, I2, I3)

5.2. E-commerce is the confirmation of business and life.

The internet is the most pioneering technology of the new period, connecting consumers and businesses. Today people are moving into the busiest time with proper management of communication and transactions at the same time and same place. E-commerce is now totally changing the industry and business way (Rahman & Mahesh 2013).

E-commerce research has shown that the most suitable items for e-commerce sector are books, CDs, software, travel equipment etc. The minimum suitable products include high fashion clothing, consumable food products and high-value jewellery and antiques (Schneider 2013, p.22). The main advantage of e-commerce is to decrease transactions costs and do faster processing.

Table 5.2: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
E-commerce is the approvals of business and in the daily life.	Yes (Schneider 2013, Rahman & Mahesh 2013)	People are moving into an era of "intangible" business progressions, where business communication and dealings can be held anyplace, anytime. E-commerce is moving the way professional is conducted. There is a enormous effort on the rise and position of e-commerce, in order to validate that e-commerce is the 'backroom of worker' any positive modern trade. (Participants G1, G2, G3)

5.3. E-commerce is the function of a well-organized channel of information in Bangladesh and it is a possible mechanism for additional of economic activities within a business enterprise.

E-commerce is building new prospects for creative organizations in Bangladesh. E-commerce is opening different and inexpensive access to global markets for Bangladesh producer and firms and, equally, is it forming buyer-producer relationships and strengthening existing relations. E-commerce, in e-marketplace form, opens up worldwide marketplaces for manufacturer firms in Bangladesh in the garments and agricultural sectors. The importance of trust issues is a key component in autonomous e-marketplaces. Confidence and online trust in e-commerce is very important. E-commerce using e-mail to reduce communication costs for producer firms in Bangladesh. E-commerce and Bulletin Boards diminish the costs of checking product features and price list. At the moment e-commerce in Bangladesh is opening up new or cheaper access to global markets (Hossain 2013).

Table 5.3: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes

		or Contributions)
E-commerce is the function of a well-organized channel of information in Bangladesh and it is a possible mechanism for additional of economic activities within a business enterprise.	Yes (Hossain 2013)	E-commerce is a golden opportunity for Bangladesh; it opens a new option for Bangladesh firms and organizations. E-commerce reduces the total costs in economy and global market. (Participants G1, G2, G3, G4 & G5)

5.4. E-commerce is still not being used extensively in Bangladesh although it is a major source of employment opportunities in Bangladesh.

Bangladesh is following an economic strategy of business-led growth. With the growing forces of globalization, it is becoming progressively important the private sector, particularly the business sectors, well prepared to meet the needs and prospects of the traders and also to compete with traders from other countries (Hoq 2014).

It is an expected move for Bangladesh to adopt the technology so that it can use to its best highest benefit. The internet is one of the largest improvements to technology, because it enables Bangladeshi people from isolated areas to communicate easily. It has made Bangladesh a solitary community. E-commerce entails the use of the internet in advertising, documentation, payment and distribution of goods and services. It highlights the optimistic future in Bangladesh, but e-commerce is still not being used extensively there because of the numerous restraints and experiments and it is left to Bangladesh to develop and implement it (Hasan 2014).

To determine the future of e-commerce in Bangladesh, the public and private sector must have a clear idea about what e-commerce presents. Modelling should be adopted from the fields where e-commerce is moving successfully in Bangladesh. Although these areas are functioning in Bangladesh as incomplete operations due to the lack of satisfactory customers, it still has the potential to work as a universal business. It will not take long for Bangladesh people to become accustomed to it (E-commerce use in Bangladesh 2014).

Table 5.4: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
E-commerce is still not being used extensively in Bangladesh but it is today a major source of employment opportunities in Bangladesh.	Limited (in text referencing)	(Participants I1, I2, I3 and Participants S3 & S4)

5.5. In Bangladesh, there are not many secure websites although there is extensive use for various online buying and selling.

Many e-commerce related websites have been recognized in Bangladesh such as purchasing railway tickets, domestic air tickets, hotel booking, purchasing electronic devices, e-books, gift items, jobs, hotel booking, clothing and some food items. However, there is a big question about security and privacy satisfaction of those websites (Chowdhury 2014).

Table 5.5: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
In Bangladesh, there are not many secure websites although there is extensive use for various online buying and selling.	Limited (Chowdhury 2014)	Various obstacles have been found in establishing e-commerce websites in Bangladesh. very minimum PayPal operation allowed in Bangladesh. The products display and services in the e-commerce sector and website are not up to standard level in terms of security. (Participants I1, I2, I3 and Participants A1, A3 & A4)

Few e-commerce websites in Bangladesh are given below:

www.rokomari.com	www.webbangladesh.com	www.haatbazar.com
www.number1shop.com	www.bdbazar.com	www.bengalcommerce.com
www.sonarmarketplace.com	www.upoharbd.com	www.bdgift.com
www.cellbazaar.com	www.bikroy.com	www.hutbazar.com
www.clickbd.com	www.minabazar.com	www.shop4bd.com
www.arfigift.com	www.bajna.com	www.banglabazaar.com

5.6. The most important field for the use of e-commerce in Bangladesh is Readymade Garments (RMG) sector.

More than 78% of Bangladesh's overseas earnings come from the garments industry. The Ready-Made Garments (RMG) sector has a huge potential than any other sector into national economy. Obstacles to launching social agreement in the sector can be overcome by a combination of international demands, better observing and skilled Human Resources (Chowdhury 2014).

Table 5.6: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
ReadyMade Garments (RMG) sector is the most important field for the use of e-commerce in Bangladesh	No	The Ready-Made Garments (RMG) sector is a huge sector in terms of service and a greater contributor to foreign exchange earnings for the national economy in Bangladesh. Recently the Ready Made Garments (RMG) industry started using internet. (Participants I1, I2, I3 and Participants G1, G2, G3)

5.7. At present, mobile contacts and networks are having an emerging impact on Bangladesh economy.

The smart phone industry is continuing to see fast development in associations and playing an essential role in socio-economic development through Bangladesh. Many industry sectors are progressively mobilising products and services, reducing costs and providing new experiences for consumers. The mobile revolution is empowering Bangladeshi people by delivering ICT relevance in culture, health, administration, banking, environment and commerce. This mobile vision certainly will speed up Bangladesh's race towards sustainable development. However, in Bangladesh, the mobile broadband services cost significantly less than fixed-broadband services (Bhowmik 2014).

Table 5.7: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
Mobile contacts and networks are having an emerging impact on Bangladesh economy.	Partial (Bhowmik 2014)	The mobile industry is continuing significant development especially in socio-economic development across Bangladesh. Bangladesh is moving rapidly to having mobile-cellular contributions and empowering Bangladeshis. (Participants S1, S2, S3, S4, S5 and Participants G1, G2, G3)

5.8. Lack of communication in Bangladesh at past.

Bangladesh is comparatively poor from the viewpoint of skilled human resource. Steps have been taken to put into practice computer education in the secondary, higher secondary and university levels. Computer literate by the young generation and become expertise will be the most inspiring for the Bangladesh government. To proper IT resources distribution in Bangladesh, a handful of IT organizations were examined. The activities were found to

broaden over office computerization, desktop publishing, hardware and software progress and marketing, human resources development etc (Bhowmik 2014).

The internet in Bangladesh is still expensive compared to other nations. Although many ISP organizations are working throughout Dhaka, the capital of Bangladesh and providing comparatively inexpensive internet to the customer, but still it is not available in remoter areas.

Only 0.47% of the whole banking sector in Bangladesh is computerised. Some local banks have limited training in the use of LAN at their headquarters. None of them are competent in providing real time inter-branch transactions. More than 770 branches of the local banks are unable to operate their accounts with the other branches of the same bank. An internal transaction takes up to two weeks if the branches are in different sub division (E-commerce in Business Companies of Bangladesh 2014).

Out of 517 rural sub districts, about 50% are still running with manual or analogue exchanges. Grameen Phone has provided a maximum numbers of telephones in some villages that is greatly utilitized. The government has recently decided to install digital exchanges in all the sub districts. Such work for 276 sub district is under way and the rest will be covered in next 2 years. The government is going to put into practice another project "One Village One Telephone" to provide a telephone at a suitable place at each of the 85,000 villages to connect the rural population (Bhowmik 2014).

Table 5.8: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
Communication in Bangladesh was not very supportive in the past and contributed strongly to the non-operation of e-commerce.	Limited (Bhowmik 2014)	The internet service in Bangladesh is very expensive compared to other nations; it is not available in remote areas. They have to depend on a wireless network which is very expensive. Many banks do not offer online

		services such as Direct Deposit or withdrawal. There are a good number of ATM machines required in the country. (Participants G1, G2, G3, A1, A3, A4)

5.9. The slow speed of the internet, the misuse of electronic devices are some principal reasons for slow improvement in e-commerce.

Poorly established telecommunications and bad internet infrastructure are the principal reasons for sluggish development in e-commerce. Good telecommunications and infrastructure provide help for the growth of vigorous e-commerce market. Positive e-commerce needs a dependable arrangement to deal out items to the business or consumers. Consumers may lost their interest if the items are not delivered in a secure and timely manner (Bhuiyan 2014).

Table 5.9: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
The slow speed of the internet, the misuse of electronic devices is some principal reasons for slow improvement in e-commerce.	Partial (Bhuiyan 2014)	Poorly established telecommunications and bad internet infrastructure are the vital reasons for the sluggish improvement in e-commerce. (Participants I1, I2, I3 & G1, G2, G3)

5.10. Customer satisfaction online and improved e-commerce is much related and the biggest concern in Bangladesh.

The consumers using e-commerce is a noteworthy reason in win situation for e-commerce. In some areas of Bangladesh, face-to-face business and bargaining at the point of sale are traditional way of retailing. Shopping may be valued as an opportunity for social networks. Even the age of the general population may control e-commerce development, though many

disagree on how it might do so. A younger generation may be random using the new technology while an older population may be better able to have enough money access to the internet and the items sold through e-commerce (Customer satisfaction in e-commerce 2013).

Table 5.10: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
Improvement e-commerce and online customer satisfaction are the biggest concerns in Bangladesh.	No	Customer in Bangladesh is still not at a satisfactory level with online products and services.(Participants I1, I3, I4, G1, G2, G3, A1, A3, A4)

5.11. Many CEOs and/or MDs in Bangladeshi organisations were not raised in the information age.

Currently there are a lot of small to mid-sized organisations with their owners working as development organizations in Bangladesh. A satisfactory number of organisations have a very basic knowledge of ICT use and its applications, and they do not have a culture of IT access and webpage knowledge sharing. Most of the organisations working at a basic level, therefore, stay anonymous and do not receive the appreciation and benefit coming from sources that can provide support to them. This situation is due to various factors such as the lack of computer equipment and access and lack of information of ICT expertise and foresight (Defindia 2014).

Many CEOs and/or MDs in Bangladeshi organisations have a basic understanding of the internet for use in organization and as a community empowerment program. There were 78.72%   participants who said they had a good understanding, but they do not use it for official purposes. Only 21.28% said that they used all the functions of the internet & web tools but there were heavy costs involved (Defindia 2014).

Only 21.28% of organizations had a website with an independent .org domain. The other 78.72% had no awareness of websites, domains or social media. Out of these organizations,

116

70% felt that it was very expensive to maintain a website. Only 10% of the companies had no awareness of domains like .com, .org, .net etc. while 80% had a good knowledge of domains. About 75% of the organizations heads had never used social website like Facebook, Twitter, YouTube, etc., while 60% had very minimum knowledge about social media but never use for corporate purposes; only 15% corporation heads were using it for association purposes. Although almost everyone had a minimal idea of using e-mails for corporate purposes, only 10% organizations were using an official e-mail ID (Defindia 2014).

Table 5.11: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
Many CEOs and/or MDs in Bangladesh organisations do not use e-mail for corporate purpose	Partial (Defindia 2014)	An unsatisfactory number of organisational heads have a very basic knowledge of ICT use, they do not have a culture of IT access and webpage knowledge sharing. Huge number of CEOs and/or MDs in Bangladeshi organisations do not know how to use the internet in organization and in the community (Participants I1, I3, I4, G1, G2, G3, A1, A3, A4)

5.12. Bangladeshi people are very social and frequently share their experiences with others in projecting their personality via social media.

Social networking is a reasonably new form of global contact for Bangladesh, but it is emerging as a popular means of communication among all groups the young generation particularly are more interested in being in constant touch with each other. This type of communication has brought changes to traditional patterns of communication amongst all Bangladesh people**.** The study also points out that social networking like Facebook, Tweeter keeps up friendships through constant communication and is a huge transformation (Bhowmik 2014).

Bangladeshi people are very used to social media like Facebook. Facebook is the most accepted social arrangement and website which has become a global event in the past ten years in Bangladesh. Most of the users of Facebook are students between age 18-34. There are almost one hundred public and private universities in Bangladesh (UGC, 2012). Most of the Facebook users of Bangladesh are university students and workers (Habib, 2014).

Table 5.12: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
Bangladeshi people are very social and frequently share their experiences via social media	Partial (Bhowmik 2014)	Bangladesh people are very social as a nation and like social media. (Participants I1, I2, I3)

5.13. The private sector and the public sector in Bangladesh can make significant progress in their secure e-commerce push through business associations.

The private sector should show the way as a role model in the growth of e-commerce, the government supports e-commerce growth by:

❖ Creating a positive policy environment for e-commerce; and
❖ Becoming a pioneer of e-commerce and a source of confidence for citizens of e-government services

Bangladesh government should take following steps:

❖ "Bridging the digital divide" or endorsing easy right of entry to networks;
❖ Officially authorized acknowledgment of e-commerce business;
❖ Consumer safeguards from scam;
❖ Privacy protection;
❖ Protection from unauthorized use of electronic devices and

❖ Security of intellectual property (Bhowmik 2014).

Bangladesh Government provides guidelines for SMEs and assure consumers of security. Small to Mid-sized Enterprises should also be encouraged through appropriate government incentive schemes (Anderson 2013).

