

ABSTRACT

- In this world of competitive business environment where every thing is getting supersonic speed, the old business trends are not finding them to provide the most suitable business solutions. Business world is becoming global market and the business rules, business processes and techniques are also required to be updated. The new threats and challenges are emerged as the outcome of globalization though the opportunities are also enhanced. The one of the major challenges of the business world is handling of huge data volumes to find relevant data and then to extract relevant and meaningful information to design planning and strategy to get the maximum benefit in any business domain. Although it seems to be
- Electronic commerce (e-Commerce) is a general concept which covers any form of business transaction or information exchange executed using information and communication technologies (ICT's).E-Commerce includes electronic trading of goods, services and electronic material e-Commerce systems include commercial transactions on the Internet but their scope is much wider than this e.g Electronic Market, Electronic Data Exchange (EDI), Internet Commerce. It is the commercialization and popularization of the Internet that has put e-Commerce towards the top of the public and political agenda but e-Commerce using electronic markets and EDI have been an established part of the business scene for at least a decade prior to the 'Internet era'. This article is provides an account of electronic commerce with respect to the link with various stake holders.

KEYWORDS

- E - Commerce
- Electronic Data Interchange (EDI),
- Electronic Fund Transfer (EFT),
- C-Commerce,
- L Commerce

History of Electronic Commerce

Electronic commerce (e-Commerce) is a general concept which covers any form of business transaction or information exchange executed using information and communication technologies (ICT's).E-Commerce includes electronic trading of goods, services and electronic material. E-Commerce systems include commercial transactions on the Internet but their scope is much wider than this e.g Electronic Market, Electronic Data Exchange (EDI) and Internet Commerce. It is the commercialization and popularization of the Internet that has put e-Commerce towards the top of the public and political agenda but e-Commerce using electronic markets and EDI have been an established part of the business scene for at least a decade prior to the 'Internet era'. The need for electronic commerce stems from the demand within business and government to make better use of computing and to better apply computer technology to improve customer interaction, business processes, and information exchange both within an enterprise and across enterprises.

During the 1970s, the introduction of electronic funds transfer (EFT) between banks over secure private networks changed financial markets. Electronic funds transfer optimizes electronic payments with electronically provided remittance information. Today there are many EFT variants, including the debit card whose use is becoming ubiquitous at points of sales (POS) in grocery stores and retail outlets, and direct deposits to employee bank accounts. Each day, over \$4 trillion change hands via EFT over the computer networks linking banks, automated clearinghouses, and companies. The U.S. Treasury Department estimates that 55 percent of all payments by the federal government in 1995 were made by EFT. During the late 1970s and early 1980s electronic commerce became widespread within companies in the form of electronic messaging

technologies: electronic data interchange (EDI) and electronic mail. Electronic messaging technologies streamline business processes by reducing paperwork and increasing automation.

Business exchanges traditionally conducted with paper, such as checks, purchase orders, and shipping documents, are conducted electronically. Electronic data interchange allows companies to send/receive business documents (such as purchase orders) in a standardized electronic form to/from their suppliers. For example, combined with just-in-time (JIT) manufacturing, EDI enables suppliers to deliver parts directly to the factory floor, resulting in savings in inventory, warehousing, and handling costs. Electronic mail does much the same for unstructured organizational communications both inside and across the organizational boundaries. Over the years, EDI has evolved into several different technologies. Electronic data interchange has been particularly successful for retail category management. Category management seeks to meet customer needs by putting the right product, at the right price, in the right amount, in the right place on the store shelf.

