

The Environment of E-Commerce in Bangladesh

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Abstract: Electronic commerce is rapidly growing as an impressive manifestation of globalization. The rapid expansion of e-commerce is a major opportunity for local and international trade development of LDCs including Bangladesh. However, infrastructure, culture, and attitude are significant barriers to e-commerce. Bangladesh government has gone forward except minor lacking to create an e-commerce friendly environment. One thing to be noted is that success in e-commerce does not depend on access and connectivity alone. Information Technology also depends on the fortitude of the entrepreneur of taking advantage of the e-commerce revolution. Proper awareness building programs among the people and business community are required to establish, maintain and growth of e-commerce. This study concentrates on assessing the elements of the environment relating to e-commerce to get the best picture of the prevailing condition and then recommending some areas of improvement on the basis of the assessment for deploying e-commerce in Bangladesh.

Keywords: E-Commerce, Electronic Fund Transfer, Credit Card, ICT, Human Capital, Gateway, Awareness.

1. Introduction

The Internet, through advanced mechanism of data transfer networks, established global linkages between customers and suppliers and opened up a new horizon for e-commerce, which entails the use of Internet in marketing, payment, and delivery of goods and services. The Impact of E-commerce is evident from an international trade point of view; e-commerce is posed to become a major component of cross-border flows: estimates range from 10% to 25% of world trade by year 2003 (CPD, 2003). Business to Business e-commerce is emerging as the most important aspect with an expected market of \$7.29 trillion or 7% of world trade by 2004 (Ahmed, 2001).

Bangladesh is also a part of global village. The business environment of this global village is changing, shaping and molding at internet speed. To stay competitive in global market, it has become imperative for Bangladesh to keep pace with this speed by implementing e-commerce. But how far Bangladesh has been able to make itself ready for the implementation of e-commerce? This study through its three chapters attempts to find out that answer. First section of this study gives a mental guide map on what to

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expect from this paper. The second section painstakingly attempts to bestow the assessment of the environmental issues that are essential for implementing e-commerce in Bangladesh. In the third section some recommendations are given on the basis of the assessment for implementing e-commerce in Bangladesh.

1.1. Objective of the study

E-commerce has been shaking and shaping the business environment and breaking out new ways of doing business. Thus it has become imperative to analyze the environmental elements, which will actively govern the implementation of e-commerce in Bangladesh. Thus the objectives of the study are to:

- analyze the present environmental forces to judge whether e-commerce could successfully be implemented in B-angladesh., and
- suggest any improvement as required.

1.2. Methodology

The study is based primarily on secondary information. For this purpose, different recognized census, government rules, regulations, policies, and laws, news papers, national and international journals, periodicals have been consulted. Besides this, internet has been used as another source of information.

Objectives	Methods
Environmental Assessment	<i>Secondary Data:</i> government policies, laws & legislations, different articles, journals, and internet.

1.3. Terminology

▪ E-commerce:

The *Dictionary* meaning of E-Commerce is “The conducting of business communication and transactions over networks and through computers” (dictionary.com, 2005). However, E- Commerce also includes all inter-company and intra-company functions (such as marketing, finance, manufacturing, selling, and negotiation) that enable commerce and use electronic mail, EDI, file transfer, fax, video conferencing, workflow, or interaction with a remote computer. In our study the operational definition of **E-commerce is**

any business transaction over an online system (such as an Internet, Extranet, Electronic Data Interchange(EDI) network, or electronic mail system). It does not include transactions over telephone, fax or any payments made online for transactions whose terms were negotiated offline or by physical means.

- **E-Commerce environment**

The *Dictionary* meaning of environment is “The circumstances or conditions that surround one; surroundings”. Environment means the whole array of conditions, factors and forces surrounding the subject considered. Every element in the world for its success or even for its existence depends on its environment. As such, the implementation of e-commerce largely depends on the environment of the place, in which it is going to operate. However, the term environment is very dynamic. Each subject has got its own definition of environment. Thus our operational definition of environment of e-commerce is,

the complex of forces: legal, political, technological, economical, demographical, and cultural, those actively play roles for the existence and growth of e-commerce.

2. Some developments in Bangladesh economy

2.1. The regulatory and legal environment

- **Key macro economic policies**

Recently the tenure of the Fifth-Year Plan (1997-2002) has ended. The major features of the Fifth Plan are import liberalization; reduction and rationalization of the tariff structure; direct export promotion measures; and a flexible exchange rate. However, due to failure of the implementation of this plan government hasn't taken any more Long-term plan and they are continuing to implement the unaccomplished task inline with the millennium development goal.