The public and private sector both have to work together for the future of e-commerce in Bangladesh and should provide policy advice for increasing the choice and uptake of e-commerce for future growth (Government responsibility in e-commerce security 2013).

Table 5.13: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
The private sector and the public sector in Bangladesh can make significant progress in their secure e-commerce push through business associations.	No	The private sector should take the lead role in the growth, progress and use of e-commerce (Participants I1, I2, I3 & Participants S3 & S4)

5.14. In Bangladesh there is a high obstruction in use of e-commerce.

E-commerce is largely lacking with entrance, pricing and quality of internet services and these internet services are heavily reliant on the telecommunication sector. Bangladesh is already connected to the Information Super Highway and South East Asia-Middle East-West Europe (SEA-ME-WE-4) submarine (Telecom in Bangladesh 2013).

Key developments of internet services in Bangladesh are-

❖ 'Digital Bangladesh' by 2021 with the strategy.
❖ Smart phone offering to internet access.
❖ Providing broadband services.
❖ Quick growth in services (Ali et al 2013).

There are some restrictions to e-commerce in Bangladesh: Internet services are available only in 6 main districts out of 64 districts. Recently, the internet facilities were extended into 12 districts. Within a very short period of time, all 64 districts will be covered with internet services (Restrictions to e-commerce in Bangladesh 2013).

In addition, there are also some barriers to e-commerce in Bangladesh-

- ❖ Minimum number of users of websites
- ❖ Poor telecommunication infrastructure
- ❖ High price of electronic devices
- ❖ Lack of technically efficient people
- ❖ Lack of venture in hardware and software
- ❖ Online banking connectivity is poor
- ❖ Lack of adequate virtual laws
- ❖ Slow and expensive internet services
- ❖ Technical difficulties
- ❖ Lack of awareness in e-commerce issues (Ali et al 2013, p. 201).

Table 5.14: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
In Bangladesh there is a high obstruction in the use of e-commerce	Limited (Ali et al 2013)	Significant numbers of restrictions exist in e-commerce in Bangladesh (Participants S3 & S4 & Participants G1, G2, G3)

5.15. The Bangladesh Telegraph and Telephone Board (BTTB) is the public company in providing basic telephone connections.

BTCL or Bangladesh Telecommunications Company Limited is the largest telecommunications company in Bangladesh. The company was founded as the Bangladesh Telegraph & Telephone

Board (BTTB). BTCL provides landline services in Bangladesh including domestic long-distance calling and international services as well as internet services (BTCL 2014).

Table 5.15: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
The Bangladesh Telegraph and Telephone Board (BTTB) Is the one and only government provider enjoying a monopoly in providing basic telephone connections.	Yes (BTCL 2014)	BTCL provides landline telephone services in Bangladesh's rural areas, including domestic long-distance and international calling services as well as limited internet services. (Participants S6, S7 & Participants G1, G2, G3)

5.16. The Bangladesh government has a significant role in concreting the way for the realistic execution and operation of current technology.

Information Technologies have made considerable changes to country. These are quite different from social changes caused by earlier scientific advances. By the 21st Century remarkable advances had been made in ICT. Bangladesh has placed poor quality improvement on the top of its growth rate. Bangladesh IT industry is one of the firmest developing and prominent sectors of economy. An inclusive ICT Policy has been put together and a National ICT Task Force, headed by the Prime Minister, has been produced. Bangladesh Computer Council (BCC) works under the Ministry of Science and Information & Communication Technology (Bangladesh Government and ICT sector 2014).

Table 5.16: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
The Bangladesh government has a	No	ICT sector of 'Digital' Bangladesh is

significant role in concreting the way for the realistic execution and operation of the current technology		growing rapidly and contributing to the economy and will continue to play a critical role. The Government is playing an influential role in the progress of the ICT field and supports the majority of ICT activities in the country. (Participants I1, I2, I3)

5.17. The development of the e-commerce flow in Bangladesh needs right policy actions to push e-commerce systems.

Bangladesh government's 'Digital Bangladesh by 2021' vision and mission plan to trend ICTs as a tool to eliminate shortage, set up a reliable authority, ensure social equity through quality education, enable suitable policy actions and law requirement (Digital Bangladesh by 2021, 2014).

In recent years, telecommunication and ICT sectors in Bangladesh have developed rapidly in terms of coverage, variety and quality. This has been made possible by appropriate legislation and policies in place and their successful implementation through adequate investment into the sector from private and public areas.

Bangladesh has successfully made suitable communication technologies accessible to its people at affordable prices and at acceptable quality. It is an astonishing phenomenon to observe people even from the deep rural areas being able to utilize telecommunication services to make an impact in their lives and lifestyles. The socioeconomic impacts of communication services are quite significant. The government has a strong commitment to peoples' aspirations and it adopts customer-centric policies to make communication services more useful, more affordable of better quality (Digital Bangladesh by 2021, 2014).

Table 5.17: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes

		or Contributions)
The development of the e-commerce flow in Bangladesh requires suitable policy practice to allow and support e-commerce systems.	Partial (Digital Bangladesh 2014)	The Bangladesh government's 'Digital Bangladesh' policy has prepared the country for change. Telecommunication and ICT sectors in Bangladesh have developed rapidly in terms of coverage, variety and quality. The commitment of Bangladesh Government to peoples' aspirations was not strong at past and the communication services' policies were not customer centric. (Participants I1, I2, I3 & Participants A4, I5)

5.18. Bangladeshi standards in e-payment systems are not fully developed and implemented on a nationwide level, not even fully well-matched on a worldwide level.

Although there have been so many reassuring questions resolved in last couple of years in e-payment systems, there are also some confronts that need to be resolved in developing the e-payment system in Bangladesh. Here is a list of challenges:

- ❖ cyber crime
- ❖ Money laundering
- ❖ Wrong people perception
- ❖ High cost for internet access
- ❖ Assurance of e-transactions
- ❖ Lack of IT knowledge and skills
- ❖ Negative attitude to new electronic devices (Ali et al 2014).

The Bangladesh banking system has been trying to minimise the paper-based service. Few Bangladeshi Banks has moved towards an automated banking system that is user-friendly with international banks. In 2013, they introduced the agent banking system. Both

government and few private banks have spent a lot to make the system online based (Ali et al 2014).

Table 5.18: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
Bangladeshi standards in e-payment systems are not fully developed and implemented on a nationwide level, not even fully well-matched on a worldwide level.	Partial (Ali et al 2014)	Bangladesh Bank initiates a secure and efficient payment system. However, not all other government and non-government banks and their banking systems were user-friendly with international standards in the past. (Participants A1, A3 & A4)

5.19. Privacy and security satisfaction in e-commerce are the biggest concerns in Bangladesh. Privacy, academic property safety and security are all main questions to be resolved by government.

Bangladesh online service can be boosted if all stakeholders take up online business and adopt efficient and effective ways to use digital transactions. This uplift will not only be obtained from the electronic devices and broadband connections in Bangladesh; but will also come from citizens taking this action most importantly. This depends on the support and confidence the government accords to digital technologies. The government's responsibility is the completion and development of e-commerce for the nation. The Government could create a favourable policy environment by offering e-government services for free (Shiferaw, 2014).

The Bangladesh government's mandatory regulations will eventually help other companies. Business companies choose to form the customer purchase groups by targeting customers who are young, educated, energetic, have passion in IT and have more time to devote to internet so that it is a positive experience, as well as offering security and privacy for online transaction through online shopping. The belief in online shopping will develop an

environment of assurance, and, in turn, grow online shopping and then grow online shopping (Digital Bangladesh 2014).

The community and media can work together. Business organizations can use the media to stakeholders in order to improve the attitude towards online purchasing. Particular price offers, presents and few persuasive arguments can work effectively. The manager needs to contemplate supportive steps to contact customers with their items and services. Moreover, they can recognize their main consumers and their location and what products and services they can expand for a positive customer experience in online shopping (Limayem et al 2014).

Table 5.19: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
Privacy and security satisfaction in e-commerce are the biggest concerns in Bangladesh.	Partial (Shiferaw, 2014, Limayem et al 2014)	The Bangladesh government at present does not encourage confidence to users of digital technologies. The government has more responsibility in the e-commerce sector such as developing e-government services. (Participants I1, I2, I3 & Participants G1, G2, G3)

5.20. The appropriate telecommunications and information infrastructure in Bangladesh does not ensure the necessary suitable market access.

Bangladesh is least developed countries in the world. The country has a status for lack of skills of its state-owned enterprises. The country has shown an unexpectedly energetic telecoms division (Azad et al 2014).

Regardless of a narrow outlook of Bangladesh government, Bangladesh was extremely slow with 3G network services. The first 3G licence was provided to Teletalk in late 2012 (Barua 2014).

The land-line facility of telecommunication sector was in very difficult situation. Bangladesh had been under enormous burden with its weak telecommunications setup and heavy wrongness. Then, the fixed market faced a major slowdown in 2013. As a result, fixed services in operation had fallen from 1.7 million to around 1 million. The market has since improved to some level but it was a significant delay for the telecom sector and brought with it ongoing concerns (Bhattacherjee 2013).

The online usage has been expanding vastly in Bangladesh. The country works smartly, however, to overcome obstacles while still developing IT infrastructure. Broadband facility is in its preliminary stage, but the country has moved into wireless services. Bangladesh government has launched the 'Digital Bangladesh' concept. This is aimed at creating a Digital Bangladesh Government, ICT related products and services, countrywide online service and ICT based skilled people by 2021 (Chiang et al 2013).

Table 5.20: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
The appropriate telecommunications and information infrastructure in Bangladesh does not exist to ensure the necessary suitable market access.	Limited (Bhattacherjee 2013, Chiang et al 2013)	The country had been under pressure with its weak telecommunications infrastructure. Bangladesh struggled to put an smooth telephone network in place; also found a major delay in internet service The country must contribute more to overcome obstacles associated with the country's ICT infrastructure. (Participants I1, I2, I3 & Participants

126

		A1, A3 & A4)

5.21. The Bangladeshi government has launched several initiatives to promote Bangladesh's e-commerce initiative.

❖ The Bangladeshi government has employed the internet for delivering government information and services to the citizens.

❖ The Bangladeshi government offers a better collection of public services to citizens in a well-organized and cost effective manner.

❖ The Bangladeshi government utilises Information and Communication Technologies (ICTs) to progress service delivery in the public sector.

❖ Government promotes and improves broad stakeholders' input to national and community development, as well as expanding the governance process.

❖ At present, Government is building a representation of digitized services (Bangladesh's e-commerce initiatives 2014).

❖ Government is regularly publishing e-commerce information over the Internet to encourage citizen use.

❖ Government is also working on full community internet access, consistency of information on the web, and inviting the public to post valid opinions over the internet.

❖ Government is implementing, designing e-government and working on the vulnerability of cyber-attacks and online governmental transparency (Daniel et al 2014).

The researcher stated that Bangladesh government should act as a organizer between the private and public sector, and give the private sector "the upper hand or advantage". As a result, consumers, user and business responsiveness of and confidence in e-commerce will be established (Research key findings 2015).

Table 5.21: The Contributions of Research Findings:

Primary Research Finding	Existence in Previous Research	Knowledge Contributions (Participants have Significant Notes or Contributions)
The Bangladeshi government has launched several initiatives to	No	The government should act as the prime controller between the private and public sector to promote e-commerce in

127

promote Bangladesh's e-commerce initiative.	Bangladesh (Participants A1, A3 & A4)

Table 5.22: Theoretical Contributions of Research in the Current Knowledge Domain

Primary Research Findings	Researcher's Knowledge Contributions into the Current Knowledge Domain
Bangladesh Government and people are not yet fully convinced of the use e-commerce in the business environment.	The Bangladesh Government and people are not fully convinced with the value of the internet and e-business. All business people still do not use the internet for business purpose because they think that internet and e-commerce do not suit their products and services.
E-commerce is the approvals of business and the daily life.	People are moving into business progressions, where business communication and dealings can be held anyplace, anytime. There is an enormous effort on the rise and position of e-commerce, in order to validate that e-commerce is the 'backroom of worker' any positive modern trade.
E-commerce is the function of a well-organized channel of information in Bangladesh and it is a possible mechanism for additional of economic activities within a business enterprise.	E-commerce is a golden opportunity for Bangladesh; it opens a new option for Bangladesh firms and organizations. E-commerce reduces the total costs in economy in Bangladesh.
E-commerce is still not being used extensively in Bangladesh but it is today a major source of employment opportunities in Bangladesh.	People now in Bangladesh are considering seriously about e-commerce as the biggest source of employment opportunity.
In Bangladesh, there are not many secure websites although there is extensive use for various online buying and selling.	There are lots of obstacles in establishing e-commerce websites in Bangladesh. Maximum PayPal operation is still not available in Bangladesh. The products and services in the e-commerce website are not up to standard level in terms of privacy and security.
ReadyMade Garments (RMG) sector is the most important field for the use of e-	The Ready-Made Garments (RMG) sector is a huge sector and contributor to foreign

commerce in Bangladesh	exchange earnings for the national economy in Bangladesh.
Mobile contacts and networks are having an emerging impact on Bangladesh economy.	The mobile industry is continuing significant development in mobile industry.
Communication in Bangladesh was not very supportive in the past and contributed strongly to the non-operation of e-commerce.	Not all banks have and offer online services in the country.
The slow speed of the internet, the misuse of electronic devices is some principal reasons for slow improvement in e-commerce.	Telecommunications and internet infrastructure are still in unsatisfactory stage for the sluggish improvement in e-commerce.
Improvement e-commerce and online customer satisfaction are the biggest concerns in Bangladesh.	Consumers in Bangladesh is still not at a satisfactory level with online products and services.
Many CEOs and/or MDs in Bangladesh organisations do not use e-mail for corporate purpose	Basic knowledge of ICT use for top management level are still poor, they do not have a strong culture of IT access and webpage knowledge sharing. Top management people in Bangladeshi organisations do not know how to frequently use the internet in organization and in the community
Bangladeshi people are very social and frequently share their experiences via social media	Bangladesh people like social networking.
The private sector and the public sector in Bangladesh can make significant progress in their secure e-commerce push through business associations.	The private sector should take the major role in the growth of e-commerce.
In Bangladesh there is a high obstruction in the use of e-commerce.	Significant numbers of law restrictions exist in e-commerce in Bangladesh
The Bangladesh Telegraph and Telephone Board (BTTB) Is the one and only government provider enjoying a monopoly in providing basic telephone connections.	BTCL is currently providing landline telephone services in Bangladesh's rural areas, including domestic long-distance and international calling services as well as limited internet services.
The Bangladesh government has a significant role in concreting the way for the realistic execution and operation of the current technology	The Bangladesh Government is playing an significant role in the progress of the ICT field and supports the majority of ICT activities in the country recently.

