

# INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION & MANAGEMENT

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**E-COMMERCE: AN ANALYSIS OF CONCEPTUAL FRAMEWORK****ABU ZAFAR AHMED MUKUL****LECTURER****SCHOOL OF BUSINESS & ECONOMICS****UNITED INTERNATIONAL UNIVERSITY****DHAKA****SABRINA HOQUE CHOWDHURY****LECTURER****SCHOOL OF BUSINESS & ECONOMICS****UNITED INTERNATIONAL UNIVERSITY****DHAKA****ABSTRACT**

The internet has opened up a new horizon for trade and commerce, namely E-Commerce. Now days, E-commerce is no longer a technological issue, but is also a business issue. E-commerce involves a number of forms and varying levels of cost and complexity, depending on the needs of business. For the past few years, across the globe, e-commerce has improved significantly, but some issues remain elusive. At present, many companies in Bangladesh are using this e-commerce to operate their essential business activities. But the rate of development of e-commerce remains limited in Bangladesh. This explanatory and conceptual paper presents the ways and framework in which e-commerce gives information to the consumers. It further highlights some critical issues in e-commerce, provides suggestions and future strategies for e-commerce in years to come.

**KEYWORDS**

E-commerce, E-mail, EDI, E-Merchants.

**INTRODUCTION**

Electronic Commerce (e-commerce) has become a popular word. The idea of Electronic Commerce – using the Internet and the Web for commercial purposes – is expanding day by day. Without doubt, the Internet is ushering in an era of sweeping changes that will leave no business or industry untouched. Like a central nervous system, the information highway courses around the Globe, making all types of commercial activities instantly possible. With the digital revolution continuing and the Internet becoming more popular with each passing day, electronic commerce (e-commerce), which has taken the world market to the consumer's doorstep, has emerged as the fastest growing form of business today. E-commerce is the most important application of the new communication technology. Manufacturers, traders and consumers can now reach the market more quickly and get more information than they could ever before. The electronic commerce has penetrated the businesses in many ways. E-commerce has tremendously reduced the transaction costs entailed in purchases, sales, operating, holding inventory and financial cost (Talha, 2003). The application of e-commerce to the development of web site enhances the potential global market and sales revenue, production, potential new customers, services and geographical areas. In terms of non-financial benefits, e-commerce has significantly helped improving human resources and punctuality, quality of services, customers' satisfaction and some other indirect effects. But in Bangladesh, e-commerce is just evolving; the ball has been set rolling for an Internet revolution. E-commerce is no longer a luxury but a reality. In the year 2000, there were about 1000pc sold in the country but it has risen to more than one lakh. Now, it is estimated that more than 180 ISP have been working in this country ([www.ispabd.org/news.php](http://www.ispabd.org/news.php)) and there are more than 450,000 Internet users in the country (UNDESA report 2007). So, there is a vast chance for the expansion of e-commerce in Bangladesh.

**OBJECTIVES OF THE STUDY**

The objectives of the study are

1. To conceptualize e-commerce
2. To analyze cost-benefit of e-commerce.
3. To present the existing framework and the proposed framework for e-commerce.
4. To recommend some policies for future improvement of e-commerce.

**METHODOLOGY**

The study has been conducted mainly on the basis of literature survey and secondary information. Various seminar papers and summary of discussions in those seminars, taskforce report of research organizations, journals and some periodicals on computer and information technology such as eBiz, computer tomorrow and computer Jagat have been surveyed for the purpose of the study. Some computer specialists have also been personally interviewed in order to collect some primary information used in this study.

