CHAPTER -I
INTRODUCTION

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1.1 History of E-Commerce:

History of E-commerce dates back to the invention of the very old notion of “Sell” and “buy” electricity, cables, computers, modems, and the internet. E-commerce became possible in 1991 when the internet was opened to commercial use. Since that date thousands of businesses have taken up residence at websites.

At first, the term e-commerce means the process of execution of commercial transactions. electronically with the help of the leading technologies such as electronic data interchange and electronic funds transfer (EFT) which gave an opportunity for users to exchange business information and do electronic transactions.\(^1\) The ability to use these technologies appeared in the late 1970s and allowed business companies and organizations to send commercial documentation electronically.

Although the internet began to advance in popularity among the general public in 1994. It took approximately four years to develop the protocols For example hyper text transfer Protocol (HTTP) and DSL which allowed rapid access and a persistent connection to the internet. In 2000 a great number of business companies in the United States and Western Europe represented their services in the world wide web. At this time the meaning of the word e-commerce was changed. People began to define the term e-commerce as the process of purchasing available goods and services over the internet using secure connection and electronic payment services. Although the dot.com collapse in 2000 led to unfortunate results and many of e-commerce companies disappeared the “brick & mortar” retailers
recognized the advantages of electronic commerce and began to add such capabilities to their websites. (eg. after the online grocery store webvan came to ruin, two supermarket chains, Albert - Sons and Safeway, began to use e-commerce to enable their customers to buy groceries online.) By the end of 2001, the largest form of e-commerce, Business-to-Business (B2B) model had around $700 billion in transaction.

Online vendors, in their turn, also get distinct advantages. The web and its search engines provide a way to be found by customers without expensive advertising campaign. Even small online shops can reach global markets. Web technology also allows to track customer preferences and to deliver individually tailored marketing.

History of E-commerce is unthinkable without Amazon and Ebay, which were among the first internet companies to allow electronic transactions. Thanks to their founders we now have a handsome e-commerce sector and enjoy the buying and selling advantages of the internet. Currently there are 5 largest and most famous worldwide internet retailers: Amazon, Dell, Staples, Office Depot and Hewlett Packard. According to statistics, the most popular categories of product sold in the worldwide web are music, books, computers, office supplies and other consumer electronics.

Amazon.com, Inc is one of the most famous e-commerce companies and is located in Seattle, Washington (USA). It was founded in 1994 by Jeff Bezos and was one of the first American e-commerce companies to sell products over the internet. After the dot.com collapse Amazon lost its position as a successful business model.
However, in 2003 the company made its first annual profit which was the first step to the further development.²

At the outset Amazon.com was considered as an online bookstore, but in time it extended a variety of goods by adding electronics, Software, DVD’s, Video games, Music CDs, MP3s, apparel, footwear, health products, etc.³ The original name of the company was cadbra.com but shortly after it became popular in the internet. Bezos decided to rename his business “Amazon” after the world’s most voluminous river in 1999. Jeff Bezos was entitled as the person of the year by time magazine in recognition of the company’s success. Although the company’s main head quarters is located in the USA, WA, Amazon has set up separate websites in other economically developed countries such as United Kingdom, Canada, France, Germany, Japan, and China. The company supports and operates retail web sites for many famous businesses, including Marks & Spencer, Locoste, the NBA, Bebe Stores, Target etc.

Amazon is one of the first e-commerce businesses to establish an affiliate marketing program and nowadays the company gets about 40% of its sales from affiliates and third party sellers who list and sell goods on the web site. In 2008 Amazon penetrated into the cinema and is currently sponsoring the film “The Stolen Child” with 20th century Fox.⁴

According to the research conducted in 2008 the domain Amazon.com attracted about 615 million customers every year. The most popular feature of the web site is the review system i.e. the
ability for visitors to submit their reviews and rate any product on a rating scale from one to five stars.

Amazon.com is also well-known for its clear and user friendly advanced search facility which visitors to search for keywords in the full text of many books in the database.

One more company which has contributed much to the process of e-commerce development is Dell inc. An American company located in Texas, which stands third in computer sales within the industry behind Hewlett-Packard and Acer.

Launched in 1994 as a static page, Dell.com has made rapid strides and by the end of 1997 was the first company to record a million dollars in online sales. The company’s unique strategy of selling goods over the world wide web with no retail outlets and no middleman has been admired by a lot of customers and imitated by a great number of e-commerce businesses. The key factor of Dell’s success is that Dell.com enables customers to choose and to control i.e. visitors can browse the site and assemble PCs piece by piece choosing each single component based on their budget and requirements. According to statistics, approximately half of the company’s profit comes from the web site.