The development of the e-commerce flow in Bangladesh requires suitable policy practice to allow and support e-commerce systems.	The Bangladesh government's 'Digital Bangladesh' policy is rolling for change. ICT sector in Bangladesh have developed rapidly in terms of coverage.
Bangladeshi standards in e-payment systems are not fully developed and implemented on a nationwide level, not even fully well-matched on a worldwide level.	Bangladesh Bank initiates a secure payment system. However, not all other government and non-government banks and their banking systems were user-friendly with international standards.
Privacy and security satisfaction in e-commerce are the biggest concerns in Bangladesh.	The Bangladesh government at present is working to increase confidence level of users to use e-devices.
The appropriate telecommunications and information infrastructure in Bangladesh does not exist to ensure the necessary suitable market access.	The country must contribute more to overcome obstacles associated with the country's ICT infrastructure.
The Bangladeshi government has launched several initiatives to promote Bangladesh's e-commerce initiative.	The government should act as the prime controller and step taker between the private and public sector to promote e-commerce in Bangladesh

CHAPTER 6: CASE STUDY

This chapter is the conclusion of the research project. It summarises the key findings of the case study derived from Chapter 5 in order to draw a final conclusion. After spending days, weeks and months working on the research project, the researcher felt that research work of the report is just an automatic procedure. The research project has been investigated thoroughly, the data carefully obtained and analysed using appropriate methods, and significant outcomes achieved. However, preciseness and accurate reporting must be successfully detailed in the research. The research findings and report is the central means of communicating the whole project - the medium by which the project makes its impact on decisions.

The researcher followed the communication process below by which he sent key research findings to the interviewees and then received feedback about the findings.
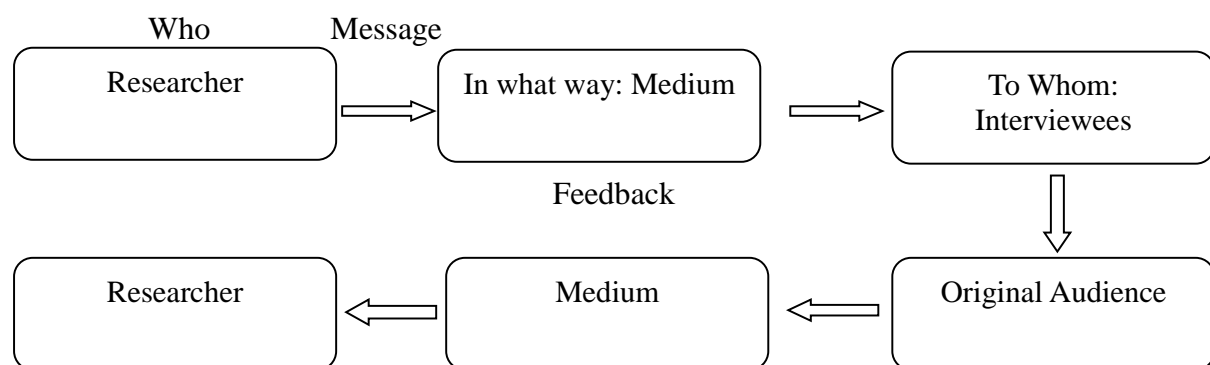
Figure 6.1: Communication Process (Azad et al 2013)

This communication process implied that the message flows smoothly from the researcher to the interviewees, who is turn quickly provide the researcher with feedback. As the researcher sent the research findings, he encoded it in terms that were logical to him based on field experience. As the interviewees received the findings, they compared them to their field experiences. The research found that the lack information. Frequently, when the readers

obtained these findings, they had not given much thought to the project. They did not have much background information or the tasks associated with it. Those in this category may have put this in the 'too hard' basket, simply delivering research findings to the interviewees are not enough to guarantee that it gets consideration. It is the researcher's responsibility to state clearly the findings so that as much feedback as possible is recorded and utilized. Unless the research findings are set out clearly, the reader is unenthusiastic about spending time and effort under pressure through insufficient or difficult-to-read documents (Yusuf et al 2014). The researcher sent the research findings to the Bangladeshi government and non-government businesses, IT sectors, universities for students and academics, business managers, marketing executives, policy makers and marketing researchers and practitioners and asked their opinion of the findings.

The researcher linked the end users to the marketer through research information: information about e-commerce opportunities and prospects in Bangladesh and problems; evaluation of e-marketing actions; monitoring secured e-commerce performance in Bangladesh; and improvement in the overall e-commerce in every sector of Bangladesh business.

The intent was to ensure that the reader would not find it confusing and provided businesses with relevant, accurate, reliable, valid, and current information about secure e-commerce in Bangladesh. The researcher addressed the issues including the method of collecting information, analysed of the findings and shared the findings. The researcher made sure employers and employees had an opportunity to carefully review and discuss the findings. Translation and interpretation also had been taken into place about the research results. The people were contacted via physical location address, e-mail, Skype, Viber and local telephone. The researcher also sent emails to all of them for future reference.

In the email, the researcher included the research findings in a professional user-friendly format. Many of industries contact the researcher and let the researcher know the opinions. Few personnel sent edited information with feedback. Some interviewees were by telephone to verify the accuracy of the information.

In addition to the communication processes, the researcher also created a social media group and has invited a handful of the businesses to share their opinions on the research findings. Some of the businesses were provided with a summary which included recommendations.

The selected organisations of Bangladesh agreed with the majority of the researcher's findings, because they had dedicated their valuable time to these knowledge-sharing activities. They considered research findings an important type of information when making a decision. They were also very transparent in their decision-making by giving careful feedback and reasons for their judgement. Additional information from these sources demonstrated that the findings and solutions of the researcher were workable and practicable. However, the researcher continued to adjust and improve the solutions so that they could be implemented in the future if necessary (Rahman et al 2015).

The researcher found difficult with giving a visual presentation in the initial stages. Often those good at statistics were not always adept at visual arrangements. The researcher believed that no matter how well research projects were planned and put into practice, if the results and outcome could not be successfully presented to participants, the project would not a success.

Some major objectives of the research were to successfully communicate the findings of the research project to the research participants, while providing an understanding of the research findings underpinned by sound and logical suggestions. This established the trustworthiness of the research and served as a vehicle for planned and considered decisions (Hair 2013).

Since the most important principle of the research is to get information that answers about business issues, the researcher tries to explain both how the information was obtained and what significance it has to the research questions. The researcher also tried to present the research questions by allowing for a broader and open-ended conclusion. In the report, the researcher has to bridge the gap from doing and understanding statistics to communicating the findings in a way that kept the original research objectives in mind. The researcher's task was to focus on the objectives and corresponded to how each part of the project is related to the outcomes. The research literature review and related minor data were incorporated in the investigation of findings in this chapter rather than being presented independently from other findings. The researcher endeavoured to summarise information in a meaningful and compact way, provide texts to help non-technical readers focus on important points; he recognised,

too, some of the participants were unfamiliar with certain method and statistics. Thus, the researcher presented complex information in a manner that was understandable to all the participants, especially non-technical readers. The researcher kept the original research objectives in mind when presenting the results to the participants focusing on how each part of the project was related to the successful completion of the research objectives (Azad et al 2015).

The most important challenge faced was to summarise and present the study in a way that makes the results easy to understand for non-specialists in the field. To solve this issue, the researcher had included detailed presentations of tables, charts, maps, figures, diagrams and graphs. Graphs and tables provided a straightforward outline of the data in a non-technical approach. The results had been arranged logically and matched the research purposes through the research questions listed in the report. The researcher also had decided to make group the findings into sections and sub sections. Care was taken to make the results very easy to interpret and provided texts to take into account the reader's non-technical sophistication by helping readers focus on important points. He used his creativity skills to continually improve his presentation and points. This led to an easy-to-understand research report. (Rahman et al 2015).

In addition to presenting research findings in an easy-to-understand fashion, the researcher also established credibility for the research methods, findings and conclusions and provided accurate, credible and professionally organised report. For the report to be accurate, all of the input must be accurate and the researcher has tried to do it. The researcher did not tolerate degree of errors in collecting data, reporting of statistics or incorrect interpretation. Because any grammatical errors and incorrect terminology devalue the acceptability of the entire report (Hair 2013).

Clear and formal thinking, correct appearance and perfect presentation gave credibility to the research project. If the readers do not understand what they read, they may find it difficult to come to a conclusion. It is very important to note that whenever the findings are surprising, or are different from what is expected, questions will certainly arise. The sampling method, question re-wording, non-response errors are some of the most common ways of explaining the methods used. The researcher anticipated these questions and had all clear explanations for all the findings (Rahman et al 2015).

The research report tried to avoid technical jargon and used descriptive explanations and provide clearly developed and professionally organised research findings. The overall look of the research report resulted not only clearly communicated conclusions, but conveyed professionalism in the research effort. The report was written to reflect three levels of readers: those who will read only the summary, those who will read closely the summary and the outcomes, and the those with technical expertise and depth of e-commerce security and privacy satisfaction knowledge who will read the entire findings for detailed information.

The main challenge in writing the thesis was to summarise and present the analysis in a way that makes them easy to understand for some generalists. These included findings including tables, figures and graphs. All results were arranged in a logical order to correspond with each research objective and research questions listed in the report. The research both presented and interpreted the findings. The industry based knowledge through the literature review and my own experience assisted in interpreting the results. Also there was a group section created to facilitate understanding. This meant that the explanation of findings were set out without technical language.

The researcher tried his best to ensure the authenticity of the information. This initiative was just the first step in putting together all the information of the e-commerce sector in Bangladesh. As a future research project, more content, more information, more companies and statistics could be added. This is just the beginning of compiling all the information related to the e-commerce sector of Bangladesh. The first step towards e-commerce success, also means that there will be some mistakes in implementation. This is a bold step and it shows that the market for e-commerce in Bangladesh is growing and maturing. The Bangladesh government has to support this growing sector. The media and journalists also need to support the e-commerce sector by creating public awareness about the enormous potential of e-commerce in Bangladesh.

In addition, care had to be taken to avoid some common problems in preparing the research report:
- Not to be vague or ambiguous in preparing research findings
- Not to stick to the standard outline for the research paper
- Not to highlight the major key findings
- Not to consider the audience for the research findings

- Not to make communications understandable

- Unsuccessful to provide proper explanation of the findings and the data in the tables

- Unnecessary use of jargon and complex statistical outcome

- Unnecessary use of sophisticated multivariate statistical techniques

- Importance on packaging instead of excellence

- Unnecessary use of computer-generated graphics

- Lose sight of primary purpose of the research

- Lack of importance of reporting data, statistics and information (Hair et al 2013)

Interviewees A2 & A3 thanked the researcher for his regular communication and sharing the research findings with them. They had mentioned that the researcher captured the demographic and social structure of Bangladeshi people regarding e-commerce usage very well and they had found that many of their answers in questionnaires during the interview session were reflected in his final findings too. Also they stated that research findings were detailed and believed that it will give people an insight into the current e-commerce usage in Bangladesh in the future. They wished the researcher a successful outcome with the report.

After the interviewees had read the findings, several questions had arisen. Parts of the findings were not fully understood and the researcher helped to explain the findings. The researcher was ready to support the findings of the research.

6.1 The Bangladesh government and people are not yet fully certain of using e-commerce in the business environment.

Interviewee A5 says:

> *"These findings were a true picture, although the Bangladesh government has taken some initiatives over the last few years to integrate e-commerce/e-business within its governing activities."*

Interviewees (I1, I2, I3, I4, I5, G1, G2, G3, G4, A2, and A3) say

"It is true that awareness activities are required to highlight the positive sides of e-commerce. The e-commerce association of Bangladesh (E-cab) focuses on such activities."

Interviewee A5 says

> *"E-commerce has been seen as a way of reducing friction in the marketplace. It allows larger volumes of transactions to take place than would otherwise be possible in the straight marketplace, and it successfully expands markets while opening up opportunities for new ones. However, it is greatly dependent on physical communications and other support services; these are often unavailable or inaccessible at the Bottom of Pyramid (BoP) in developing markets like Bangladesh."*

Interviewee A3 says that this finding it not right. At present the Bangladesh Government has launched numerous of programs to advance Bangladesh's e-commerce enterprises. Also Interviewee G3 disagrees and says that this finding is not correct. The Bangladesh Government has taken IT and IT enabled services as its first priority and has opened nearly 5600 (Digital Centres) new e-service delivery points in every unions and ward of every city corporations providing e-services to the doorsteps of every Bangladeshi citizen. These service centres are working as access points for citizens who do not have a computer. So now people can apply for most of the important services online including passports, national ID, train tickets, plane tickets, land purchases and any other services provided by the DC office, including admission to colleges and universities, exam results, buying any commodities online etc. It is surprising to know a huge number of customers buy Qurbani (the biggest Muslim festival) items such as cow, goat, camel, lamb etc online. Customers can buy almost anything and everything from some very popular e-commerce website and if people don't have computer they can go to a Digital Centre and they will help to see and buy the product they want to buy. Internet is very easy to get in every smart phone and almost every smart phone user connects with the internet online function.   Right now people are buying mangos from Rajshahi online and they pay through a service called bKash which is the most used money e-transfer transfer.