**E-COMMERCE**

E-Commerce refers to the use of communications technology, particularly the internet, to buy, sell and market goods and services to customers. The internet has brought about a fundamental shift in national economies that are isolated from each other by barriers to cross border trade and investment; isolated by distance, time zones and language; and isolated by national differences, in government regulations, culture and business systems (Mohammad, 2004). Electronic commerce (e-commerce) is defined as the conduct of commerce in goods and services via electronic devices and telecommunications tools. In other words, e-commerce includes purchases of goods, services and other financial transactions in which the interactive process is mediated by information or digital technology both locationally separate ends of the interchange. Here 'transactions' include both specification of goods and services required and commitment to buy. According to Bajaj and Nag, "E-commerce refers to the paperless exchange of business information using EDI, Electronic mail, Electronic Bulletin Boards, Electronic Funds Transfer and other network-based technologies. It does not only automate manual processes and paper transactions, but also help organizations move to a fully electronic environment and change the way they operate".

**E-COMMERCE: COST-BENEFIT ANALYSIS**

e-Commerce is occupying a primary place in today's business for improving the business environment. It is important as it helps the organizations to gain a competitive edge over the competitors and is enabling business to analyze details of customers' buying patterns, taste and preferences so that they can efficiently pitch advertising and marketing campaigns to smaller target market (Bakar 2001). Benefits of e-commerce can be summarized as reduced transaction

costs, improved cash flows, reduced inventory level, higher information quality, increased operational efficiency, better customer service, increased ability to complete and improve trading partnership, etc (Rahman 2002). According to Kalakota and Whinston (1998), most companies are building commercial sites on the web to achieve four major business objectives: (i) attracting new customers via web marketing and advertising, (ii) improving service to existing customers via web customer service and support functions, (iii) developing new web based market and distribution channels for existing products, and (iv) developing new information based products accessible on the web (O'Brien, 2000: 314).

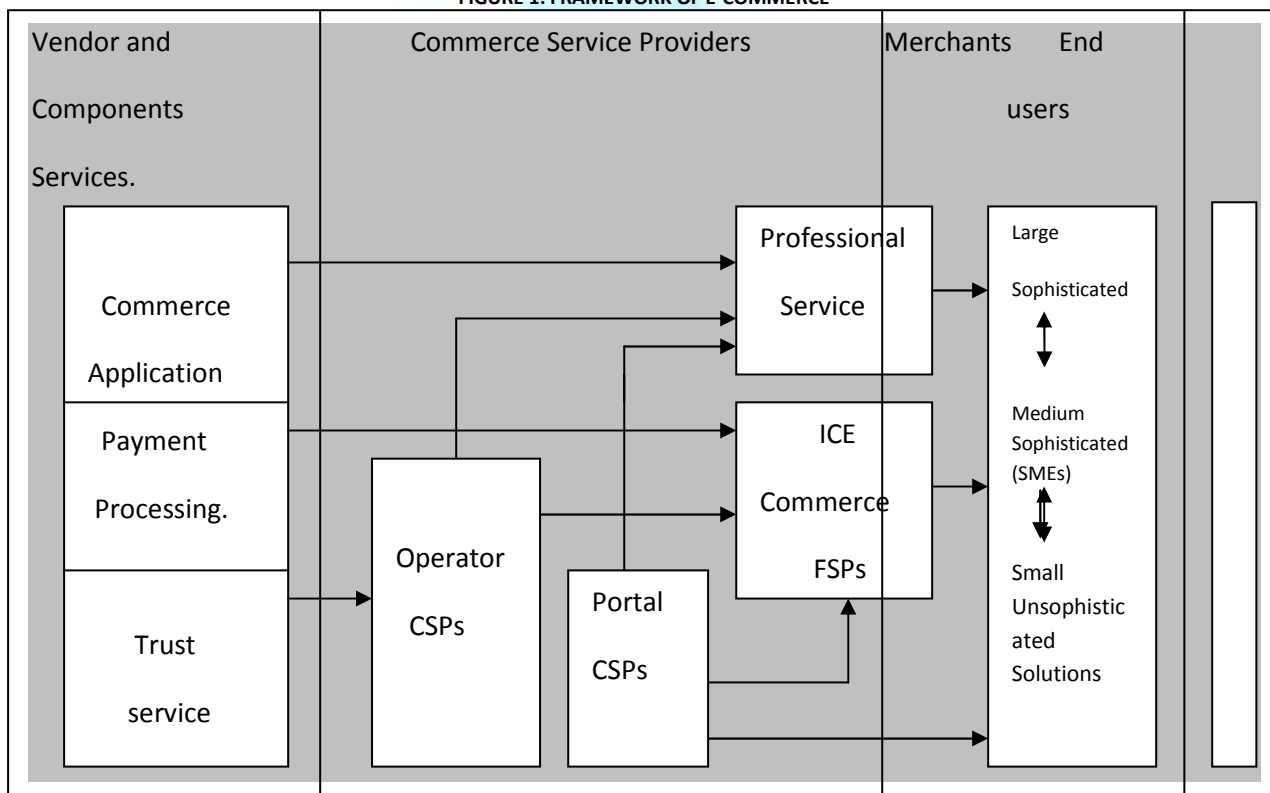
However, the internet and e-commerce present many problems to the business users, because most of the technology and functions are relatively immature. The major problems e-commerce faces are: (i) security, (ii) technology problems, (iii) legal problems, since laws governing e-commerce are mostly non-existent or are just being written; and (iv) the traditional internet culture, where Net users have usually shown themselves unwilling to receive electronic "junk mail" (Laudon and Laudon, 2000: 361-364). There is also a cost for registration of domain name.