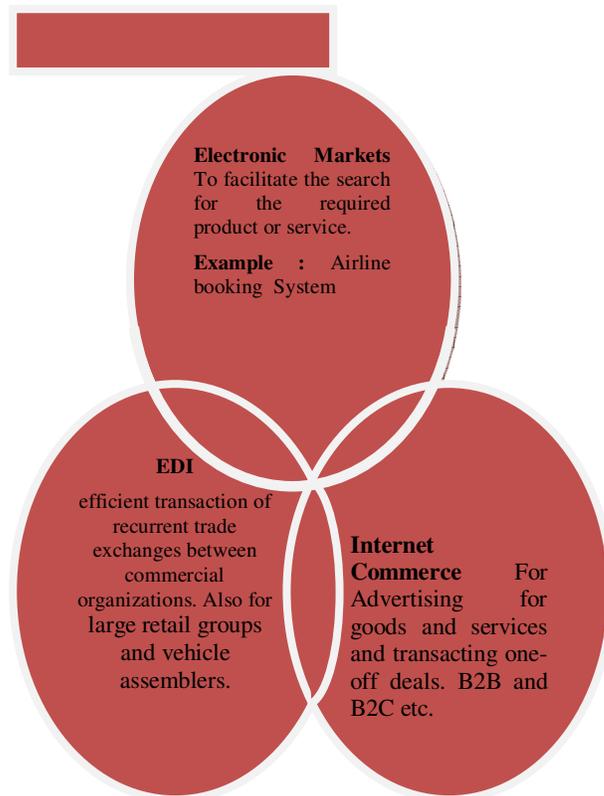
All products are divided into distinctly manageable groups, such as ready-to-eat cereal, and category managers make decisions on all similar items in a category instead of focusing on a single product. The uses of e-commerce for common man are very. Instead of just buying the lowest priced items, buyers utilize information about buying patterns and employ EDI technology to seek the largest savings for "hot" items in a category. This technology has improved buying practices and reduced costs for both manufacturers and retailers.

E-Commerce has got popularity due to world wide digital revolution. The Global village concept has emerged out and has brought unique changes in human culture by affecting their daily activities, professional and personal lives and also associated with it - business and commerce. Electronic commerce is based upon two components - electronic tools and commerce. E-Commerce involves the transactions in commerce with the support of electronic tools and communication media. Electronic commerce covers EDI, email on internet, Shopping at World Wide Web, Product sales and service sites on the web, electronic banking or funds transfer, outsourced customer care and employee care operations.

Features of E Commerce

It automates the conduct of business among enterprises, customers, suppliers & employees anytime anywhere. It also creates inter dependencies between company value chains & their suppliers & customers. The company can create competitive advantage by optimizing & reengineering those value chains to outsiders by automating them. The tools are electronic & the applications are commerce.

Figure 1 Categorization of E-Commerce



(Source: Whitely, David (2001), E Commerce: Strategy, Technologies and Applications, Tata McGraw Hill)

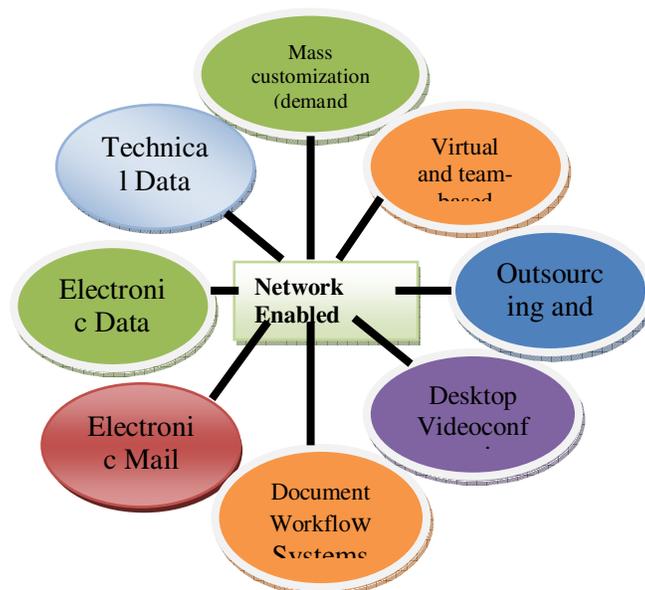


Figure 2 Network Enabled Business Practices

What is Electronic-Commerce (e-Commerce)?

E-commerce refers to a wide range of online business activities related to products and services. It is the process of buying, selling or exchanging products, services, and information through computer networks. It also pertains to "any form of business transaction in which the parties interact electronically rather than by physical exchanges or direct physical contact". E-commerce is usually associated with buying and selling over the Internet, or conducting any transaction involving the transfer of ownership or rights to use goods or services through a computer-mediated network. Though popular, this definition is not comprehensive enough to capture recent developments in this new and revolutionary business phenomenon. Another Comprehensive definition is: E-commerce is the use of electronic communications and digital information processing technology in business transactions to create, transform, and redefine relationships for value creation between or among organizations, and between organizations and individuals.4.

Dimensions of E-commerce

Digital Products

Digital Processes

Digital Agent

What is Traditional commerce ?

In traditional commerce, the dimensions are all physical in nature. All The business transactions are performed off-line. Physical agents and representatives are making the buying and selling of products.

What is Pure E-commerce

Pure e-commerce is having all the dimensions digital in nature. The all the business organizations are pure virtual (online) organizations. The buying and selling of products is all online.