Throughout this decade, Bangladesh economy has faced a major challenge due to severe flood in the country, international inflation, gallop in the international oil price and devaluation of money (Bangladesh Currency). However, due to a major contribution by industrial, and service sector (16.58% of GDP) the economy turns back to its destined position. The review of the economic condition of the fiscal year 2006-2007 reveals that the growth of GDP is 6.74%, which is the highest in the history of Bangladesh. The per capita income has risen to US\$ 520. This review reveals that the scope for the business is increasing and it bacons the e-commerce.

- **National information and communication technology (ICT) policy, 2002**

Bangladesh has approved its ICT Policy in 2002. The main theme of this policy is to build an ICT-driven nation comprising a knowledge-based society by 2006 to develop a country-wide ICT infrastructure & to give all Bangladeshis access to information. This will empower citizens, enhance democratic values and promote sustainable economic development. The infrastructure will be used for human resources development, governance, e-commerce, banking and public utilities,

among other functions. For e-commerce, the government has emphasized on the G2G, G2B transaction to involve public and private sector, encryption and authentication of transactions, banking infrastructure and cyber laws & legislation.

- **Information and communication technology (ICT) Act-2005**

On February 14, 2005, the cabinet of Bangladesh government has approved the ICT Act-2005. The objectives of the ICT Act (Appendix-1) are to facilitate, develop and build confidence among people for e-commerce, prevent forgery, facilitate electronic filing of documents, mitigating the dispute among parties, evidence of transactions, contract between parties, non-repudiation, consumer protection etc.

- **Industrial policies**

The objective of the Industrial Policy, 1999 (Appendix-2), is to establish a dominant export sector with the government's role becoming increasingly that of a facilitator rather than a regulator. Bangladesh Government has declared Computer Software and Information Technology as one of the thrust sectors in industrial policy, which indicates government's initiative to develop e-commerce in Bangladesh.

- **The foreign private investment (promotion and protection) Act**

As an emerging market for the e-commerce, it is expected that foreign investment like other industries is likely to come forward. The Foreign Private Investment (Promotion and Protection) Act of 1980 guarantees legal protection to foreign investors against nationalization and also indemnifies them against losses due to civil unrest. It also guarantees repatriation of capital and dividend and equal treatment with local investors. This act goes favorable to the implementation of e-commerce implementation.

2.2. Trade and commerce related legislation

In the area of foreign trade, the legal framework is primarily governed by three legislative Acts: The Imports and Exports (Control) Act, 1950; The Customs Act, 1969; and The Foreign Exchange (Regulation) Act, 1947. These Legislations are briefed below:

- **The import policy order (IPO)**

The import policy order (IPO) 1997-2002 accommodates Bangladesh to join WTO towards making a free trade area. Unlike earlier import policy, it does not discourage the import of consumer items, which enables the consumers or business firm to make transaction over electronic means.

- **The export policy 1997-2002**

The Export Policy 1997-2002 aims at promoting exports in the regional and international markets. It calls for the diversification of exports, encouraging

backward linkages, simplification of procedures and developing the necessary infrastructure. Computer software has been declared a thrust sector in export policy, which clearly indicates government's emphasis on development of ICT in Bangladesh.

- **The customs Act, 1969**

Since early 1990s, Customs procedures have undergone significant changes. The Act has also been amended to introduce transaction values as the basis for customs valuation in 2000. Major changes include introduction of a Green Channel system for incoming passengers, Pre-shipment Inspection (PSI) etc. A well-functioning PSI system requires high credibility and efficiency of the contracting agencies including e-commerce. Custom clearance has been computerized at the Dhaka Customs House and the Chittagong Customs House. Implementation of e-commerce would enhance the custom clearance process and could also lessen the delay in the port procedures.

- **The sale of goods Act, 1930**

The Sale of Good Act doesn't mention anything about the e-commerce issue. But, according to Doctrine of Caveat Emptor, goods sold by description must be accepted by the seller when returned back by the buyer within a reasonable time. In e-commerce the goods are sold by description. Thus, in absence of the particular law regarding e-commerce, the Caveat Emptor applies. However, the reasonable time varies situation to situation and court order.

- **Intellectual property rights (IPR)**

Certain regulations (such as the Intellectual Property Rights Act, the Evidence Act) have the capability of facilitating the scope of e-commerce. The new Intellectual Property Rights (IPR) Act of Bangladesh concentrates mainly on software copyright protection. However, e-commerce related copyright protection issues are not included in the new IPR.