Due to computer crime, cyber fraud, and internet invasion, e-commerce may be a nightmare. In this regard, Cheney (1999: 38) says *They (cyber criminals) can rob you blind. They can steal your identity. They can swipe your deepest secrets and sell them to the competition. They can read your e-mail, talk to your vendors, contact your customers, replicate your website, and take orders for your products. They can tap your treasury. They can clog your systems to the point of paralysis. They can sniff through your personal files. If they run off with your laptop they might extort you till you weep. They might be 13 years old.*

**EXISTING FRAMEWORK OF E-COMMERCE**

E-Commerce framework is a structure where a business is selling online to individuals, consumers, business, and government. The purpose of an e-commerce framework is to support the implementation of tailored solutions based on commercial components in a very cost effective manner. It allows even small companies to implement a customized e-commerce site. A framework provides the necessary standards and interfaces as well as a reference architecture which gives a general idea how to build up a complete e-commerce solution. It will be complemented by a list of available components and a procedural model describing how to apply the framework in order to get the e-commerce solution. For the development of an e-commerce framework a careful analysis of the environment wherein the framework will be used is required.

FIGURE 1: FRAMEWORK OF E-COMMERCE



Source: Adapted from Andreas Bohm, Elisabeth Felt and Stefan Uellner, 2001, T-Nova, Deutsche telekom.

Figure 1 depicts the framework of an e-commerce. There are four parts in this framework. These are vendors, commerce service provider (CSP), merchants and end users.

**Vendors:** Vendors and components of e-commerce systems include commerce applications, payment processing and trust service.

**Commerce service providers (CSP):** They plan, build, and run e-commerce solutions for merchants. We are to make distinctions among operator CSPs, portal CSPs, and professional services CSPs. The service operation CSPs build and operate e-commerce application services, selling them on a wholesale basis to other service providers that operate customer pull. The portal CSPs give access for e-merchants to potential buyers. E-merchant services with a large customer base and strong brand identity can exploit these assets by providing their merchant customers with customer pull. The professional services CSPs providing merchant services customize the application to the needs of each merchant. Some of these customizations include design of the storefront, configuration of the applications and integration of the commerce application into other systems operated by the merchants.

**E-Merchants:** E-Merchants (companies, merchants, distributors etc.) want to sell products by means of electronic media. They are using different CSP services to get a more or less sophisticated e-commerce solution. Within the group of e-merchants SMEs should be particularly regarded because they could be the main target for applying an e-commerce framework.

**End users:** This is the group which ought to buy products by means of an e-commerce system. Its requirements has to be analyzed very carefully. E-commerce solutions tend to treat different user groups as well as different users individually (personalization).