6.2 E-commerce should be constant in business and individual life.

Interviewee I4 says that e-commerce makes life easier. Not just online shopping is considered in e-cab domain, but all online services that may have money transactions are included in the e-cab working sphere.

Interviewee G3 says that Bangladesh needs more e-commerce expert/specialists for the proper expansion of this area in Bangladesh.

Interviewee A3 says that the understanding of e-commerce is widespread. Simply put, e-commerce is the way of business transactions over networks and it links corporations, consumers and communities.

Interviewee A5 has judged this finding as a very unclear comment and advised that more details should be included in it as e-commerce has an extensive functionality which needs to be particularised.

6.3 E-commerce is the most successful and well-organized channel of information in Bangladesh.

Interviewee I5 says that e-commerce is a possible method for the substitute of financial activities within a business venture because it assists business activities to grow faster and more efficiently if properly implemented.

6.4 E-commerce is still not being used extensively in Bangladesh but it is today a most important source of service opportunities in Bangladesh.

Interviewee G3 says that there should be proper measurements taken for the sustainability of e-commerce industry in Bangladesh.

Interviewee G5 says that m-commerce is getting very popular in Bangladesh due to expanding mobile businesses.

Interviewee G1 says that it was true only 2 years ago but not now. Some of the popular e-commerce service providers include:

Kaymu.com	HungryNaki	ChalDal	Olx.com	CarHat
Bikroy.com	Ekhoni.com	CellBazer	Flipkut.com	vootbari.com

The annual turnover of Kaymu in 2014 was more than 100 crore taka and increasing, hungryNaki earned over 60 crore in the first year of their business last year selling fast food and restaurant food online. ChalDal is earning nearly 1 crore every month by selling all kinds of groceries including rice and lentil which is in their trade name. All of them are doing great business and Bangladesh is now transforming its traditional markets to online businesses. In Olx people can buy and sell anything and anything they want to buy or sell including old furniture. The matchmaking sites are also booming in their business and people now look for a prospective bride or groom in online matchmaking websites.

Interviewee S4 says

"University students sell second hand books on Facebook. This type of examples can be found in each and every sector of Bangladesh. The entrance of the internet made life comfortable in many ways: it enables Bangladeshi people to work at home while spending time with their family. In terms of adopting e-commerce, many large companies and small and medium enterprises (SMEs) in Bangladesh use e-commerce techniques such as web-based marketing and customer service, electronic transaction processing, inventory management, e-procurement systems, and email. The other side of the coin is rather unpleasant. Many of the large Bangladeshi business firms are yet to offer e-commerce activities. The government of Bangladesh is promoting the idea of 'Digital Bangladesh', but in reality 'digitizing' is not happening."

Interviewees S1 & S2 say

"The most of the e-commerce businesses present in Bangladesh are of C2C (Consumer to Consumer). The largest e-commerce website to date is www.clickbd.com. Through the introduction of CellBazaar, a mobile market space where the buyers and sellers exchange the products and services they sell or buy. Young generation is entering in e-commerce via mobile handsets. The sellers are able to sell or buy products by doing SMS."

6.5 In Bangladesh, there is not just one popular website which is extensively used for e-business.

Interviewee A1 says that in his opinion there some websites such as bikroy.com, bechakena.com those are quite popular among the young generation.

Interviewee A3 says that number of popular e-commerce websites is growing these days in Bangladesh.

The interviewees G1, G2, G3 say that there are so many popular websites which are extensively used for various online buying and selling. Like bikroy.com, ekhnei.com. ajkerdeal.com, shohoz.com etc.

Also Interviewee S8 did not agree with this finding and says that there are lots of popular e-commerce websites in Bangladesh now noted below.

http://www.realestatebazaar.com.bd	An online marketplace where the consumers can search and purchase flats or houses
http://bdplace.com	An online marketplace from where consumers can purchase electronic products
http://akhoni.com/dhaka	Provides the best online shopping deals in Bangladesh.
http://www.hutbazar.com	The fastest growing e-commerce sites in Bangladesh
http://www.dhakasharee.com	Wide collection of shares (Bangladeshi female traditional dress)
www.clickrbd.com	An online shopping-platform
www.hatbazaar.com	Online shopping mall in Bangladesh
www.webbangladesh.com	The Leading Web Hosting Provider of Bangladesh.
www.bdbazaar.com	online marketplace for buying and selling in Bangladesh
www.ekushyboimela.com	Online book shopping and e-shopping in Bangladesh

Interviewee S8 says that "ClickBD", an e-commerce website has over 3,00,000 active users trading clothing, jewellery, kitchen appliances, cars, real-estate, laptops, mobile phones to high-tech devices. The online company allows businesses and individuals to buy and sell products. The company aims to make e-commerce business possible for everyone to promote everywhere.

6.6 Ready-Made Garments (RMG) is a major field of the use of e-commerce in Bangladesh.

Interviewee G3 says that at present, mobile communication and internet are having a huge contribution on the economy of Bangladesh and garments, electrical devices, food and groceries are popular online shopping items in the country.

Interviewees I2 & I3 say that in Bangladesh B2B e-commerce has been in process and progress for years. The most important field of e-commerce is the Readymade Garments (RMG) sector. A accurate use of internet technology would be to right to use of The Bangladesh Garment Manufacturer Exporter Association's (BGMEA) website, which make available a list of member companies and key information regarding those firms.

6.7 In the past the communication system in Bangladesh was not very encouraging.

Interviewees I1, I3, G1-G7 say that the main reasons are lack of product sourcing, supply chain management, deliveries and online payment systems.

Interviewee A3 says that the above findings are only partly true, but IT infrastructure has boomed since last two years and now almost everyone in Bangladesh can access the broadband internet service from anywhere in the country via 3 mobile phone operators. Bangladesh is in 3G now and will launch 4G next year. Speed and internet is not a problem now and people can even have easy access to computer through almost 5600 government owned Digital Centres situated in every corner of the country. It is true that Bangladesh is not as good as Europe, USA or Korea in terms of internet speed but Bangladesh is now better than India, Pakistan and other countries in South East Asia with its IT infrastructure. Bangladesh has risen to third position in South East Asia, whereas China and Korea are better than Bangladesh in IT infrastructure. It is a great leap in just two years.

6.8 Reduced internet speed, the misuse of electronic devices are some fundamental reasons for the slow improvement in e-commerce.

Interviewee S3 & S4 say this finding is true. The internet is improving very slowly in Bangladesh.

Interviewee G1 says that short of internet facilities are the major obstacle in implementing e-commerce in Bangladesh. There is no point to apply and activate e-commerce operations without smooth internet facilities. Moreover, it is very important that broadband cost should in reasonable price and cable lines should be scientifically organized to support broadband.

Interviewee G3 says that the Bangladesh Government has launched several initiatives to increase internet speed.

Interviewee I5 says that 3G internet is available through mobile network operators. The Bangladesh Government has also implanted every district with fibre optics but since most Bangladeshi people live in villages, the mobile internet is more useful. At present only the district HQ and over 300 Sub district have fibre optics networks.

6.9 Online customer satisfaction and improved e-commerce is related and they present the biggest concern in Bangladesh.

Interviewee G1 says that customer satisfaction is very important for any e-commerce site that is not exceptionally big in Bangladesh.

Interviewee G3 says that efficient customer service will generate the trust factor for e-commerce customers.

Interviewee I4 says that in Bangladesh the purchaser rights should be protected though the Protection of Consumer Rights Act, 2009 on trade and commerce mechanisms, but in most of the cases the Consumer Rights Act is violated.

6.10 Many CEOs and/or MDs in Bangladeshi organisations are not in regular practice of e-mailing because of not being raised in the information age.

Interviewee S3 & S4 say that scenario has changed and still *changing day-by-day*. Physical meetings or appearance in workplaces is still more effective than emails.

6.11 Bangladeshi people are very community based people and frequently share their experiences with others via social media.

Some interviewees (I1, I2, I3, I4, I5, G1, G2, G3, G4, A2, A3) say that Bangladeshi population like to share their experiences with one another.

Interviewee G3 says that social media is not going to have that much impact on e-commerce, it should be more about how open social medias are about buying products online without physically checking.

6.12 The private sector and the public sector in Bangladesh can make significant progress in secure e-commerce promotion through its industry association.

Some interviewees (I1, I2, I3, I4, I5, G1, G2, G3, G4, A2, A3) say that both private and public sectors need to contribute in e-commerce growth.

6.13 In Bangladesh there is high obstacles in use of e-commerce.

The interviewee A3 says that security can be an issue, but there are enormous opportunities for e-commerce, even e-commerce giants like e-Bay because of the population. Although, in his opinion, E-bay needs to have a local strategic partner in Bangladesh.

The interviewees G1, G2, G3 say that transport and delivery are prime concerns and the Bangladesh Government taking the initiative to overcome the barriers to e-commerce.

Interviewee I2 says that the achievement of e-commerce in the energy sector is yet to kick-off in Bangladesh. Because the financial systems of energy sector are still being managed by the Audit and Accounts department of Bangladesh Government.

6.14 The Bangladesh Telegraph and Telephone Board (BTTB) is the only government provider and enjoys control in the provision basic telephone connections.

Interviewee G1 says there are 3G networks are available nationwide these days and that helps in using wireless broadband.

Interviewee A3 says that there are three major fibre optic network operators in Bangladesh where BTCL (it was previously known as BTTB) is just one of them and the other two are private operators. Fibre@home (company name) appears to be the best service provider at present. Fiber optic network operators are now taking over most of the BTTCL's customers through better service. BTTCL is operating mainly in sub district's now because the other two private operators do not have Sub district service. This is because it is not very profitable for them.

6.15 The Bangladesh government's role is to pave the way for the useful application and operation of the current technology.

Interviewee G1 says that the Bangladesh Government and public sectors should take more initiative. However, the private sector moves faster than public sectors.

6.16 Development of the e-commerce flow in Bangladesh requires proper policy action and best practice to activate and promote the e-commerce system.

All the interviewees fully agreed with this finding.

6.17 Bangladeshi standards in e-payment systems are not as sophisticated as those in more developed economies and this affects smooth running on a national level.

Interviewee A3 sat that the matter is not correct but e-payment systems are of low standard. Most of the widely known e-payment systems are brought from overseas and used after customization. For e.g., bKash, Bank cards (Brac bank, Dutch Bangla Bank Limited etc.). It should be used nationwide or e-payment usage should be increased.

Interviewee G1 says that now the e-payment system improving, the private banking sector is playing an important role in national and global e-payments.

144

Interviewee S8 says that the above finding is also not fully correct. Bangladesh does not have PayPal or similar international brand e-payment gateways but has bKash which is unique in Bangladesh and India where people are using this service because it is convenient especially when people do not have plastic payment cards or bank accounts. This is a mobile banking system through mobile phones and multi crore takas are transacted every month via bKash. This e-payment system is Bangladesh's own invention and as most of the people do not have plastic payment cards or bank accounts, a mobile can easily open a mobile phone account and use this for all kinds of e-transfer funds. It is really good to know that domestic aids such as a maid or servant or low income people are able to send their salary to their village via this e-payment gateway. So e-payment is not now a problem in Bangladesh.

6.18 The appropriate telecommunications and information infrastructure in Bangladesh does not exist to ensure suitable market access which is essential.

Interviewee G1 says:

> *"The telecommunication industry has improved in Bangladesh. Multiple wireless broadband networks are available."*

Interviewee S8 says:

> *"The number of mobile phone subscribers in Bangladesh as of April 2015 was 124.705 million, having risen from the February 2009 figure of 45.21 million. The telecommunication company affects the internet services directly. The number of internet users is increasing in Bangladesh. In 2000, the number of internet users was close to 30000, in 2015, it is close to 63,290 (users in million)."*

6.19 The Bangladeshi government has launched several initiatives to promote Bangladesh's e-commerce initiative.

Interviewee S3 & S4 agree:

> *"The Bangladesh Government should be effectively patronizing e-commerce and online service usage in the country."*

Finally, the researcher thanked everyone who participated in this e-commerce research thesis. The researcher thanked also the experts and companies who generously supported him. Without this support, this thesis would have remained just an idea or a dream.

CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

This chapter presents suggestions for employees, service industry and e-commerce solution companies, including small to mid-sized enterprises, for complete e-commerce privacy and security satisfaction. It outlines the research limitations and provides brief suggestions for further research.

E-commerce is a meaning of transport to boost e-trade in the national and the international business community. However, e- commerce is still in infancy in Bangladesh. Bangladesh should try to solve all the problems and develop a favourable environment for the development of e-commerce. For continuous growth of e-commerce, security and the privacy satisfaction need improvement. With the security and privacy satisfaction, the future of e-commerce will be very prosperous.

The e-commerce security & privacy success are purely on the basis of safe and secure operation of people, technology and strategies to pick up the pace up to advance cycles and increase profit margins. A model for determining the ESPS measure is mainly based on the Security and Privacy Factors of: human resource, technology, security, relationships, banking, ethics & law, and culture etc.

This research contains seven chapters with respective appendices and referenced section:

Chapter 1 This defines the character, research purpose and scope, research objectives, aims of the research, and presents valid reasons why the research needs significant to stakeholders. It also sets out the research questions in detail.

Chapter 2 The literature review discusses the key elements of previous and most recent status of comparative research and how it was used to present the examination and analyses concerning the e-commerce privacy and security satisfaction.

Chapter 3 This discusses the proposed research methodology approach and the methods to be adopted during the research project. It also explains the research model chosen, the strategies undertaken and the instruments for data collection. By checking the advantages and disadvantages of qualitative methodology, the qualitative method was accepted. This chapter

also explains about the data collection method such as in depth interviews. Consideration was given to the ethics surrounding this research and data analysis strategy.