What is Hybrid approach for commerce?

The hybrid commerce is an amalgamation of physical and digital dimensions of commerce. Major business is carried out in the physical world and it also provides some services on-line.

What is Mobile Commerce (M-Commerce)?

M Commerce means E-commerce in a wireless mobile environment.

What is Location Commerce (L-Commerce)?

M-commerce transactions targeted to individuals in specific locations at specific times.

What is Intrabusiness E-commerce?

This includes all internal organizational activities among various departments and sections in an organization.

What is Collaborative commerce (C-commerce)?

Individuals or groups collaborate online.

What is E-Business?

It is broader form of EC, which also includes

Servicing customers

Collaborating with business partners

Carry out transactions electronically within an organization

Basic Functions of Electronic commerce Systems

The companies also create electronic commerce capabilities out of a fear of falling behind competitors or as result of general momentum to expand the use of an existing Internet presence. But the primary value proposition is the prospect of increased revenue from new markets and creating of new, lower-cost, electronic-distribution channels.

Customer's perspective

From a customer's perspective, the purpose of an electronic-commerce system is to enable that customer to locate and purchase a desired good or service over the Internet when the customer is interested in making the purchase. Its function is no more or less than providing a virtual store.

Merchant's perspective

From a merchant's perspective, the key function of an electronic-commerce system is to generate higher revenues than the merchant would achieve without the system. In order for this to happen, the electronic-commerce system must recreate or utilize existing data and business processes. All of the same processes that the merchant must have in place to support an in-store or catalog purchase must also be in place for an electronic purchase; product information, inventory systems, customer service, and translation capabilities (including credit authorization, tax computation, financial settlement, and shipping).

Additional functions of an electronic commerce system, related to revenue generation, are to help redefine and enhance an enterprise's brand strength, customer-service capability; and supply-chain effectiveness. An electronic-commerce system is one of the areas of an enterprise's infrastructure that is open to customer via the web, but it should be linked with other information technology (IT) systems that affect customer service (i.e inventory and billing).

Service Provider's perspective

The benefits to the service provider of hosting electronic-commerce services include the following:

- Hosting revenue for providing connectivity to electronic-commerce services.
- Enablement revenue for helping clients develop electronic-commerce offerings (Web sites, catalogs, storefronts) for the customer's hosted offering.
- Advertising revenue for aggregating traffic within hosted offerings.

The value to a merchant (the service provider's customer)) of an electronic commerce- hosting service is that it enables the merchant to focus on its core business processes, leaving the service provider to manage the Internet access, network management, network security, quality of service, and server management. In this scenario, the home

shopper still needs Internet access and an access device, but the service provider could provide any or all of the remaining components on behalf of the merchant.

It is important that the service provider provide a hosting infrastructure that can scale and maintain quality of service as the customers requirements grow. The electronic-commerce platform chosen by the service provider must support a variety of tasks :

- the creation of a standard environment for storefronts and advertising sites
- the provision of a secure transaction environment
- the extraction and communication of orders
- the authorization of credit and clear payments
- the provision of site activity reports
- the provision of billing systems based on customer activity and advertising

In addition, the service provider's customers will look to it for a variety of enablement services: the creation of tools to build storefronts and advertisements; the documentation of the setup and site-building process; and the staging of the environment preliminary to production of the on-line hosting environment.

The customer, the service provider, or a third party could be responsible for the creation and hosting of the customer's web site, the creation and hosting of the catalog information, and the provision of systems-integration requirements for various information systems.

The service provider must also consider how it will expand its hosting capabilities to enable its customers to obtain the full value possible from an electronic-commerce environment, including links to customer service, inventory, and billing systems.

Electronic commerce requirements:

Enterprises, large or small, tend to develop their Web presence in stages, once a web presence is created, then the enterprise wants to use that site to enhance customer service and to produce revenue. It is at the latter stage that electronic commerce comes into play.

A service provider hosting customers will go through the same evolution described in the preceding module. It is not enough just to pick off the high-end client who represents the highest per-client revenue; there simply are not enough of them. Furthermore, the future opportunity is to provide a platform that can move a client along the range from low to high-function as client sophistication and needs evolve.

Many small and medium sized businesses are struggling with the high cost of entry to electronic commerce. Creating a complete on-line selling environment can require considerable time, money, and technical expertise. Many businesses are stalled at the first or second of the three

steps to building an effective electronic-commerce Internet presence. The Three Steps include the following

Step One

- Develop a content site (i.e. as opposed to a database-driven catalog) and handle transactions off-line
- Advantage : Simple Web sites can be developed easily and quickly at low cost.
- Disadvantages : This limits Internet function to promotion; no revenue opportunity is involved.