PROPOSED FRAMEWORK FOR E-COMMERCE

FIGURE 2: PROPOSED FRAMEWORK OF E-COMMERCE

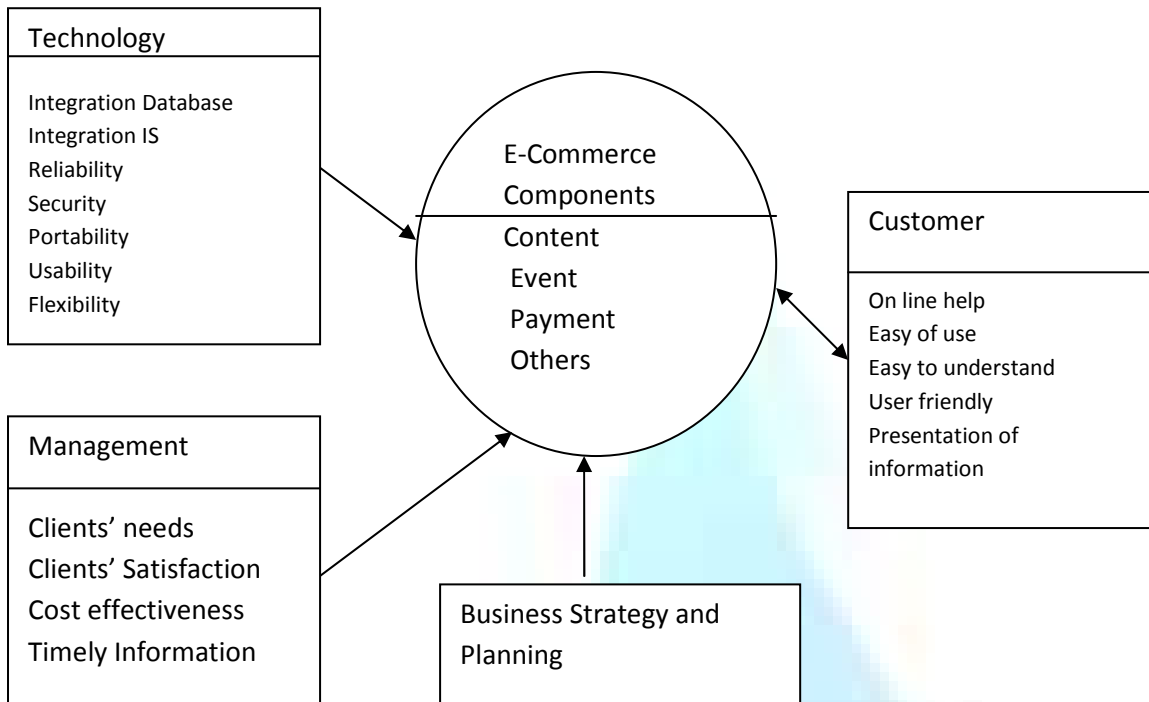


Figure 2 depicts proposed e-commerce framework for e-commerce organizations. Such a framework is not intended to be used as a step-by-step approach that is doggedly followed from start to finish. There are five parts in this framework. These are technology, management, business strategy, and planning e-commerce components and customers.

**Management:** Management includes several determinants or factors such as the clients' needs and satisfaction as shown in figure 2. Client satisfaction means the satisfaction of somebody who repeats Web purchases on a continuous basis (brand loyalty) and get a good service using an EC application. If the client is not satisfied with buying online and his needs are not met, top management will have great difficulties to justify the e-commerce components.

**Technology:** Technology includes several factors such as reliability, integration, portability and others as shown in figure 2. The technology includes quality factors that can be broadly categorized into three classes: 1) the first class contains those criteria (reliability, usability) that pertain to the use of E-commerce after it has become operational; 2) the second class pertains to the maintainability (flexibility) of E-commerce system that integrates all business applications; and 3) the third class includes factors (portability) that reflect the ease with which a transition to a new environment can be made.