Chapter 4 This focuses on the method of assessment design, focus groups, pilot project, qualitative in depth interviews and the data collection process. It also analyses the collected data and focuses and analyses the results of qualitative findings together with appropriate references. This chapter is critical to this study. This chapter is divided into sections and sub sections derived from the qualitative data. It highlights major features of the results and discusses them briefly with reference to the relevant literature.

Chapter 5 This is the core of the research project because it analyses and summarises the data collected in Chapter 4 It focuses on the qualitative outcomes supported by appropriate evidence; it focuses on the qualitative data generated through statistical information. This chapter, too, is divided into couple of sections and sub sections. The sub sections develop according to the key themes.

Chapter 6 This chapter is the conclusion of the research project. It summarises the key findings derived from Chapter 5 and proposes a set of recommendations.

7.1 Research Outcomes and Knowledge Contributions

This research aimed to analyse consumers' E-commerce security and privacy satisfaction in SMEs in Bangladesh. Accordingly, this research has contributed into the current knowledge domain in two ways:

1. Firstly, as per the primary research data analysis, the current issues and problems have been identified in the subject matter. In another words, the researcher of this study wanted to identify the issues currently exist in terms of E-commerce security and privacy satisfaction when SMEs use E-Commerce sites. The research findings have been summarised in Table 7.1; in the left hand side column "Identified Issues as per Research Findings" have been shown. This was the initial data analysis outcome of the research. These issues purely identified as per the primary research outcome. It is in addition to the secondary data findings.

2. Secondly, as per the primary and secondary data findings, research recommendations for solving these issues (at the left hand side column in Table-7.1) have been provided in the middle of the column in Table 7.1 and titled "Recommended Solutions as per Research Findings."

3. Thirdly, in the right hand side column, the recommend solutions have been identified to see whether they are purely new findings of this research, or they are parallel with the existence literature.

The left hand side and middle columns (Table 7.1) are new findings and contributions in the current knowledge domain. The right hand side column is the explanations of the nature of the research contribution. Detailed information and explanations are provided about these topics in the section 7.2.

Table 7.1 Research Findings and Contribution into the Current Knowledge Domain

Identified Issues as per Research Findings	Recommended Solutions as per Research Findings	Explanation of the Nature of Research Contribution
The Bangladesh government and people are not yet fully convinced of the use e-commerce in the business in order to achieve its aims.	The Bangladesh Government should establish high capacity fiber optic telecommunication backbone in all rural and countryside areas and the whole Bangladesh should be connected under fibre optic pillar for the fastest e-commerce infrastructure.	This is a brand new finding, not existed in the literature.
The use of electronic devices and practice of E-commerce are not frequent in Bangladesh people's daily life.	Bangladesh Government should inspire more actively to the local people and do exemption tax from electronic devices to do that. Bangladesh Government should do more frequent distribution of computers to educational institutions at rural areas.	This contribution/finding is similar/parallel to the literature review findings so the finding is verified.
E-commerce is an operative as a well-organized channel of information in Bangladesh and it is a possible mechanism for additional of economic activities within a	The overall cost of e-commerce, especially e-banking services is too high so cost should be minimized, service should be improved and features of e-banking	This is a brand new finding, not existed in the literature.

business enterprise.	should be increased.	
E-commerce is still not being used extensively in Bangladesh but it is today a main source of employment opportunities in Bangladesh.	All major and non-major companies, associations, chambers and the government offices should run own websites and should continue their business activities in the virtual world frequently.	This contribution/finding is similar/parallel to the literature review findings so the finding is verified.
In Bangladesh, there are not many popular websites which are used extensively for various online buying and selling.	All the web sites should be updated regularly with the information about the organization, and its products and services. Website security and privacy policy should be frequently updated and available to access.	This contribution/finding is similar/parallel to the literature review findings so the finding is verified.
The most important field of the use of e-commerce in Bangladesh is the Readymade Garments (RMG) sector.	Bangladesh government should provide adequate e-training to develop the manpower in Readymade Garments (RMG) sector.	This is a brand new finding, not existed in the literature.
At present, mobile contacts and networks are having an emerging impact on the Bangladesh economy.	Using Internet facility should be within reasonable cost in each area and people should have more knowledge in operating e-devices. Local, national and international based training facility should be available for the fastest processing.	This is a brand new finding, not existed in the literature.
One of the main reasons for the slow uptake of e-commerce in the past in Bangladesh is that the communication infrastructure was not very stable.	A legal framework in the communication infrastructure is must in necessity for a smooth e-commerce in Bangladesh.	This contribution/finding is similar/parallel to the literature review findings so the finding is verified.
The slow speed of the internet, the misuse of electronic devices is some vital reasons for the slow improvement in e-commerce.	General people in Bangladesh should be expertise and skilful with dealing internet access and use of electronic devices.	This contribution/finding is similar/parallel to the literature review findings so the finding is verified.
Customer satisfaction with online and improved e-commerce is inter related and one of the biggest concerns	Bangladesh government and police force should work more actively against fraudulence, lack and	This is a brand new finding, not existed in the literature.

in Bangladesh.	limitation of regulation of law to get positive output in the local e-commerce sector to achieve more customer satisfaction.	
Many CEOs and/or MDs in Bangladeshi organisations do not access e-mail for the straightforward reason that they were not raised with the modern technology.	Every email communication should have some desirable properties like validity, confidentially, honesty. People should be ICT educated in Bangladesh at minimum standard level. So, people will break the old-fashioned way of communication process and always hold a positive awareness regarding e-commerce.	This is a brand new finding, not existed in the literature.
The private sector and the public sector in Bangladesh can make significant progress in their secure e-commerce push through business associations.	Each of the small to midsized businesses should be responsible for supporting the prime values, which require compliance, law and ethics in society.	This is a brand new finding, not existed in the literature.
The Bangladesh Telephone and Cable Limited (BTCL) is a government provider enjoys a monopoly in providing basic telephone connections.	BTCL should operate network actively so that the corporate users can connect banks and major business institutions. It is suitable for e-banking and e-commerce, in the sense of data transfer and price.	This is a brand new finding, not existed in the literature.
The Bangladesh government has a critical role in paving the way for the practical implementation and utilization of the current technology.	Every transaction should have some desirable properties like validity, confidentially, honesty and not reusable.	This is a brand new finding, not existed in the literature.
Development of the e-commerce flow in Bangladesh requires appropriate policy actions to enable and encourage e-commerce systems.	More revisions and updates are required for the below acts: The Imports and Exports (Control) Act, The Customs Act and The Foreign Exchange (Regulation) Act. To keep pace with the new era of e-commerce and globalisation, Bangladesh's	This is a brand new finding, not existed in the literature.

	legal framework must ensure legislative, judicial and administrative processes. Bangladesh Government should provide agenda for e-commerce, so that privacy rights, intellectual property, and fund prevention can be taken care of.	
Bangladeshi standards in e-payment systems are not fully developed and implemented on a national level, and are not well-matched on a worldwide level.	VoIP and private international gateway for data and voice should allowed in each area. E-commerce can never be organized without proper establishment of an Electronic Fund Transfer (EFT) Gateway and a Credit Card Gateway (CCG). They will speed up the transactions among banks and other financial institutions. This sort of infrastructure needs to be implemented on the highest priority basis everywhere in Bangladesh.	This contribution/finding is similar/parallel to the literature review findings so the finding is verified.
Privacy and security satisfaction in e-commerce are the biggest concerns for Bangladesh. Privacy, intellectual property safety and security are all major questions to be confronted when breaking into new frontiers of "traditional" government.	Proper understanding among the individuals and the organizations is essential for the growth of e-commerce in Bangladesh. Bangladesh government should emphasise more on ICT infrastructure, waiving taxes on electronic devices to accelerate prospects of e-commerce in Bangladesh.	This contribution/finding is similar/parallel to the literature review findings so the finding is verified.
The appropriate telecommunications and information infrastructure in Bangladesh does not exist to ensure the necessary suitable market access.	E-commerce sector purely depends on telecommunication and Internet services. So Bangladesh government should develop the National ICT policy in each sector. IT (Electronic Signature) Acts should immediately be	This contribution/finding is similar/parallel to the literature review findings so the finding is verified.

	implemented.	
The Bangladeshi government has launched several initiatives to promote Bangladesh's e-commerce initiative.	Bangladesh Government should implement the cyber laws to make sure appropriate security about customers' information (i.e. Credit card number)	This is a brand new finding, not existed in the literature.

These research results (as shown on the Table 7.1) will help Bangladeshi small to midsized enterprises and e-commerce solution companies by:

❖ Permitting initiatives to use secure e-commerce to decide the usefulness and efficiency of those systems in order to develop

❖ Permitting enterprises to agree to safe and secure e-commerce systems in order to put into practice those systems.

7.2 Recommendations

For achieving the best possible results for e-commerce, the researcher and interview participants offer the following recommendations in the field of e-commerce in Bangladesh.

7.2.1 Fibre optic connection in Bangladesh and e-commerce infrastructure

Bangladesh already connected with SEA-ME-WE-4 Submarine cable and it is playing an important role for implementation of National ILDTS & ICT Policies to develop a good speed broadband internet in Bangladesh which helps for smooth e-commerce.

Table 7.2: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
The whole Bangladesh should be connected under fibre optic pillar for e-commerce infrastructure	Participants G1, G2, G3, A1, A3, A4
Bangladesh Government should establish high capacity fiber optic telecommunication backbone in all areas	Participants I1, I2, I3 & G1, G2, G3

The connectivity through submarine cable should immediately be established in all areas	Participants I1, I2, I3 & G1, G2, G3
The fiber optic cable laid along railway tract should be further utilized	Participants I1, I2, I3 & G1, G2, G3
Bangladesh Government should do exemption tax from Computer items	Participants I1, I2, I3 & G1, G2, G3
Bangladesh Government should do more frequent distribution of computers to schools at rural areas	Participants I1, I2, I3 & G1, G2, G3
Bangladesh Government should take necessary steps of computerization of government offices	Participants I1, I2, I3 & G1, G2, G3
It is the best time to install third submarine cable	Participants I1, I2, I3 & G1, G2, G3

7.2.2 The e-commerce segment depends on telecommunication and internet services.

The Bangladesh government should do the best practice of National ICT policy quickly. Bangladesh has recently 3G internet connections implemented in almost all the country except some hilly area. Also Smartphone has recently started to rollout in Bangladesh However, Bangladesh is still in early stages for all kinds of e-commerce and connectivity and internet speed are the biggest concern. In addition, the Bangladesh government has recently introduced the "National Information and Communication Technology (ICT) Policy".

Table 7.3: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	**Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)**
Using Internet facility should be less costly and people should have more knowledge in operating computers.	Participants I1, I3, I4, G1, G2, G3, A1, A3, A4
Internet cost should be less for e-banking and e-commerce.	Participants I1, I3, I4, G1, G2, G3, A1, A3, A4

7.2.3 The Bangladesh Government should provide lawful context for e-commerce.

Bangladesh is still lagging behind other countries, but a legal framework is needed for a smooth e-commerce. However, in Bangladesh the e-commerce sector has grown speedily in the last 2 years. It is now the time to provide a legal framework for this sector and to provide proper guidance from government authorities. Recently the Payza and Paypal payment system are integrated to the private banking system. This is a good sign for the sector. The Bangladesh Government should provide a framework for e-commerce, so national and international businesses are permissible to increase opportunities and rights can be protected.

Table 7.4: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
A legal framework is must in necessity for a smooth e-commerce in Bangladesh.	Participants S1, S2, S3, S4, S5 and Participants G1, G2, G3
The cost of e-commerce, especially e-banking services is too high so cost should be minimized, service should be improved and features of e-banking should be increased.	Participants I1, I3, I4, G1, G2, G3, A1, A3, A4
Bangladesh Government including with the general people should solve all the environment problems and also try to develop favourable environment to develop e-commerce.	Participants I1, I3, I4, G1, G2, G3, A1, A3, A4

7.2.4 IT experts in Bangladesh should improve software for e-banking system.

Banking software is one of the most critical computer applications to be used in real life. It is highly risky in Bangladesh to build this without proper expertise and experience. There are a few companies that have started developing local mobile finance services (more popular than banking card systems in Bangladesh). Some IT experts in Bangladesh are currently working on that. They not only create their own software, but also design software for banks and

specialist businesses in the USA, Europe and other developed countries. The Bangladesh software industry turns over billions of dollars. Bangladesh is one of the largest competitors of software and is growing to become the highest foreign currency earning sector beating the garments industry.

In the e-commerce sector, data security is the prime concern for in-house software development or sourcing. Security should be the prime concern for growing customer confidence to this system.

Table 7.5: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
IT people in Bangladesh should be expertise and experienced with dealing in house software for banking system.	Participants I1, I2, I3 and Participants G1, G2, G3
Private Commercial Banks (PCBs) and Foreign Commercial Banks (FCBs) in Bangladesh should offer unlimited internet banking service.	Participants I1, I3, I4, G1, G2, G3, A1, A3, A4
Bangladesh government has to work smartly against fraudulence, lack and limitation of regulation of law to get positive output in the local e-banking sector.	Participants I1, I2, I3 and Participants A1, A3 & A4
All banks in Bangladesh should offer any branch banking facilities through their respective bank online network that provided facilities like online transaction; online payment, fund transfer, cash withdrawal, cash deposit, account statement, loan repayment.	Participants I1, I3, I4, G1, G2, G3, A1, A3, A4
Telephone banking services widened not enough in daily banking activities of Bangladesh. Limited banks provide telephone banking services. The services should be more inaccessible through telephone banking in Bangladesh.	Participants I1, I3, I4, G1, G2, G3, A1, A3, A4

7.2.5 BTTB (currently BTCL) should operate a wide-ranging set-up so that business users can connect banks and business organizations.