Step Two

- Develop an on-line catalog and handle transactions off-line.
- Advantages: No need for sophisticated technology is involved; the catalog can manage large product assortment
- Disadvantages: Catalog building adds expense, without the possibility of reducing expense through on-line transactions.

Step Three

- Develop an on-line catalog and handle transactions on-line
- Advantages: This can manage large product assortment and complete sale at lower cost.
- Disadvantages: Catalog building is expensive, and on-line transaction management requires sophisticated technology.

Emerging Strategic Issues

Critical strategy issues that are increasingly being considered in decision-making for electronic-commerce hosting are the following: A number of factors weigh in the decision of which segment to target, including the following:

- Host's existing business relationship with segment – Will this be a totally new offering to unfamiliar clients? or, will this be a new offering to a captured base of clients ?
- Business-to-business, business-to-consumer , or both- will the business clients be selling to other businesses or consumers ?
- Host's resources and competencies – Large enterprise clients typically require more care and feeding from the commerce host than SMB customers. At the same time, SMB clients typically cannot afford extensive custom services from the host. The host must also weigh which skills will be required in managing these customer relationships and whether they currently exist-or whether they must be developed from the ground up.
- Customer requirements – Large enterprise may demand more extensive features and functions than SMB, thus requiring greater expense on the part of the commerce host
- Market dynamics-Which segments will demand commerce services now and in the future ?

Competitive Advantage Using e-Commerce

Force	System	Competitive Advantage
New Entrants/Substitution	Internet	
e-Commerce	▪	Reduced entry costs
	▪	New Sales Channel
	▪	New service opportunities
Suppliers (& Trade Buyers)	e-Commerce	
Logistics	▪	Cost reductions

- Quick response
 - Lockin
- Buyers (Consumers) Internet
e-Commerce
- New sales channel
 - dis-intermediarisation
 - Customer Information
- Competitive Rivalry e-Commerce
- Cost leadership
 - Differentiation
 - Focus

Security issues

The security is the major concern of any kind of business transaction, whether it is paper based or electronic. The major security concerns implies the prevention of

- Destruction of information
- Unauthorized access to information

This leads us to deal with the following issues regarding electronic transactions.

Confidentiality : The information related to individuals and transactions must be protected against the unauthorized access. The confidentiality is associated with internal, external users including hackers. The specially designed algorithms are used as the tools to ensure confidentiality of the information. Such algorithm are capable to transform the original information in a special format which is not but obvious for the unauthorized users. Only the authorized user can re-transform the information back to its original version to make its use.

Integrity : Integrity leads to reliability. The information at the receiving end must be exactly same as that of the information which is transmitted from sending (source) end. There should be a provision to generate alerts in case of any kind of modification (Addition, Deletion, Editing) with the original information contents. Integrity also prevents information 're-play' i.e regeneration of the original contents by misusing the authorization features of the original authentic contents. Special purpose mechanisms are used to ensure the end-to-end content authentication.

Availability : The information should be available on the real time basis i.e it must be accessible within a predefined time constraint whether the information is stored or transmitted across communication networks. The major grounds of unavailability of information are operational errors, network problems, power failures, soft ware errors, hardware errors and virus attacks. Although the remedial measures are available for such threats but always not within the possibility of end-to-end message security w.r.t to electronic commerce.

Authenticity: It leads for genuineness. It is very important rather must to ensure the legitimacy of the source and the receiver of the transmitted information. This implies the need for a mechanism that can ensure the authenticity of the transmitted contents.

Non-repudiability : This ensures that neither the originator nor the receiver can deny the sending and receiving of the message respectively

at a later date. Therefore, there should be a mechanism to bind messages and message acknowledgements with their originators.

Auditability : Audit data must be recorded in such a way that all specified confidentiality and integrity requirements are met

The Forces behind e- Commerce

The changes like mass production to mass customization, increase in the number of knowledge workers, changes in the organizations strategies especially regarding the utilization of knowledge and relationship management with employees, internal as well as external customers. The earlier business strategy was capital intensive but now the knowledge intensive business is flourishing. The shift from traditional capitalists are changing their focus towards venture capitalist domain, which is the combination of the traditional business experiences like ability to project profits & loss forecast on the basis of set pattern & models of businesses and industries with very rich experience of years as functional/working business model thus having a well-documented historical data collection to be analyzed which is not the case with dot com era, which is not having that much of historical data to perform the SWOT(Strength/Weakness/Opportunities/Threat). Thus the term venture capitalist has emerged out as a new business concept. Another force behind the e-commerce is heavy dependency on systems & networks, due to state-of-art technologies which are easy to handle & reengineer.