**Customer:** A Customer requires to assess key elements in users interface design with respect to the presentation of information (quality, quantity, accessibility), display of presentation (quality, text appearance, colors and graphics), and usability (ease of navigation, effective task completion, effectiveness of the business link). These determinants, presented in figure 2, must be evaluated carefully to encourage users of E-Commerce.

**Business Strategy and planning:** Business strategy and planning for e-commerce aim to consider major trends occurring in the utilization of e-commerce and equip the organization to take advantages of appropriate e-commerce.

**E-Commerce components:** E-commerce components include content, event, payment and others. The objective of this section is to identify and analyze the key components in order to define a common categorization scheme valid for diverse e-commerce solutions.

**COMPARING EXISTING FRAMEWORK AND PROPOSED FRAMEWORK**

The main focus of the proposed framework for e-commerce is to add to the existing business strategy and planning. Business strategy and planning are the most important factors for every kind of organization for implementing e-commerce for maximizing its profit. In developing an e-commerce strategy, it is important that managers are clear on how organizations can leverage the connectivity, speed and accessibility created by the internet and associated technologies to extend, enhance and/ or enable business vision and strategy. In the proposed framework, management is considered for e-commerce framework, because success of any kind of organization depends on the right decision. So, success of e-commerce depends on the successful e-commerce decision made by the managers. Management domain includes clients' needs, clients' satisfaction, cost effectiveness and timely information. Customer is the main factor for any kind of commerce. Customer is defined more specifically in this proposed framework. By using this proposed framework, the owner of e-commerce can easily provide online help, become user friendly and easy of use services that ultimately increase the level of customer satisfaction and increase the market share.

**E-COMMERCE: BANGLADESH PERSPECTIVE**

We have to illustrate the state of IT (Information Technology) sector if we want to know the status of e-commerce infrastructure in Bangladesh. The IT sector in Bangladesh is still in a developing stage. Government-run universities' annual student intake is 512. The private universities enroll 745 students per annum. More than a dozen foreign affiliated and locally incorporated training centers' total annual enrollment is 11,000 students (Uddin, Md.Sharif "Current Situation of E-commerce in Bangladesh-2001) They provide computer literacy and basic knowledge on computer. The usage of computer in Bangladesh is shown in table1.

TABLE 1: USAGES OF COMPUTER

Business	PC/Employee	Internet user/PC	LAN	WAN	WWW
Garments industry(woven)	0.168	0.51	22%	15%	31%
Garments industry(Knitwear)	0.047	0.53	27%	18%	18%
Buying house	0.737	0.5	20%	10%	20%
Health	0.089	0.3	44%	6%	6%
Trading	0.04	0.83	10%	2%	8%
Real Estate	0.281	0.42	33%	0%	33%
Pharmaceuticals	0.047	0.09	100%	10%	30%
Courier	0.084	0.25	10%	10%	0%
Media	0.184	0.3	67%	0%	53%
Handicrafts	0.059	0.79	11%	0%	22%

Source: Uddin, Md. Sharif, "Current Situation of E-commerce in Bangladesh", <http://www.aptsec.org/seminar/meeting-2001/cs2001/EC-06-a-BTTB-BGD.ppt> p-3.

According to this table, the usage of computer in Bangladesh is very low. Besides this, the speed of the Internet is very slow as the necessary advancement of telecommunication infrastructure has not achieved.. Bangladesh is yet to be connected with the rest of the world over a fibre-optic backbone. Currently ISPs in Bangladesh are providing Internet services via VSATs from Singapore. The internet is the heart of e-commerce. Bangladesh has entered the internet age in 1996. At present there are roughly 450,000 thousand subscribers in the country. Many companies have acquired proficiencies in web page development.

E-Commerce in Bangladesh was actually started in the year 1999 by some non-resident Bangladeshi (Ishtiaque, Habib and Khan, 2002). In Bangladesh, the first B2C e-commerce site is [www.munshigi.com](http://www.munshigi.com) and it started in 1999. After that in 2000, [www.deshigreetings.com](http://www.deshigreetings.com) and [www.homeviewbangladesh.com](http://www.homeviewbangladesh.com) opened e-commerce sites. The first B2B e-commerce in Bangladesh is [www.bgmea.com](http://www.bgmea.com). Now, there are more than thirty companies who are using e-commerce application to provide easier services for the consumers. The most popular e-commerce sites in Bangladesh are described below.