- **The money loan court**

The Money Loan Court (Artha Rin Adalat) is an independent judicial body established under the Money Loan Court Act 1990 to recover public money loaned to individuals through public sector financial institutions. In e-commerce, especially the credit card forgery could be dealt with the help of this court. However, the court is already overburdened with its existing cases.

2.3 Telecommunications: An integral part of E-Commerce

E-commerce is largely dependent on the Internet and the access, pricing, and the quality of Internet services and internet services are significantly dependent on the status and

performance of the telecommunications sector. As per the National Telecom Policy, 1998, the telecom sector (fixed line, mobile and the internet) is liberalized for private investment. Following the National Telecommunication Policy, the Bangladesh Telecom Act 2001 was enacted. In order to separate the commercial operations of BTTB from its regulatory functions, a separate Bangladesh Telecommunication Regulatory Commission (BTRC) has been established in January 2002. The following issues are prevailing telecommunication situation:

▪ **Penetration**

- ◆ the telecommunication sector of Bangladesh is characterized by poor level of penetration (0.83 telephone for every 100 persons),
- ◆ high cost to access \$175 connection fees for each telephone
- ◆ average waiting period for a new telephone connection varies from three months to ten years.
- ◆ Total Number of phone user (land + Cellular) 10 million (approx)
- ◆ Number of Very Small Aperture Terminal (VSAT) Provider 37
- ◆ Number of VSAT users 75
- ◆ Number of Satellite Ground Station 4
- ◆ Mode of International Communication is only Satellite
- ◆ Microwave links are the major communication backbone of the country
- ◆ 2285 Kilometer Fiber Optic Cable (FOC) Network of Government, which cover 50 district out of 64 and 1/3 of area of Dhaka city covered by FOC by private sector.

▪ **Backbone connection**

Recurring mistakes made by the 3 succeeding government delayed the Bangladesh to connect itself with Information Super High Way (I-Way / Submarine Cable). Bangladesh is already connected with the 16-party consortium of the 20,000 km 'South East Asia-Middle East-West Europe (SEA-ME-WE-4)' submarine cable projects as it has already installed the 1,260 km branch line cable from the landing station at Zhilanja in Cox's Bazaar and at a point in the backbone of the undersea cable in the Indian Ocean. The capacity of the undersea cable will be available in the national network after the installation of fiber link between Cox's Bazaar landing station and Chittagong, which is expected to be completed by April 2006. This connection will drastically reduce the communication cost and ultimately the transaction cost.

▪ **Last mile connection**

Last Mile connections in Bangladesh are provided jointly by public sector and private sector. At present, in addition to the state-run BTTB's Land & Cell operation, four cellular and five rural fixed lines telecom service providers 195 ISPs and numerous cable operators are operating in rural and urban areas of the country. The present situation of last mile connections is stated below:

- ◆ All analog exchanges at 64 District Head Quarters under Bangladesh Telephone & Telegraph Board (BTTB) have been converted to digital by December 2002.
- ◆ A National Digital Data Network (DDN) has been implemented by BTTB, which will integrate the whole country under a single digital network for voice and data communications. Now it covers 41 districts of Bangladesh.
- ◆ BTTB provides ISP service in 64 districts through 24 Mbps Backbone. However, due to BTTB's copper based connection, the dial-up connection has got poor speed.
- ◆ Bangladesh Railway with 1800 Kilometer Fiber Optic Cable (FOC) network and Power Grid Company of Bangladesh, a unit of Power Development Board, with 485 kilometer FOC network and Grameen Phone (a subsidiary of Bangladesh Railway FOC) with its unused bandwidth leases its FOC network to different private land phones, cellular phone companies and Internet service operators.
- ◆ Along with the government effort, the private sector also has coverage of fiber optic network in the main areas of Dhaka.
- ◆ Besides these giants, cable operators have developed a huge network, which covers all of the houses of the 64 districts except inter district connection with coaxial cable based on a FOC backbone. This has opened up a huge opportunity for ISP business with sufficient bandwidth.
- ◆ Cell phone operators have a huge aerial network, which covers 61 districts of Bangladesh. This opens up an opportunity for the mobile commerce- a section of e-commerce.