The connection lines provided by the BTCL, the governing body of Tele-communication in Bangladesh are appropriate for e-banking and e-business, incorporating consistent data transfer and appropriate prices. The connection lines provided by the BTCL are appropriate for e-banking and e-business, in the sense of consistent data transfer and appropriate pricing. BTCL has two more private competitors that are gradually taking up the whole ISP business and may wipe out BTCL from all the towns in Bangladesh. The private ISP service is providing ideal services which are helping e-business to flourish. It appears that in just a few years, everyone will be buying everything online just like they do in the developing countries. The research shows that the government ISP service should provide better and improved services.

Table 7.6: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	**Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)**
BTCL should operate network so that the corporate users can connect banks and major business institutions. It is suitable for e-banking and e-commerce, in the sense of data transfer and price.	Participants I1, I3, I4, G1, G2, G3, A1, A3, A4
Bangladesh government ISP service should provide better and improved internet services.	Participants I1, I2, I3 and Participants A1, A3 & A4

7.2.6 Every business should have essential resources like legitimacy, confidentiality, reliability and be eco-friendly.

Bangladeshi people can buy from overseas and pay using Visa/Master cards if the online shopping site has the option. There are still issues in privacy and confidentiality with wire transaction of funds. This has culminated in Bangladesh being faced many fraud or security

problems involving fund transfers. This is an opening for Bangladesh to implement more barriers to malpractice in e-transactions.

Table 7.7: Summary of Broad Recommendations by Interview Participants corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
Every transaction should have some desirable properties like validity, confidentially, honesty and not reusable.	Participants I1, I2, I3 and Participants A1, A3 & A4
All people should be educated in Bangladesh. So, people will break the old-fashioned way of banking and always hold a positive awareness regarding e-commerce.	Participants I1, I3, I4, G1, G2, G3, A1, A3, A4
Pricing is an important issue for standard products. Customers compare products available on the Internet and usually buy the lowest price offerings. It is very necessary to offer low prices to encourage consumers to shop online.	Participants G1, G2, G3, G4 & G5
Each business should have the highest integrity and maintain legendary customer service.	Participants G1, G2, G3, G4 & G5
Each of the businesses should be responsible for supporting the prime values, which require compliance, law and ethics.	Participants G1, G2, G3, G4 & G5
Business always should treat each customer with respect, humanity and dignity.	Participants G1, G2, G3, G4 & G5
Business should take major responsibility for company's mission and acting ethically in all situations.	Participants G1, G2, G3, G4 & G5

7.2.7 e-commerce services should be standardized.

E- commerce services should be standardized so that the customer is familiar with the procedure. It is recommended that the Bangladesh Government should drive the banking sectors to activate and run the online operations within timeframe.

Most of the Bangladeshi banks including the ancient Sonali Bank are providing online services and online money transfers even in their village branches. Bangladeshi banks are trying to maintain high standards to safeguard all their transactions. All banks, including rural and village areas should maintain this standard.

Table 7.8: Summary of Broad Recommendations by Interview Participants corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
E-commerce services should be standardized.	Participants I1, I2, I3 and Participants S3 & S4
All major and non-major companies, associations, chambers and the government offices should run own websites.	Participants I1, I2, I3 and Participants S3 & S4
All the web sites should be updated regularly with the information about the organization, and its products and services.	Participants I1, I2, I3 and Participants S3 & S4
Financial transactions should be completed in every site, not few sites.	Participants I1, I2, I3 and Participants S3 & S4
Adequate telecom facilities and Internet usage should be very high	Participants I1, I2, I3 and Participants S3 & S4
Legal framework for completing an e-business or financial payment system should be appropriate.	Participants I1, I2, I3 and Participants S3 & S4
E-commerce transactions should be very high.	Participants I1, I2, I3 and Participants S3 & S4

For e-commerce, Internet banking should be present in every business sector of Bangladesh which included account balance check, balance, opening bank account, exchange rate, utility bills payment, account details, loan approval and payment, lost card (debit/credit) reporting, pay credit card dues, view bank statement etc.	Participants G1, G2, G3
Banks' employees in Bangladesh should hold a positive outlook to e-banking.	Participants G1, G2, G3, G4 & G5

7.2.8 Provide enough training and technical support to develop the skilled manpower needed.

Bangladesh is on par with developed countries for HR development for the IT industry. However, adequate training and technical support should be part of the training in the sub districts and villages.

Table 7.9: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
Bangladesh government should provide adequate training to develop the manpower.	Participants G1, G2, G3
Cyber training should be substantially encouraged in nation through formal and non-formal means.	Participants S5 & S6
Bangladesh Government and private organizations' program should be appreciated and encouraged to launch cyber cafes to allow wide access to e-commerce.	Participants G1, G2, G3
Bangladesh Government should institute educational institution to create IT professionals to support e-commerce in Bangladesh.	Participants I1, I2, I3 and Participants S3 & S4
Bangladesh Government, and the local banks should educate and inform customers on the effectiveness of E-banking. This will increase the confidence of	Participants G1, G2, G3

customers.	
Bangladesh Bank should adopt latest technology, have efficiency and adequate information of bank managing about the e-banking, knowledge of intentional plan to gain and retain market.	Participants G1, G2, G3, G4 & G5
The average per capita income in Bangladesh should be high and outsourcing should be cheap. So people will have the capability to buy computer, laptops, computer accessories, Internet, smart phone.	Participants G1, G2, G3, G4 & G5

7.2.9 Appropriate legal framework in Bangladesh.

Bangladesh still needs to work on a legal framework.

Table 7.10: Summary of Broad Recommendations by Interview Participants corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
More revisions and updates are required for the below acts: The Imports and Exports (Control) Act, The Customs Act and The Foreign Exchange (Regulation) Act	Participants S3 & S4
To keep pace with the new era of e-commerce and globalisation, Bangladesh's legal framework must ensure legislative, judicial and administrative processes.	Participants G1, G2, G3
Bangladesh Government should provide agenda for e-commerce, so that privacy rights, intellectual property, and fund prevention can be taken care of.	Participants I1, I2, I3 and Participants S3 & S4

7.2.10 Proper infrastructure development required in Bangladesh.

Bangladesh is still in progress as the demand of improvement is endless.

Table 7.11: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
VoIP and private international gateway for data and voice should allowed	Participants S1, S2, S3, S4 S5
E-commerce can never be organized without proper establishment of an Electronic Fund Transfer (EFT) Gateway and a Credit Card Gateway (CCG). They will speed up the transactions among banks and other financial institutions. This sort of infrastructure needs to be implemented on the highest priority basis everywhere in Bangladesh.	Participants G1, G2, G3
Proper understanding among the individuals and the organizations is essential for the growth of e-commerce in Bangladesh.	Participants S1, S2, S3, S4 S5 & Participants G1, G2, G3
Telecommunication services have to be very strong, communication bandwidth should be much stronger, software should be available and accessible in Bangladesh and hardware for establishing ATM booth should be less costly.	Participants G1, G2, G3
Bangladesh government should emphasise more on ICT infrastructure, waiving taxes on electronic devices to accelerate prospects of e-commerce in Bangladesh.	Participants S1, S2, S3, S4 S5

7.2.11 The Bangladesh Government should do best practice of cyber laws to make certain about proper security about customers' private and confidential information.

This is already implemented but the level of individual monitoring is not satisfactory.

Table 7.12: Summary of Broad Recommendations by Interview Participants

corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
In order to e-commerce development, the security and the privacy issues need to be improved.	Participants S3, S4
In Bangladesh, technical securities should be very strong to avoid hacking at any time.	Participants I1, I2, I3
E-commerce sector purely depends on telecommunication and Internet services. So Bangladesh government should develop the National ICT policy in each sector.	Participants I1, I2, I3, Participants G1, G2, G3 & Participants S1, S2
IT (Electronic Signature) Acts should immediately be implemented	Participants S3, S4
BTTL-Bangladesh Telecommunications Company Ltd should be privatize	Participants I1, I2, I3, Participants G1, G2, G3 & Participants S1, S2
BTRC- Bangladesh Telecommunication Regulatory Commission should be allowed to work without government influence and control	Participants I1, I2, I3, Participants G1, G2, G3 & Participants S1, S2
Bangladesh Government should implement the cyber laws to make sure appropriate security about customers' information (i.e. Credit card number)	Participants S3, S4

7.2.12 Bangladesh Government should build educational institution to create efficient IT professionals to support e- commerce in Bangladesh.

Bangladesh now has many private universities and institutions where universities are producing IT professionals each year. Few Bangladeshi private universities have started to offer e-commerce subject as a part of their Bachelor of Business Administration (BBA)

program. All other government and private universities should start this course as soon as possible because the levels of e-commerce knowledge and expert application are still poor.

Table 7.13: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
The present government should recognize e-commerce as thrust sector	Participants I1, I2, I3, Participants G1, G2, G3 & Participants S3, S4
Administrative assurance to improve governance and non-government strength is mandatory for prosperous application of e-commerce.	Participants I1, I2, I3, Participants G1, G2, G3 & Participants S1, S2

7.2.13 Developing of integrated e- commerce software.

E-commerce is an online market with new prospects and potential in Bangladesh. Speed is mandatory to keep up with the demand.

Table 7.14: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
Bangladesh should develop in house software for the banking system which will be cost effective.	Participants I1, I2, I3, Participants G1, G2, G3 & Participants S3, S4
A large number of bright students and entrepreneurs can work on it with great interest.	Participants I1, I2, I3 & Participants S6, S7
Local Banking software should be well developed and have better user-friendliness within Bangladesh and outside the country.	Participants I1, I2, I3, Participants G1, G2, G3 & Participants S3, S4

	Participants I1, I2, I3, Participants G1, G2, G3 & Participants S3, S4
Not only equipment but also training is necessary for maintaining the software	

7.2.14 The Bangladesh Government has combined with other local banks to provide adequate information to customers on the effectiveness of e-commerce.

It is not only the Bangladesh government's responsibility to promote a business sector in the country. However, the Bangladesh government has taken the initiative to encourage online shopping among the public recently, such as making online shopping in Bangladesh is VAT free.

The demand itself creates a new business and this, in turn, attracts customers. Advertising for building up customers confidence is necessary because Bangladeshi customers are already interested. The peoples' confidence levels of e-commerce business in Bangladesh need to increase in order to increase the customer base.

Table 7.15: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
To do much progression of e-business in Bangladesh, mass awareness should be practical and necessary. There should not be any problem of increasing trained and skilled people, lack of industrial awareness among the bank workers and customers should be filled. Without preparing skilled people and designing, implementing and monitoring bank's information system Bangladesh cannot be able to compete in global market and successful e-business cannot be achievable.	Participants S6, S7 & Participants G1, G2, G3

7.2.15 The clearing house operation market participants in Bangladesh should be a fully automated system.

This is fully automated now. The clearing house has been operating online for more than a year. This fully automated system is governed and run by the Bangladesh bank and it is mandatory for all other major banks have to run their clearing business online. Village banks and those in sub districts should put this high on their agenda.

Table 7.16: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
The clearing house operation and market participants in Bangladesh should be fully automated system.	Participants I1, I2, I3 & Participants G1, G2, G3
Software available in the banking sector should be suitable	Participants I1, I2, I3 & Participants G1, G2, G3

7.2.16 Banks should have enough research and technical background.

All participants agreed with this suggestion. Every bank these days has an IT unit or wing to support their online "mandatory" transactions Comprehensive research would underpin this support.

Table 7.17: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
Banks in Bangladesh should have adequate research and technological background in this regard.	Participants I1, I2, I3 & Participants A4, I5
E-bank users use ATMs in most cases, the banks should	Participants I1, I2, I3 & Participants A4, I5

highlight on smooth service.	
E-commerce and online banking should user friendly.	
Though there is a huge success, very limited banks offer mobile banking in Bangladesh, this sector needs to be improved significantly.	

7.2.17 Bank can apply regular and common fees to increase the market size on the e-commerce products.

For over a year the majority of the main banks in Bangladesh have already been charging for their online services and online clearing. This service for all banks would build customer confidence.

Table 7.18: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
Bank in Bangladesh can charge normal profit to enlarge the market size on the e- banking products.	Participants I1, I2, I3 & Participants G1, G2, G3

7.2.18 The political loyalty to progress network and institutional strength is necessary for rich application of e-banking in Bangladesh.

Table 7.19: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
Numbers of cyber café should be increased in every area for e-banking purpose and banking facilities.	Participants I1, I2, I3 & Participants S3 & S4

7.2.19 As e-bank users mostly use ATMs, the banks should highlight the provision of non-disruptive service.

The banks are already providing non-disruptive online services/transactions without any significant political interference. Customer demand is driving them to provide this service so the potential users think any political interference will rather complicate the situation or open windows for corruption.

The full power and potential of e-commerce has not been unleashed yet in Bangladesh. It is like a sleeping giant. Within just one decade, e-commerce will emerge as a bigger sector compared to the mobile phone and computer market. With the growing popularity of e-commerce, Bangladesh will see that the idea of e-business spreads to every sector in the country. Without e-commerce being a part of daily life for everyone, the dream of achieving Digital Bangladesh by 2021 will remain incomplete. The Digital Bangladesh vision of the current government is positive. To bring a better standard of living to ordinary Bangladesh people through ICT, e-commerce is the right tool for achieving this goal and this sector must receive Bangladesh government support.

Table 7.20: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
All government and private banks in Bangladesh should be the followers of the ATM "Automated Teller Machine" to run e-business smoothly.	Participants I1, I2, I3 & Participants G1, G2, G3

7.2.20 The internet service fee in Bangladesh, mobile costs for main mobile companies in Bangladesh still quite high and it needs to be resolved.

Table 7.21: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
Bangladesh Government should accept steps for cutting internet connection and service fees.	Participant A1 & Participants G1, G2, G3

7.2.21 E-payment methods, inconsistency in payment gateways and unavailability of credit cards are obstacles to the development of e-commerce, especially in Bangladesh where credit disputes also still remain.