**(1) www.munshigi.com:** Munshigi is the first ever Bangladeshi e-commerce web site. It was established in 1999 with a view to making the facilities of e-commerce available to the manufacturers, businessmen and general consumers of Bangladesh. It has another goal of introducing and promoting the indigenous products of Bangladesh world wide with a target to capture substantial portion of world market.

**(2) www.bajna.com :** Bajna is the Bengali music and books superstore, offering the largest selection of Bengali CD and book titles online. All transactions are completed through a secure connection. Items in stock are shipped within two business days.

**(3) www.bdjobs.com:** BdJobs.com Ltd. is the first and leading career management site in the country. Eight young business and IT professionals backed by strong command over e-business and in-depth understanding of the needs of job seekers and employers in the country's context started this venture in July 2000. The aim of bdjobs is to explore maximum benefits of the Internet

**(4) www.deshigift.com:** Deshigift.com is a safe and secures shopping site and Sister Company of Cimtech Inc whose head office is in the USA. It adopts strict security measures to ensure critically sensitive information, such as personal information and credit card details. At deshigift.com, consumers are its priority. It is dedicated to helping the consumers and delivers the quality gift of their choice, at a competitive price.

**(5) www.bangladeshgarments.info:** In Bangladesh, there still remains a vast scope for the development of building industrial capacity for B2B. The garment sector has led the way with BGMEA's launching of the first B2B portal in Bangladesh. However, due to inadequate emphasis on orientation and training of individual companies to update company information in the portal, its effectiveness has yet to meet initial expectations.

A number of e-commerce sites are developing in Bangladesh to serve the Bangladeshi people living within the country and abroad. It is a good sign and indicative of the growth of e-commerce in Bangladesh. But there are some constraints that affect the development of e-commerce in Bangladesh. These are lack of appropriate framework, education, limited accessibility to computers and internet, general awareness about e-commerce, lack of government awareness, lack of sufficient infrastructure, limitations of supportive legal systems, lack of online payment systems and inadequacy in banking infrastructure and low quality service provided by e-commerce company. These lacks have to be effectively removed for making e-commerce successful in Bangladesh.

## CONCLUSION & POLICY RECOMMENDATION

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 nations like Japan, Singapore, Hong Kong etc. The boom in e-commerce includes increased use of other media for trade, such as the telephone, television, fax, and electronic payment. Nevertheless, the problem of securing components for e-commerce and appropriate framework are the most significant barrier blocking its success. E-commerce could very well become a driving force in the consumer market and the software distribution industry, if appropriate framework is developed and security problems are solved. From the current points of view, the proposed framework is very promising for use an e-commerce for customized e-commerce solutions. There are a number of recommendations for development of e-commerce. These are: (i) Creation of consciousness about the business profit from e-commerce and develop appropriate framework; (ii) The government should take steps towards creating a legal framework conducive for e-commerce; (iii) All subject companies must develop websites to provide their customers with convenient online shopping/business purchasing transactions; (iv) Establishment of cyber café in the business association and chambers of traders and industrial entrepreneurs; (v) Encourage medium and small firms to prepare websites for selling their product through e-commerce; (vi) Government should establish proper educational institutions to create efficient IT professionals to support e-commerce. They can arrange training programs to increase the skill of IT professionals who are involved in e-commerce; (vii) To increase the use of computers and internet facilities, government should withdraw all taxes from computers and its accessories.

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**WEBSITES**

19. [www.bajna.com/about.shtml](http://www.bajna.com/about.shtml)
20. [www.bangladeshgarments.info](http://www.bangladeshgarments.info)
21. [www.bdjobs/about.asp](http://www.bdjobs/about.asp)
22. [www.deshigift.com](http://www.deshigift.com)

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