▪ **Present internet situation**

The Internet was launched by private Internet Service Providers (ISPs) in 1997. Even though NTP98 acknowledges the critical need for easy and affordable access to Internet services, BTTB's pricing and regulatory strategy on ISPs are restrictive. For instance, in addition to paying the standard tariff to the VSAT operators or capacity re-sellers, the ISPs are bound to pay royalty of \$3,200 to BTTB. The fees charged and the earlier restrictions on the selection of VSAT carriers contributed to higher pricing for Internet consumers. However, the present Internet situation is outlined below:

- ◆ The number of registered ISP is 195
- ◆ Total Internet user: 2.2 million and growing exponentially
- ◆ Registered Dial-up subscribers: 250,000
- ◆ Broadband (Radio, Cable, XDSL) subscribers: 150,000
- ◆ online charge is as low as 0.1 taka / hour
- ◆ Internet coverage 64 districts
- **Voice over internet protocol (VoIP) application**

Voice over internet protocol (VoIP) has proven to be a very important catalyst in promoting e-commerce. VoIP enables bypassing expensive traditional telephony and helps the users achieving the economics of e-commerce. On November, 2004 the Cabinet of the Bangladesh government voted to legalize VoIP in the country, at the urging of the Bangladesh Telecommunication Regulatory Commission (BTRC). But the government imposed a high licensing fee and decided to take a share of revenues. The government plans to maintain control of the marketplace by requiring all calls to go through the Bangladesh Telegraph and Telephone Board's international gateway. As the ISPs have their own IX (internet exchange server) and VSAT, they are not feeling interested to invest again to communicate through BTTB's Gateway to get in to business of VoIP. The excessive licensing fee and control have become a consistent impediment for the growth of VoIP ultimately e-commerce.
- **Policy reforms**

Several policy reforms aimed at boosting the IT sector, eventually contributing to e-commerce development, have been accomplished. Some noteworthy steps are stated below:

 - ◆ The withdrawal of import duties from computer hardware and software in 1999.
 - ◆ The decision to cease BTTB's role as a broker between the ISPs and the VSAT operators in early 2000.
 - ◆ The setting up of an ICT Incubator at the heart of the Dhaka city with estimated 68000 square feet space area. This space is exclusively allocated to the private Sector ICT related organizations and entrepreneurs involved/engaged in software and IT enable services working for markets both inside and abroad.
 - ◆ The government has acquired 235 acres of land near Dhaka to establish a high-tech park. Infrastructure services of the Hi Tech Park would include:
 - Dedicated electric sub-station and uninterrupted power supply
 - ISDN telephone exchange
 - Wide bandwidth data communication connectivity and fiber optic LAN for high speed data transfer

2.4 Banking mechanism

The banking mechanism plays a pivotal role in the settlement of the e-transactions. Banking mechanism refers to the automation of operation, convertibility of currency, credit / debit cards etc.

- **Automation**

Although, electronic banking has been pioneered by the foreign commercial banks, at the present among 50 banks (Nationalized, Specialized, Private & Foreign), almost all banks have become automated. Yet only a few foreign commercial banks and local banks are offering on-line banking facilities in the form of Automated Teller Machines (ATM) and local credit cards, electronic fund transfer. Among the local private banks like Eastern Bank, Dhaka Bank, Dutch Bangla Bank, The City Bank are offering truly centralized online banking facilities and the clients of these banks have access to their online account through the bank's Internet web site (Islam, 2005). An off-line computerized reconciliation and data management system has been implemented by the Central Bank of Bangladesh for the settlements of inter bank transactions or clearing house.

- **Convertibility of the Bangladesh currency**

The Taka (the currency of Bangladesh) has been convertible for current account transactions since 1994. Consequently, earnings from the trading account are freely convertible into foreign exchange for the importation of goods. Recently, the floating rate currency conversion system has been introduced, which has made the ground for developing e-commerce.

- **Retention quota**

According to the authorities, the higher retention quota allowed for exporters with low imported-input component is intended to encourage exporters to use more locally available inputs in their production. Only exporters are beneficiary of this privilege. Such restrictions would inhibit e-commerce as traders and businesses have restrictions on remittance of funds (Hossain, 2000).

- **International credit cards**

In total, there are an estimated 2, 00,000 card holders in the country (Skinner, 2005). Although local credit cards introduced by multi-national banks have become popular in Bangladesh, restriction on issuance of international credit cards prevails due to the restrictions imposed by the Bangladesh Bank. A very small number of multinational banks provide their clients with internationally accepted credit cards, but the process followed by the banks is prohibitive and does not facilitate trade. Some IT experts raise the security issue over the e-commerce transactions. However, the concern for abuse of credit cards for the transfer of money is weak since all credit cards have a maximum credit limit (Hossain, 2000).