Table 7.22: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
Business in Bangladesh has to run an online payment gateway for Bangladesh Market which enables e-commerce businesses to process online transaction securely!	Participants I1, I2, I3 & Participants A1, A3 & A4
People should get online faster with expert e-commerce tips and 24hours/7days support they can rely on.	Participants A1, A3 & A4
Business can add **extra security** to customers' web shop by allowing downloading an **SSL certificate** from web site. These certificates are a great way to increase client confidence and satisfaction at the time of e-commerce access.	Participants I1, I2, I3 & Participants A1, A3 & A4
All business should give customers the option to send an **invoice** to both business and the customer through email. Both parties will be notified of a successful payment procedure and can keep record of payments.	Participants A1, A3 & A4
All business should give customers the ability to refund any transactions in case something goes wrong.	Participants I1, I2, I3 & Participants A1, A3 & A4

With the perfect blend of customisability, security, and convenience, customers should find a better procedure of online payment.	Participants A1, A3 & A4

7.2.22 Majority Bangladesh inhabitants do not get the constitutional rights due to insufficient mobile network coverage. Further issues such as poor communication, online education, short procurement power are some of the obvious challenges in Bangladesh. Government and private organisations should come together to solve these issues soon.

Table 7.23: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
Bangladesh government should invite individuals and private sectors to lengthen broadband joining in rural areas under private enterprises. In that connection, NGOs can involve and work more actively.	Participants I1, I2, I3 & Participants S3 & S4

7.2.23 Organisations and consumers should improve products and services to better serve the arrival of e-shoppers in Bangladesh. Research indicates that online product excellence as the important failure issue followed by vague item description and delivery interruption.

Table 7.24: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
Online business must be taken to ensure that Bangladesh can escape from online retailing failures.	Participants S3 & S4 & Participants G1, G2, G3
On time shipments and easy returns rate are the key factors that quick shoppers to endorse the online	Participants I1, I2, I3 & Participants S3 & S4

retailer.	
Proactive communication regarding product delivery time and consistent distribution are most important characteristics to an optimistic customer understanding, company should take extra care of it.	Participants I1, I2, I3 & Participants S3 & S4

7.2.24 The buyer and seller group need to build trust, maintain quality and display proper information in the e-commerce market. Masses of people in Bangladesh do e-shopping for overall convenience, and, in many cases, trust was damaged due to poor product features, interval in release, and variations between product report and the actual merchandise. Confidence on the brand has been acknowledged as the key achievement reason by many researchers over the years nevertheless of the business type, the market size and the customer culture. Consumers in Bangladesh want to build connections with strong trust with the trademark where they will buy again from.

Table 7.25: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	**Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)**
Shipping and delivery timing is important during check-out.	Participants I1, I2, I3 & Participants S1, S2, S3, S4.
The retailers should show the shipping costs, present how much more should be purchased regards to get free shipping, and give consumers the shipping time frame option.	Participants A1, A3 & A4
Business should always provide indication of delivery time stated and send e-mail or text alerts about the customers' delivery.	Participants S1, S2, S3, S4.
It is important to the customer is the feeling of control. This control they need to better their shipping experience.	Participants I1, I2, I3

	Participants I1, I2, I3 & Participants S1, S2, S3, S4.
Good experiences leads to repetition and recommendations for the retailers and customers. The poor experiences highlight hassles and the extra cost required. Retailers have to be very careful about that.	

7.2.25 Online shoppers are not very anxious about the price of products and services they accept. Only few e-shops do cheaper deals and offer lower prices than department stores. Continuous product and services development attract finance which needs to be covered by either assets or profits. Reducing prices to the basic lowest may leave a slight space for profit which may ultimately down service quality.

Table 7.26: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
Companies need to be careful about the pricing scheme because consumer is looking for accessibility through better product and services.	Participants I1, I2, I3

Table 7.27: Summary of Broad Recommendations by Interview Participants Corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
The Facebook shopping trend (F-commerce) in Bangladesh is increasing. However, the reduction rate is high too, especially poor delivery. The reason may be that businesses owners are not using reliable delivery services because online shopping is in its early stages of growth. Such services were not as common at the start of this research. Online businesses may find it difficult to attract reliable delivery partners initially, but the	Participants I1, I2, I3, I4, I5 & Participants G1, G2, G3

outcome is sustainable growth and benefits to both parties.	

Table 7.28: Summary of Broad Recommendations by Interview Participants corresponding to the Issues of Security and Privacy Satisfaction in Bangladeshi Small to Mid-sized Enterprises

Wide-ranging Recommendations by Participants	Knowledge Contributions (Participants have Significant Notes or Contributions to the Wide-ranging Recommendations)
Online stores (both website and Facebook) operating in Bangladesh never get internet connection without interruption for the use of Skype and Viber. It is understandable that consumers in Bangladesh are keen to use cost free number services. Thus, it is to the advantage of business owners to establish such services as social media for their customers	Participants I1, I2, I3, Participants I3, I4, G1, G2, G3, A2, A3, A5 and participants S1, S2, S3, S4.

7.3 Restrictions and Limitations of the Research Study

There are some constraints to be considered in this study; such as:

7.3.1 Point in time

In reality, every research project makes the planning process adhere to a strict time framework. Time is still a critical factor, so research objectives, interviews, feedback, collecting and analysing data must be planned meticulously.

7.3.2 Reply Level

A low reply level is another big issue. Non-responses, negative responses and invalid responses also use time set aside for analysis. Also, the extent of the interview, the type and/or interest of the respondent, the type of questions, the time of day or place, and whether respondents were informed about participation in the survey influence the response rate achieved.

7.3.3 Reply Errors or Unfairness

In the interview process, the respondent knows that the respondent is being studied; the information provided may not be valid insofar.

7.3.4 Dealing Open-Ended Questions

There are two issues involved in this process. Firstly, dealing out open-ended questions is more time consuming than the processing of closed questions. Secondly, it can generate multiple opinions.

7.3.5 Cost

This research is expected to gain the financial support of CQUniversity Australia research funding, government or university scholarship. This research is also endeavouring to obtain the support and co-operation of the Bangladesh Government.

There are some problems which create a barrier to the evolution of this research work such as:

- ❖ Failure to evaluate cited papers.
- ❖ Quoting unsuitable references and depending too much on less important sources.
- ❖ Failure to provide the proper background to summary the research questions.
- ❖ Failure to exactly present the theoretical and investigational offerings by other researchers.
- ❖ Failure to stay focused on the research questions and to develop an irrational and unlikely arrangement for the proposed research (Issues in research 2014).

7.4 Concluding Remarks

This research has examined the e-commerce security and privacy satisfaction in Bangladeshi small to mid-sized enterprises. Utilising the qualitative research method, the researcher has been able to gain insight into the enormity of the problems surrounding e-commerce. This has helped the researcher to collect and analyse all the information gathered. This research includes the literature review and the performance of e-commerce security and privacy

satisfaction in Bangladesh. The main substance of this thesis is the current situation of e-commerce security and privacy satisfaction in Bangladesh, the limitation and potentials of e-commerce security and privacy satisfaction, the ideas and knowledge of various groups of people in Bangladesh, government rules and policies concerning the e-commerce field based on the information generated from the field study.

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Appendices

Appendix 1: Categories of in-depth interviews

List of Interviewees	Categories of Interviewees	Interview Date	Duration
Interviewee A1	University Academic	16/03/2014	1Hour
Interviewee A2	University Academic	16/03/2014	1Hour
Interviewee A3	University Academic	16/03/2014	1Hour
Interviewee G1	Government Official	17/03/2014	1Hour
Interviewee G2	Government Official	17/03/2014	1Hour
Interviewee G3	Government Official	17/03/2014	1Hour
Interviewee G4	Government Official	18/03/2014	1Hour
Interviewee G5	Government Official	19/03/2014	1Hour
Interviewee I1	IT Experts	19/03/2014	1Hour
Interviewee I2	IT Experts	19/03/2014	1Hour
Interviewee I3	IT Experts	20/03/2014	1Hour
Interviewee I4	IT Experts	20/03/2014	1Hour
Interviewee I5	IT Experts	21/03/2014	1Hour
Interviewee I6	IT Experts	21/03/2014	1Hour
Interviewee I7	IT Experts	22/03/2014	1Hour
Interviewee S1	University Student	22/03/2014	1Hour
Interviewee S2	University Student	23/03/2014	1Hour
Interviewee S3	University Student	23/03/2014	1Hour
Interviewee S4	University Student	24/03/2014	1Hour
Interviewee S5	University Student	25/03/2014	1Hour
Interviewee S6	University Student	25/03/2014	1Hour
Interviewee S7-S11	University Student	26/03/2014	1Hour
Interviewee S12-S15	University Student	27/03/2014	1Hour

Appendix 2: Approval of National Ethic Application

Office of Research

CQUniversity AUSTRALIA

Secretary, Human Research Ethics Committee
Ph: 07 4923 2603
Fax: 07 4923 2600
Email: ethics@cqu.edu.au

Dr Ergun Gide and
Mr Shakir Karim
Sydney Campus

6 November 2013

Dear Dr Gide and Mr Karim

HUMAN RESEARCH ETHICS COMMITTEE ETHICAL APPROVAL PROJECT: H13/09-171 *ANALYSING BANGLADESHI CONSUMERS' E-COMMERCE SECURITY AND PRIVACY SATISFACTIONS IN SMALL TO MID-SIZED ENTERPRISES (SMES)*

The Human Research Ethics Committee is an approved institutional ethics committee constituted in accord with guidelines formulated by the National Health and Medical Research Council (NHMRC) and governed by policies and procedures consistent with principles as contained in publications such as the joint Universities Australia and NHMRC *Australian Code for the Responsible Conduct of Research*. This is available at http://www.nhmrc.gov.au/publications/synopses/_files/r39.pdf.

On 6 November 2013, the Chair of the Human Research Ethics Committee considered your application under the Low Risk Review Process. This letter confirms that your project has been granted approval under this process, pending ratification by the full committee at its December 2013 meeting.

The period of ethics approval will be from 6 November 2013 to 30 March 2015. The approval number is H13/09-171; please quote this number in all dealings with the Committee. HREC wishes you well with the undertaking of the project and looks forward to receiving the final report.

The standard conditions of approval for this research project are that:

(a) you conduct the research project strictly in accordance with the proposal submitted and granted ethics approval, including any amendments required to be made to the proposal by the Human Research Ethics Committee;

(b) you advise the Human Research Ethics Committee (email ethics@cqu.edu.au) immediately if any complaints are made, or expressions of concern are raised, or any other issue in relation to the project which may warrant review of ethics approval of the project. *(A written report detailing the adverse occurrence or unforeseen event must be submitted to the Committee Chair within one working day after the event.)*

(c) you make submission to the Human Research Ethics Committee for approval of any proposed variations or modifications to the approved project before making any such changes;

(d) you provide the Human Research Ethics Committee with a written "Annual Report" on each anniversary date of approval (for projects of greater than 12 months) and "Final Report" by no later than one (1) month after the approval expiry date; *(A copy of the reporting pro formas may be obtained from the Human Research Ethics Committee Secretary, Sue Evans please contact at the telephone or email given on the first page.)*

(e) you accept that the Human Research Ethics Committee reserves the right to conduct scheduled or random inspections to confirm that the project is being conducted in accordance to its approval. Inspections may include asking questions of the research team, inspecting all consent documents and records and being guided through any physical experiments associated with the project

(f) if the research project is discontinued, you advise the Committee in writing within five (5) working days of the discontinuation;

(g) A copy of the Statement of Findings is provided to the Human Research Ethics Committee when it is forwarded to participants.

Please note that failure to comply with the conditions of approval and the *National Statement on Ethical Conduct in Human Research* may result in withdrawal of approval for the project.

You are required to advise the Secretary in writing within five (5) working days if this project does not proceed for any reason. In the event that you require an extension of ethics approval for this project, please make written application in advance of the end-date of this approval. The research cannot continue beyond the end date of approval unless the Committee has granted an extension of ethics approval. Extensions of approval cannot be granted retrospectively. Should you need an extension but not apply for this before the end-date of the approval then a full new application for approval must be submitted to the Secretary for the Committee to consider.

The Human Research Ethics Committee wishes to support researchers in achieving positive research outcomes. If you have issues where the Human Research Ethics Committee may be of assistance or have any queries in relation to this approval please do not hesitate to contact the Secretary, Sue Evans or myself.

Yours sincerely,

Professor Phillip Ebrall
Chair, Human Research Ethics Committee

Cc: *Project file*

Approved

Appendix 3: Information Sheet and Consent Form of Interviewee participating in the Research Project

Information sheet

Dear Participants,

Thank you very much for your interest in the research on topic 'Analysing Bangladeshi Consumers' e-commerce Security and Privacy Satisfactions in Small to Mid-Sized Enterprises (SMEs)'. This project aims to develop a model of security in e-commerce for successful assessing e-commerce Security & Privacy Satisfaction - ESPS for service Small to Mid-Sized Enterprise - SMEs in Bangladesh. It will also bring about the identification of Security and Privacy Factors-SPFs for business approving e-commerce systems, in order to use them as standard presentation indicators supporting completeness for evaluating ESPS. The researcher will gather information about the issues which will help to understand e-commerce Security & Privacy Satisfaction in Bangladeshi Small to Mid-Sized Enterprises.

I also would like to notify you that this is an independent research where participants are completely voluntary. An interview session will take approximately 1-2 hours. The interviews will be conducted in your office or at the place of the interviewee's choosing either via telephone or in person. You may decline to answer any of the interview questions if you wish. Further, you may decide to withdraw from this interview at any time by advising me. The interviews will be recorded digitally with your permission and interviewees will be provided with paper copies of the final transcripts. Shortly after the interview has been completed, I will send you a transcript copy to confirm the accuracy of conversation.

As per CQUniversity policy, all the data and information will be kept safely for five years. The interviewees can request an interview transcript copy from the researcher, principal supervisor. Also the transcribers will have the full access of the transcripts. The data and information will be collected safely, data will be anonymous and confidential and no identification will be recorded.

If you agree to participate, please read the attached consent form that you are asked to complete before commencing the interview.