History of e-commerce is a history of a new virtual world which is evolving according to the customer advantage. It is a world which we are all building together brick by brick, Laying a secure foundation for the future generations.
1.2 Electronic Commerce: -

Information Technology has transferred the way people work. Electronic commerce has unleashed yet another revolution, which is changing the way businesses buy and sell products and services. Associated with buying & selling of information, products and services over computer communication networks. E-commerce helps conduct traditional commerce through new ways of transferring and processing information, since it is information which is at the heart of any commercial activity. Information is electronically transferred from computer to computer in an automated way.

E-commerce refers to the paperless exchange of business information using electronic data interchange, electronic mail, electronic bulletin boards, electronic funds transfer, world wide web, and other network based technologies. E-commerce not only automates manual processes and paper transactions, but also helps organizations move to a fully electronic environment and change the way they operate. After the e-commerce framework was announced by the US Government in 1997 at the time when the internet was allowed to be used by commercial organizations - it was the US Governments announcement that all Federal purchases would be made paperless that gave an impetus to this new way of conducting trade and commerce. Surprisingly, it is an application that is today associated with e-governance, Namely e-procurement. The European Union followed with a similar directive to its member states to make government procurement paperless through e-procurement. In fact, e-procurement using E-commerce tools turned out to be one of the
major drivers in the growth of e-commerce. In the last decade, organizations have started conducting ecommerce over the internet, the network of networks. The internet gave yet another boost to e-commerce because it is a low cost alternative to proprietary networks. E-commerce standards are, however, under development. The more well known Electronic Data Interchange (EDI) the inter-organizational exchange of business documentation in structured; machine - process able form over computer communication networks, is still the dominant part of e-commerce.

“Electronic commerce is an emerging concept that describes the process of buying and selling or exchanging or products, services and information via computer networks including the internet.”

- (Turban Lee at al.)

E-commerce is a selling and transfer process requiring several institutes. It is a systematic and organized network for the exchange of goods between producers and consumers. E-commerce technology is changing in a big way just keeping pace with the changing world will be a full time task. It is impossible for any individual to keep pace with all the changes to technology that are occurring today as he needs the assistance of staff, consultants, outsourced services and suppliers. E-commerce stands for electronic commerce and pertains to trading in goods and services through the electronic medium i.e. the internet or phone. On the internet, it pertains to a website, which sells product or services directly from the site using a shopping cart or shopping basket system and allows credit
card payments. It involves conducting business with the help of electronic media, making use of the information technology such as Electronic Data Interchange.

Gathering information, processing, manipulating and distributing is common to trade & commerce, no matter what the commodity or service that is being exchanged. Today, it is the velocity of information processing and dissemination, which determines the speed of real commerce. Computers and Networks by virtue of their sheer speeds, are creating electronic marketing with the potential to be more efficient in finding and interacting with customers, communicating with trading partners and developing new products and markets. While on the one hand, Local Area Networks (LANs) and enterprise wide Intra-Networks have resulted in rising expectations for data access communications and productivity throughout the business world, on the other, low cost high speed open networks interconnected as a network, commonly known as the internet, have kept pace with the requirements through the establishment of national information infrastructures, with high speed national information highways being their main backbones, widespread access to network communication tools including electronic mail (e-mail), online services, and Web browsers have created a new awareness of the commercial potential of the internet. While the internet has already been successfully used for marketing, advertising and some commerce much of its technical potential remains to be commercially harnessed. EDI is still the proven application of E-commerce especially for business-to-business commerce.
Organizations and countries worldwide are seized of the impact e-commerce will have on the world economy, Globalization of markets, International trade, Financial markets etc. The world is at the threshold of a new industrial revolution that is being shaped by the internet in general and e-commerce in particular. E-commerce implies not just using Network based technologies to conduct business. It is about moving organizations to a fully electronic environment through a change in their work procedures, re-engineering their business processes, and integrating them with their business partners beyond their traditional boundaries. E-commerce has brought about a veritable revolution in the way business is conducted. There is a paradigm shift from paper-based transactions to fully electronic organizations, and as observed earlier, IT, in general and tools of Internet commerce have begun to transform industries in many fundamental ways.

1.3 Definition:

There are several definition of E-commerce as mentioned below

“Electronic commerce is a general concept covering any form of business transaction or information exchange, executed using information and communication technology between companies and their customer or between companies and public administration.”