2.5 Demography & human capital

Successful application of e-commerce demands not only availability of technology and infrastructural facilities but also a skilled manpower that can appreciate and apply it. The demographic condition of Bangladesh is stated following:

▪ **Skilled manpower**

Each year Bangladesh through 21 public universities, 52 private universities, 31 colleges under the National University and a number of foreign affiliated universities/institutes are offering Computer Science & Engineering, Electronic & Mass Media Communication courses and producing about 6000 computer science graduates each year. Moreover, 100 of national and international training organizations provide computer education.

▪ **Human resources development effort**

Total population of Bangladesh is about 150 million. Of which, 41.1% is literate and Primary school enrollment rate is 83%, while Secondary and Higher Secondary enrolment is 51% (EFA Report, 2005). The demography of Bangladesh show tremendous prospect for e-commerce if ICT education could be seeded through out the educational career of the citizens. Albeit in late, Bangladesh government has realized the need of ICT education in the country and there by has taken the following steps to build ICT capable society. Both government and non-government sector have taken initiative to build an ICT enable human resources. These initiatives are listed below:

Government effort

- ◆ Computer courses are taught in the primary as compulsory, secondary and higher secondary school level as optional subjects
- ◆ A course curriculum for secondary and higher secondary school has been developed and soon will be made compulsory
- ◆ Ministry of Youth and Sports, Ministry of child and Woman is imparting knowledge among poor children and women to capable them with ICT knowledge.
- ◆ Distribution of computers and accessories to secondary schools, including training of teachers of these schools.
- ◆ The ICT Incubator was established on 1st November 2002 at a cost of Taka 36 million in the BSRS Bhaban at Kawran Bazar, Dhaka with estimated space areas of 68,000 square-feet. This space area is being exclusively allocated to the ICT related organizations in the Private Sector and to entrepreneurs involved/engaged

in Software and IT enabled services working for the markets both in home and abroad. The high speed Internet and dedicated power connection have been provided to the ICT companies of this Incubator.

- ◆ A high-tech park will be established on 265 acres of land at Kaliakoir Upazila near Dhaka on, 265 acres of land by 3 years to promote knowledge-based and technology intensive industries with the main focus on ICT at a cost of Taka. 25100.00 Lac (approx. 42.54 million US Dollar).
- ◆ The Ministry of Science and ICT is conducting 1 year Post Graduate Diploma in ICT through public Universities to create skilled manpower and trainers in ICT
- ◆ The government has taken an initiative to start the ICT Internship from the fiscal year (2003-2004) for the development of ICT sector and hence for the enhancement of ICT with a view to promoting the export. During the internship period (6 months), one Internee (male or female) will receive 60% of his total monthly allowance from the government that should not be more than Taka 400.00 (Four Thousand) per month. The rest 40% of the monthly allowance will be provided by the service receiving company/organization.

Non-Government effort

- ◆ *The Grameen Bank* has recently set up a Software Village, the long-term goal of which is to increase software exports from Bangladesh. In addition, the marketing strategy applied to create a market for Bangladeshi software products abroad was ineffective.
- ◆ UNCTAD, UNICEF, NTV Affairs are imparting IT knowledge among the youths, under privileged children and among poor women. Their aim is to build a great pull of IT enabled Human Resources.

2.6 The ICT industry

There are more than 350 local software companies and more than 15,000 programmers are involved in the ICT industry. More than 50 software and IT service companies now export their products and services to 30 countries, including the United States, Canada, Europe, Middle East, Japan and Australia. Such programs include accounting, finance, human resources, inventory, billing applications and front-end business applications for e-governance, e-commerce and point-of-sales terminal. In the first eight months of the financial year 2004-05, software exports amounted to \$7.38 million, 120 per cent up than the figure of the past year (Khaleida, 2005).

3. Condition and prospect of E-Commerce in Bangladesh

3.1 E-Commerce in Bangladesh perspective

In Bangladesh, E-Commerce is just evolving, but the ball has been set rolling for an Internet revolution. E-commerce is no longer a luxury but a reality. Now, it is estimated that more than 180 ISP's have been working in this country and there are near about 4.5 lakhs¹ Internet users in the country. So, there is a vast chance for the expansion of e-commerce in Bangladesh.