If you have any questions regarding this study, or would like additional information to assist you in reaching a decision about participation, you can contact me on below details.

Kind Regards,

Shakir Karim
Student ID: S0062487
RHD Student, CQUniversity Australia
Email: shakir.karim@cqumail.com

<div align="center">**Consent form**</div>

Research topic: 'Analysing Bangladeshi Consumers' e-commerce Security and Privacy Satisfactions in Small to Mid-Sized Enterprises (SMEs)'

I.......................................agree to participate in this research study.

An information sheet has been provided to me that I have read and clearly understood.

This sheet has clearly provided details about the purpose and nature of the study.

Any questions I have about the research have been answered to my satisfaction by the information sheet.

I am participating voluntarily.

I give permission for my interview to be tape-recorded.

I understand the possible inconveniences of participating in the study which have been already explained to me.

I understand that my participation or non participation in the research will not affect my academic standing or my employment.

I understand that I can withdraw from the study, without repercussions, at any time, whether before it starts or while I am participating.

I understand that all data and the information that I give will be kept confidential and anonymous.

I understand that all data will be used for CQUniversity publication and CQUniversity future research.

I understand the research findings will be included in the research publications on the project and this may include conferences and journal articles and other methods of distribution stated in the information sheet.

I understand that to preserve the anonymity and maintain confidentiality of participants that pretended name may be used in any publication.

I agree that I am providing informed consent to participate in this project.

Signature: Date:

Name:

Where relevant to the research project, please tick the box below:

	YES	NO
I wish to have a Plain English summary of research finding sent to me at the address or via email I provide below		

Postal address:
Email address:

Appendix 4: Paper Acceptance, 7th World Conference on Information Technology, 10-12 September 2016, Bali-Indonesia

7th WORLD CONFERENCE on INFORMATION TECHNOLOGY

HARRIS Hotel & Residences Conference Center, Sunset Road, Bali-Indonesia

September 10-12, 2016

Web: www.wcit.us, Email: wcit.info@gmail.com

29 July 2016

ABSTRACT ACCEPTANCE LETTER

Paper ID 23391

Dear Shakir Karim, Ergun Gide

I am pleased to inform you that your abstract titled "A Study to Analyse Bangladeshi Consumers' E-Commerce Security and Privacy Satisfactions in Small to Mid-Sized Enterprises (SMEs)" to the 7th World Conference on Information Technology after the peer review, has been selected for oral presentation.

Because of the abstract's originality, when the full paper is submitted, it will be considered for special issues which details are given below:

- The selected full papers will be published as special issue of Global journal on Information Technology (In review SCI-Expanded) and Global Journal on Computer Sciences (In review SCI-Expanded).

- The remain accepted full papers will be published as proceedings of Global Journal on Technology (ISSN:2147-5369) and can be retrieved from SPROC (www.sproc.org) database and also submitted to SCOPUS, EBSCO, Thomson Reuters Conference Proceedings Citation Index – CPCI (ISI Web of Science) for evaluation for inclusion in the list.

The conference registration has been started. Please visit this address to apply for registration and to benefit from early registration opportunities: http://www.awer-center.org/wcit/?page_id=30
If you have any questions or problems, please do not hesitate to contact us, preferably by e-mail, quoting your paper ID 23391 in all correspondence.
Yours sincerely,

Nazlı Uzunboylu
WCIT-2016 Secretariat
wcit.info@gmail.com

Organized by Near East University, University of Kyrenia, Academic World Education and Research Center & Association for Human, Science, Natura, Education and Technology

195

Appendix 5: Best Paper Award, 7th World Conference on Information Technology, 10-12 September 2016, Bali-Indonesia
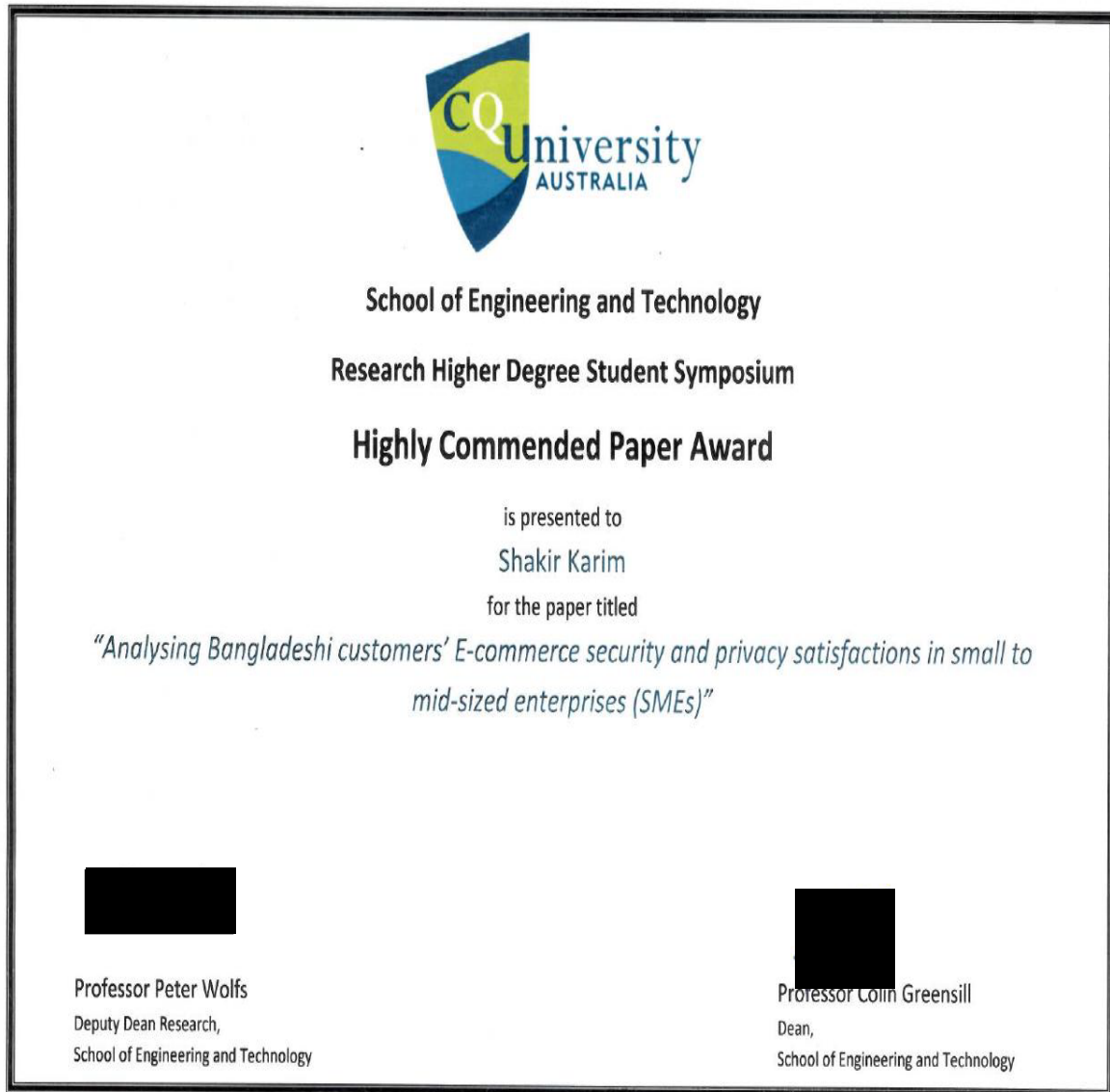
Appendix 6: Participation Certificate, 7ᵗʰ World Conference on Information Technology, 10-12 September 2016, Bali-Indonesia
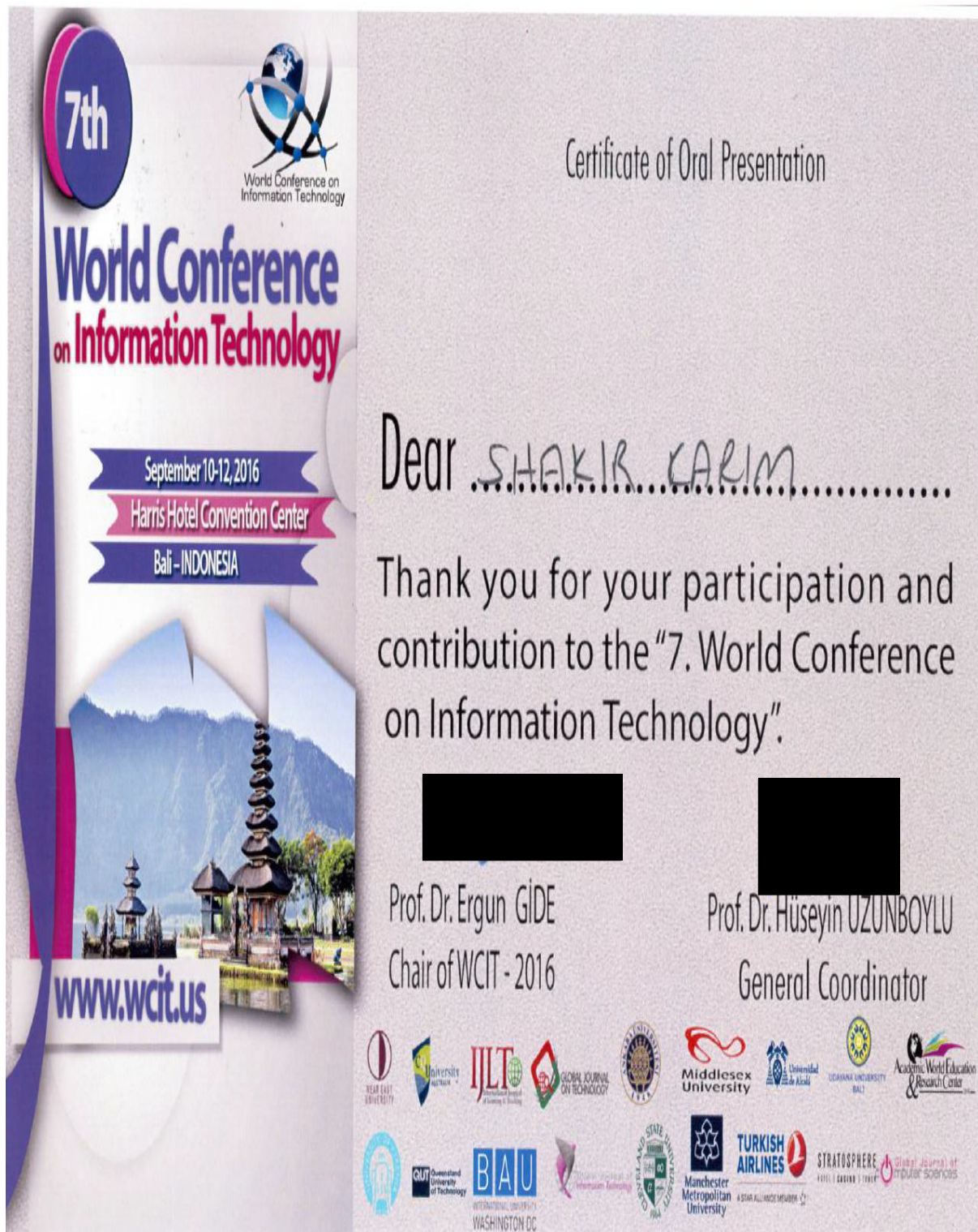
Appendix 7: Highly Commended Paper Award, Research Higher Degree Student Symposium, School of Engineering and Technology, CQUniversity Australia, 12-13 October 2015, Rockhampton, QLD-Australia

School of Engineering and Technology

Research Higher Degree Student Symposium

Highly Commended Paper Award

is presented to

Shakir Karim

for the paper titled

"Analysing Bangladeshi customers' E-commerce security and privacy satisfactions in small to mid-sized enterprises (SMEs)"

Professor Peter Wolfs
Deputy Dean Research,
School of Engineering and Technology

Professor Colin Greensill
Dean,
School of Engineering and Technology

Appendix 8: Paper Acceptance, International Conference on Engineering and Technology, 0-11 November 2016, London-UK

INTERNATIONAL JOURNAL
OF ARTS AND SCIENCES

55 Farm Drive
Cumberland, Rhode Island 02864-3565
USA

U6K896

September 10, 2016

Mr Shakir Karim

Australia

Dear Shakir Karim,

RESEARCH TITLE
The Challenges and Opportunities of E-commerce Adoption for SMEs in Bangladesh

AUTHOR/S:	Shakir Karim and Ergun Gide
RESEARCH ID:	U6K896
REGISTRATION FEE:	$375 (if one registers for the full conference); $575 (if two co-authors register)
REGISTRATION DEADLINE:	October 1, 2016

I am pleased to inform you that your submission was subjected to a double-blind review process, and the reviewers accepted the above for presentation at the International Journal of Arts & Sciences' (IJAS) *International Conference for Engineering and Technology* which will be held at the University of London Union, Malet Street, London WC1E 7HY, UK. This double-blind reviewed conference will run from 8 to 11 November 2016.

The conference follows the comprehensive TED format at http://www.ted.com. The program from our latest conference on the Harvard University campus will give you an idea of what to expect from our academic tracks lined up for the University of London: https://ijas2016harvard.sched.org/.

For your submission to appear in one of our refereed ISSN-numbered publications, please format your work in line with this template http://www.internationaljournal.org/template.html. There is no limit on the number of pages. Email your properly formatted abstract/paper only to ManuscriptSubmission@gmail.com. Please make sure that it is in Microsoft Word and that the above Research ID is included in all your future emails' Subject line.

The registration fee does not include food and lodging.

In my teenage years, my first study abroad experience was in London where I fell in love with the land, its culture and the seafarers that fill its history books. Today, as a European professor at Central Connecticut State University, I continue to witness firsthand the benefits of international education emanating from study abroad programs. Our conference will highlight these benefits while offering you a forum to share your specialized research with international professors.

We look forward to your presentation at the University of London.

Sincerely,

Professor J.L. Bonnici, PhD, JD
IJAS Conferences Coordinator