“Electronic commerce includes electronic trading of goods, services & electronic material”.
“Formulating commercial transactions at a site remote from the trading partner and then using electronic communication to execute that transaction”

The European commission has defined E-commerce in the most comprehensive way as under “E-commerce is about doing business electronically. It is based on the electronically. It is based on the electronic processing and transmission of data, including text sound and video. It encompasses diverse activities few of which are given hereunder.

* Trading of goods & services
* Online delivery of digital content
* Electronic Fund Transfer
* Remote Banking, supply chain management
* Public procurement
* Electronic Trading of Shares
* Electronic bills of Lading and related commercial auctions.
* Collaborative design and engineering
* Direct consumer marketing
* Online shopping, Advertisement etc.

It facilitates trading in products, services viz information services, Financial & Legal services, traditional activities and new activities like E-mail”.

Electronic commerce is a contemporary business methodology which addresses the needs of organizations, merchants and consumers
to cut costs while improving the quality of goods & services and increase the speed of service delivery using computer network to search and retrieve information. E-commerce is associated with the buying & selling of information products and services via computer networks. In other words it is a way of transacting business electronically and in many cases over the internet. E-commerce is well suited to facilitate the current re-Engineering of business processes occurring at many organizations. The broad objectives of E-commerce includes reduced cost, lower improved service quality by reducing paper work and increasing Automation. Today the emphasis has shifted from the narrow focus to the Invention of entirely new business applications for getting closer to the customers. New types of information based business such as online advertising and marketing, reduce costs in managing orders, Interacting with a wide range of suppliers and trading partners have emerged there by introducing a paradigm shift in the operation of market forces.

E-commerce facilitates formation of new types of information based products such as interactive games, electronic books & information on demand. It has also resulted in improved efficiency in interacting with customers & communicating with trading partners, besides developing new products and markets. The key element of e-commerce is information processing E-commerce is a new way of conducting, managing and executing business transactions using computer and telecommunication networks. E-commerce is expected to improve the productivity and competitiveness of participating businesses by providing unprecedented access to an online global
marketplace with millions of customers and thousands of products and services. E-commerce is to provide participating companies with new move cost & time. Efficient means for working with new customers, suppliers and development partners.

E-commerce is a tool which leads to enterprises integration for an Organization, for an industry and ultimately for the vast network of small business, Government Agencies, large corporate and independent entrepreneurs e-commerce facilitates extended reach of business by bringing in customers from previously untouched regions without incurring additional expenses of opening up branch offices or expensive advertisement campaigns. Many companies are pooling their resources and talents through alliances and mergers with other companies to make the electronic marketplace a reality. E-commerce has become irrevocably linked with the idea of convergence of industries centered on information. Convergence is broadly defined as the melding of consumer electronics. Television, publishing telecommunications and computers for the purpose of facilitating new forms of information based commerce. Impact of convergence broadly includes widening of the portfolios and strengthening of existing customer relationships creating opportunity and pressure to enhance delivery capability through services or product. It results in addition of more and more products supplementing each other in it.

E-commerce requires robust servers to store and distribute large amount of digital content to consumers. These multimedia storage servers
are large information warehouses capable of handling various contents ranging from books, newspapers, advertisement catalogue and movie etc. Steady advance in digital memory technology are making mass storage devices technologically feasible and increasingly cost effective. All E-commerce applications follow the client server model. In industries where the product or service is largely digital such as banking, advertising, publishing travel and entertainment. E-commerce restructures the entire industry. E-commerce enables new forms of products & services and new ways of delivery.

E-commerce is a modern business methodology that addresses the need of organization merchants and consumers to cut cost while improving the quality of goods efficiency and increasing the overall speed of service delivery. A basic element of e-commerce is information processing. The information processing activity is usually in the form of business transactions and few such examples are as follows.

* Transaction between a organization and the consumer over public networks for home shopping or home banking using encryption for security and electronic cash, electronic purse, credit, prepaid or Debit card for payment.

* Transaction for information distribution with prospective customers including interactive advertising sales and marketing.

* Transaction for information gathering such as market research using Barcode Scanner, managerial decision making or
organizational problem solving and information manipulation for supply chain management. The E-commerce transactions can occur within and between three basic participant group VIZ Business, Government and consumer.

At present most transaction in the E-commerce occur on Business to Business level. The activities are also increasing on Business to Government (B2G) levels in connection with the public procurement and with administrative functions like customers taxation and Excise.\(^{21}\) The use of technology as a carrier of information is recent phenomenon which has been escalated through the growth of internet, in the corporate and individual sectors.\(^{22}\)

According to NASSCOM projections, India can earn revenues of as such as Rs. 48,000 crores by 2005 by e-business service market.