The usage of computer in Bangladesh is very low. Beside this, the speed of the Internet is very slow as the necessary advancement of telecommunication infrastructure is not in place. Bangladesh is recently connected to the rest of the world over a fibre-optic backbone. Before that ISPs in Bangladesh are providing Internet services via VSATs from Singapore. In Bangladesh, some companies/vendors have already started their business through E-Commerce, and they achieved some success. One of the pioneers in this regard is **www.munshiji.com**. Now a days, there are several e-commerce sites in Bangladesh like-

www.BanglaCommerce.com: An e-commerce site with lots of product.

www.e-bangla.com: An one-stop Bangladeshi shopping mall on the net.

www.ecommercebank.org: First e-commerce bank in Bangladesh.

www.bdbazar.bigstep.com: Premier Bangladeshi shopping site for Bangladeshis who are living abroad.

www.littlebangla.com: An e-commerce site for every types of business develops by FedEx and Aarong.

www.bengalcommerce.com: An e-commerce site for sending gifts/flowers/cards etc to loved and dead ones.

www.sonalibangla.com: It provides with most affordable Internet presence for Bangladeshi Business on the Web and helping to create Business Home Page, Publishing press release, advertising items and buy/sell.

www.emrex.com: offers Internet and e-commerce solutions and sells handicrafts, books and clothing.

www.bajna.com: A site for music and books shopping.

www.bdjobs.com: An employment site.

Various products/items can be purchased through these e-commerce sites with electronic goods, computer accessories, software's, music (cassettes or CD's), VCD, gift items, food items, wears, jobs hotel reservations etc. A customer within the country can choose and

¹ Source: United Nations Department of Economic and Social Affairs.

order the product, but payment procedures are quite different than International payment procedures. There is no electronic payment system in Bangladesh but domestic customer can pay with the following various payment options:

International Credit Card: VISA, MASTER or Others.

Payment on Delivery: Payment can be made after delivery the product to the customer.

Payment through Bank: A domestic customer can pay by cheque, Postal Order (P.O.),

Demand Draft (D.D), Telephone Transfer (T.T.), or Credit Advice.

The BECS (Bangladesh ECommerce Samity) formed on the 20th November, 2000, has vigorous campaign of e-commerce and tries to introduce it in every door in Bangladesh and make Dhaka a dot com city within five years. According to a telephonic interview (February 2001) from ISPs (Internet Service Providers) in Chittagong, there are approximately 5500 Internet users in Chittagong Metropolitan City (CMC) out of its total population of roughly 35,00,000. More concretely, there are 1.57 Internet users per 1000 people in CMC. It is not a remarkable figure but the number of Internet users is increasing. Internet service has already been started working in Rajshahi Metropolitan City (RMC) and other district towns of Bangladesh. Today the approximate number of Internet users in Bangladesh is more than two lakh.

Considerable awareness for e-commerce can be observed in Bangladesh and few companies are trying to apply e-commerce for conducting business. Three important requirements for e-commerce are adequate information infrastructure, appropriate legal framework and skilled manpower.

Unfortunately the first and third of these are not sufficient and the second one does not exist in the country. But currently the government controls almost the whole telecommunication sector. Already the government is trying to prepare the communication technology policy. The first draft of a sort of communication technology policy was prepared and presented in July 2000. The Bangladesh Computer Council prepared the draft under the auspices of the Ministry of Science and Technology. It details clear policy instructions regarding infrastructure, the development of technology, creating an environment for e-commerce and e-governance.

The Government of Bangladesh has taken steps to boost up the IT industry for the development of e-commerce. The steps are as follows:

1. Waiving all taxes and duties from importing the hardware and software;
2. Ending BTTB's role for the use of VSATs by ISPs who now directly negotiate with foreign carriers;

3. Declaring Tax Holiday for software and IT industry;
4. Tax free export of software with 40% foreign; 100% remittance of profit and capital gains without any approval for the foreign investors;
5. Special funds have been allocated for collateral-free loan;
6. Intellectual Property Rights Law has been approved by the Parliament.
7. They are producing Services Usage. Charge and that is below Tk. 1.00 per minute.

3.2 Constraints to E-Commerce in Bangladesh

Out of 64 districts, Internet services are available only in 6 major district headquarters. BTTB is planning to gradually roll out an IP network up to the 64 district headquarters. In January 2002, the Internet facilities were extended to 12 districts. The project is running on very fast and today almost 40 plus districts are getting Internet facilities. Followings are the barriers of e-commerce in Bangladesh:

- Very minimum number of users of web sites;
- Poor telecommunication infrastructure with limited fixed-line access, unreliable connectivity and low bandwidth (9K);
- High price of computer and hardware: The per capita income of our people is less than US\$520. But in order to buy a computer it is needed US\$500 and for this reason, it is beyond the capacity for a villager's to buy it.
- Lack of technically efficient personnel;
- Lack of investment in hardware and software;
- The banking infrastructure in terms of electronic payments and inter-bank connectivity is poor. As such, the customers of 5770 branches of the local banks are unable to operate their account with the other branches of the same bank. Inter bank transaction is more cumbersome as the clearing-house of the central bank is not online. An inter-bank transaction may take even 2 weeks if the branches are different cities. Only 27 branches of the eight foreign banks are interconnected with their respective head offices. They are also satisfactorily computerized. This represents only 0.47% of the entire banking sector.
- Small number of Credit Card users;
- Limitations of supportive legal system. Such as, exchange controls, protection of telecommunication monopolies, restrictive trade practice and prohibitions;
- Absence of cyber law;
- People's mindset and very slow and expensive Internet services;
- Enterprise managers' lack of initiative and leadership in taking advantage of e-commerce;

- Bureaucratic complexities; and
- Lack of awareness at government level of e-commerce issues.

Due to these problems, not sufficient on-line users are available until the club of Internet users in the country reaches a critical mass, cyber banking and thus e-commerce is unlikely to take off among customers.

E-commerce, as a vehicle to boost up trade, especially international trade, has already been recognized by international business community, especially in European Union, North American Markets and some of the other developed nations like Japan, Singapore, Hong Kong (now a part of China) etc. However e-commerce and its related technologies are still in its infancy stage in Bangladesh. Despite existence of a lot of barriers in the development of e-commerce environment in Bangladesh, non-involvement in e-commerce is an option. Since the world is moving towards e-everything, so we should try to overcome all the barriers and also try to develop such environment that is favorable for the development of e-commerce.

4.0 Recommendations and conclusions

4.1 Recommendations

The assessment of the e-commerce environmental forces of Bangladesh leave us some room to recommend some steps and measures, that should be undertaken by the policy makers and business stake holders for the full fledged implementation and development of e-commerce in Bangladesh. The recommendations are:

- ◆ There should be an EFT (Electronic Fund Transfer) Gateway, which will connect all finance and banking institutions, ATMs, POS and related websites. Such Gateway will speedup the transactions among banks, commercial institutions. This sort of infrastructure needs to be implemented on priority basis.
- ◆ A CCG (Credit Card Gateway) should be established. A credit card gateway is a server that makes online credit card transactions safe (Skinner, 2005). The software protocols in the CCG use the information provided to check for availability of funds and to make sure the credit card is not expired, lost or stolen. This takes only seconds. When the transaction is approved a receipt is generated for the customer, and the funds are transferred to the vendor's bank account through EFT.
- ◆ Unlicensed radio frequencies should be made available on demand and VSAT operating licenses should not limit the bandwidth.
- ◆ To improve banking mechanism, Bangladesh government should compel the banking sectors to automate their operation and going online by a specific period.

The control of foreign exchange should be liberalized gradually, and easier issuance of International Credit Cards should be allowed, banks should take effective steps here.

- ◆ Business associations and organizations should be made aware of the benefits of e-commerce. Business organizations like FBCCI, DCCI, MCCI, and BGMEA can play a significant role in promoting e-commerce in Bangladesh.
- ◆ Political commitment to improve governance and institutional strength is essential for successful application of e-commerce.
- ◆ Last but not least, National ICT policy, 2002 and enactment of the ICT Act, 2005 is required to enhance the implementation of e-commerce.

4.2 Conclusion

E-Commerce is the system of buying and selling of goods and services over electronic medium. Only the internet connection is not enough for the development of e-commerce. The whole environment is essential for the development, maintenance and growth of e-commerce. The analysis of the environmental forces reveals that the prevailing situation is encouraging for the implementation of e-commerce in Bangladesh. The macro and micro economic situation is favorable to e-commerce. The synopsis of the legal and regulatory statutes indicates that Bangladesh has made significant progress in facing the challenge of embracing e-commerce in due course of time. ICT infrastructure such as I-Way connection, last mile connection, internet connectivity and usage etc. already meet the criteria for establishing the e-commerce. Bangladesh is rich in ICT human capital and continuously producing graduates to meet the demand of the next century. Even Bangladesh doesn't require any foreign expert to implement, execute and maintain e-commerce infrastructure.

Despite the encouraging state of implementation, e-commerce can never be deployed until and unless an Electronic Fund Transfer (EFT) Gateway and a Credit Card Gateway (CCG) have been established. These two Gateways will eliminate the security issues in e-commerce and enhance the e-transactions. In addition to that, creating awareness among the citizens and the business organizations is essential for the implementation and growth of e-commerce in Bangladesh.