Earlier business were having product as the business theme but in the present business arena services have also made their presence in the business world, which further strengthens the relationship strategy of the modern business era. The earlier business infrastructure was based upon brick and mortar structure, but the present business is shifting towards the virtual organizations thus leading towards the estructure in place of infrastructure. And the new business models are also focusing on the less cost and less manpower requirements but more knowledge utilization.

Economic forces : Although e-commerce is providing benefits to the seller as well as buyer in the business world the most obvious benefits are like reduction in cost e.g economic electronic transactions at high speed, low cost estructure (technological infrastructure), economical communication cost lower cost of information sharing, lower advertising cost and service alternatives for customer leads towards the economic efficiency of business model. The economic benefits can be internal or external integrations like electronic networking of corporations, suppliers, clients/customers, service providers under a virtual environment community using Internet and Extranet as a medium a medium of communication.

On the other hand, the internal integration is achieved by connecting various independent as well as interdependent departments within a business house along with the business operations and processes. This

Phase-II: Theme-Based Paper

provides an environment where vital business information can be stored in digital form which can be transmitted electronically over network instantaneously and can also be retrieved efficiently.

Intranet is the best example of internal integration by the corporate houses. Some companies with corporate intranets are IBM, Intel etc.

Market forces : The need of the hour, e-commerce, is having its applications in business world also, thus persuading the business models to use e-commerce for advertisement, marketing and promotion to make their presence in the international markets also irrespective of the size of the market.

The Internet is as well used as a backbone medium for enhancing customer satisfaction by providing more efficient services and support. Also the use of Internet provides ease for business houses to retain their customer base by providing them more comprehensive product details and service related information.

Technology forces : The venture of computer and Information and Communication Technology (ICT) has played very effective role in the growth of e-commerce. For example technological revolution in the area of digitizing content, compression and the promotion of open systems technology have designed the way for the fusion of communication services into single window service platform.

Emerging technologies has minimized the overhead of deployment of network services by eliminating the need of separate networks establishments for television broadcast, cable television, telephone services and Internet access. This leads for lower communication costs such as Triband service of Mahanagar MTNL.

The high cost of installing landlines in thinly populated rural areas is a discouragement to telecommunications companies. But it can be more encouraging to the private sector if revenues from these landlines are not limited to just telephone call charges, but also include Internet and cable TV charges. This will ensure the affordable access to information even by the rural population and also the government will be able to save installing of expensive landline networks.

Non economic benefits of e-commerce

E-commerce serves as a Gateway for the start-up establishment for small- and medium-sized enterprises to reach the global market. If we consider the case of Amzaon.com, which is a pure virtual bookstore having no bricks and mortar space. Even though the annual sales rate is approximately \$1.2 billion, which is giving competition to 235 Barnes & Noble superstores. The Amazon has spent only \$56 million on fixed assets, where as Barnes & Noble has spent about \$118 million for 235 superstores.

But, it does not reject the point that without a good e-strategy (e-business strategy) ecommerce may in some cases discriminate against SMEs because it shows proprietary pricing information.

Even if the e-business plan is very well defined it does not fully disregard traditional (old) economy values. The proof in the support of this philosophy is dot-com bust.

As per the statistics of Webmergers.com, since the height of the dot-com bust in January 2000, approximately 862 dot-com companies have failed.

Most of these were ecommerce and content companies. The slump of these companies caused the downfall of Internet-content providers, infrastructure companies, Internet service providers, and other providers of dial-up and broadband Internet-access services.

Conclusion

The information technology and internet dramatically changed the way of business. In the real life business activities, participants often negotiate various multiple issues. But in e-commerce, these interactions between the businesses and their consumers are improved and combined with new information (e-business) technologies may not have been given much macroeconomic attention in the past, its effective implementation can help firms reduce costs, increase revenues, boost efficiencies, and expand market opportunities. The research evidences strongly suggests these improvements are linked to macroeconomic benefits which focuses the bottom line is that new information technologies make more and better information available in real-time at lower costs to those who need it. And the end result is that consumers benefit from lower prices, higher quality products and services, and animproved variety and selection of goods.

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