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APPENDIX – 1

Objective of the ICT ACT-2005

<ol style="list-style-type: none"> 1. to facilitate electronic communications by means of reliable electronic records; 2. to facilitate electronic commerce, eliminate barriers to electronic commerce resulting from uncertainties over writing and signature requirements, and to promote the development of the legal and business infrastructure necessary to implement secure electronic commerce; 3. to facilitate electronic filing of documents with government agencies and statutory corporations, and to promote efficient delivery of government services by means of reliable electronic records; 4. to minimize the incidence of forged electronic records, intentional and unintentional alteration of records, and fraud in electronic commerce and other electronic transactions; 5. to help to establish uniformity of rules, regulations and standards regarding the authentication and integrity of electronic records; and 6. to promote public confidence in the integrity and reliability of electronic records and electronic commerce, and to foster the development of electronic commerce through the use of electronic signatures to lend authenticity and integrity to correspondence in any electronic medium. 	<
<p>Source: <i>Ministry of Science and Information and Communication Technology</i> , http://www.mosict.gov.bd/html/ict_policy.htm ></p>	

APPENDIX-2

Objectives of the industrial policy 1999

<ol style="list-style-type: none"> 1. To expand the production base of the economy by accelerating the level of industrial investment. 2. To encourage the private sector to lead the growth of industrial production and investment. 3. To focus the role of the Government as a facilitator in creating an enabling environment to expand private investment. 4. To permit public undertaking only in those industrial activities where public-sector involvement is essential to facilitate the growth of the private sector and/or where there are overriding social concerns to be accommodated. 5. To attract foreign direct investment both in export and domestic market-oriented industries to make up for the deficient domestic investment resources and to acquire evolving technology and gain access to export markets. 6. To ensure rapid growth of industrial employment by encouraging investment in labor-intensive manufacturing industries including investment in efficient small and cottage industries. 7. To generate female employment in higher skill categories through special emphasis on skill development

8. To raise industrial productivity and to move progressively to higher-value-added products through skill and technology upgrading.
9. To enhance operational efficiency in all remaining public manufacturing enterprises through appropriate management restructuring and pursuit of market-oriented policies.
10. To diversify and rapidly increase the export of manufactures.
11. To encourage the competitive strength of import substituting industries in catering to a growing domestic market.
12. To ensure a process of industrialization that is environmentally sound and consistent with the resource endowment of the economy.
13. To encourage balanced industrial development throughout the country by introducing suitable measures and incentives.
14. To utilize effectively existing production capacity.
15. To coordinate trade and tax policies.
16. To develop indigenous technology and to expand production based on domestic raw materials.
17. To rehabilitate deserving sick industries.
Source: BASIS, < http://www.basis.org.bd/industrial_policy.pdf >

APPENDIX-3

Legislation relating to trade

Area	Legislation
Custom Duties	Custom Duties Customs Act, 1969
Import Regulations	Imports and Export (Control) Act, 1950; Customs Act, 1969; review, Appeal and Revision Order, 1977; Importers, Exporters and Indenters (Registration) Order, 1981; Licenses and Permit Fees Order, 1985
Customs Valuation	Amendments introduced to the Customs Act, 1969, in 1997
Pre-shipment Inspection	Amendments introduced to the Customs Act, 1969, in 1998
Rules of Origin	Standard Rules of Origin, 1977
Standards	Imports and Export (Control) Act, 1950
Sanitary and Phytosanitary Measures	
Marketing and Labeling	
Anti Dumping Measure	Amendments introduced to the Customs Act, 1969,

Countervailing Measures	in 1995
Safeguard Measures	Amendments introduced to the Customs Act, 1969, in 1997
Pricing and Marketing Arrangements	Consumer Index
Export Regulations	Import and Export (Control) Act, 1950; Customs Act, 1969
Government Procurement	No legislation
Competition Law	No legislation
Intellectual Property Rights	Patents and Design Act, 1919; Copyright Ordinance, 1962; Trade Markets Act 1940
Foreign Investment	Foreign Investment (Promotion and Protection) Act, 1980
Foreign Exchange	Foreign Exchange (Regulation) Act, 1947
Banking Service	Banking Companies Act, 1991
Insurance Services	Insurance Act, 1938; Insurance Corporations Act, 1973; Insurance Rules, 1953
Telecommunications Services	Telegraph Act, 1887
Air Transport Services	Details not available from the authorities
Maritime Transport Service	Merchant Shipping Ordinance, 1993; Inland Shipping Ordinance, 1976; Bangladesh Flag vessel (Protection) Ordinance, 1982

Source: World Trade Organization, 2000. *Trade Policy Review Bangladesh*.