E-commerce is on the rise. Industry and market research firms report that online business trends have far exceeded expectations. According to Giga Information Group, E-commerce revenues could reach between $580 billion and $ 970 billion in 2002.\(^ {23}\) International Data Corporation (IDC) a research giant, has projected that world wide e-commerce sales could be $ 1.6 trillion by 2003.\(^ {24}\) These figures don’t even account for the cost savings associated with e-commerce ventures such as marketing procurement, customer service, and improvement in operation.

E-commerce is basically doing business online in its most obvious form. E-commerce is selling products online to consumers: but in fact any business conducted electronically is e-commerce.
E-commerce is simply the creating, managing and extending of commercial relationship or commercial activities online.

Successful e-commerce ventures might involve purchasing, developing and designing products; managing production on manufacturing, marketing and co-marketing sales, services, collaboration among businesses or affiliates; distribution of products research, dissemination of information, setting up commercial communication, Educating, Entertaining and probably all sorts of other business activities that haven’t yet been though up. Here are just a few examples of e-commerce in action:

* Consumer learning about products online before buying at a real world (Offline) location.
* Consumers ordering products online and receiving them either via traditional shipping or via the internet.
* Students participating in online education programs to receive degree or professional training.
* Citizens renewing their driving licenses, registering their cars, filing their taxes, applying for building permits or conducting other business with Government agencies online.
* Business selling products and services online to consumer or to other business.
* Business tracking projects online or transferring electronic files such as images, database record or text file via the internet.
* Business providing technical or customer support 24 hours a day, seven days a week.

* Entertainment and other venues promoting their events online or even creating online events.

* Governments and their agencies receiving and processing requests for proposals and other procurement document via the internet.

* Revenue - producing E-commerce ventures can include:

  * Selling products or services directly online.

  * Selling advertising space but remember that advertising on your website won’t be an attractive proposition unless your traffic is high and to create a lot of traffic your content has to be very very compelling.

  * Selling sponsorships of sites of contents to others much as the Public Broadcasting service (PBS) does on T.V.

  * Selling product placement much like when certain products casually appear in a scheme of a movie.

  * Selling subscriptions to periodical information reference information or site services.

  * Licensing content such as text; information, Images, Video or Sound to others.

* Taking commission on sales on customer to customer or business to business auctions or on aggregate purchases.
Cutting costs in an often overlooked but tangible way for a e-commerce ventures to pay for itself for examples if your product is deliverable over the internet meaning that it is digitized, such as software or it can be digitized such as Images, other printed documents or music you can reduce or avoid altogether many cost associated with manufacturing ;packaging and distributing your product. Time to market also improves when you don’t have to go through traditional manufacturing and distribution channels.

Cost saving can also result from online communication with your sales people improved document management and workflow processes; project management and tracking of projects, services and people.

**1.4 E-COMMERCE MARKET MODELS**

E-commerce conducted between businesses differs from that carried out between a business and its consumers. There are five generally accepted types of E-commerce.

**1. Business to Business (B2B)**

Business to Business e-commerce facilitates inter-organizational interaction and transaction. This type of e-commerce requires two or more business entities interacting with each other directly, or through an intermediary. The intermediaries in Business to Business e-commerce may be markets and directory
service providers, who assist in matching buyers and sellers and striking a deal. The business application of B2B electronic commerce can be utilized to facilitate almost all facets of interactions among organizations, such as inventory management, channel management, distribution management, order fulfillment and delivery and payment management. The B2B electronic commerce can be a supplier centric, buyer-centric or an intermediary-centric. In the supplier-centric model, a supplier sets up the e-commerce marketplace. Various customer/buyer businesses interact with the supplier at its e-commerce marketplace.

Typically, it is done by a dominant supplier in the domain of products it supplies. The supplier may provide customized solutions and pricing to fit the needs of buyers businesses. The supplier may also institute different pricing schemes for buyers. Usually differential price structure is dependent upon the volume and loyalty discount.

In buyer-centric e-commerce, major businesses with high volume purchase capacity create an e-commerce marketplace for purchase and acquisition by starting a site on their own. The online e-commerce marketplace is used by buyer for placing Requests For Quotations (RFQS) and carrying out the entire purchase process. This kind of facility may be utilized by high volume and well recognized buyers, as they may have adequate capacity and business volumes to lure suppliers to bid at the site. The United States Government and the General Electric’s Trading Process Network are examples of buyer-centric e-commerce.
In intermediary-centric e-commerce, in the B2B context, a third party sets up the e-commerce marketplace and attracts both the buyer and seller businesses to interact with each other. The buyers and sellers both get benefit from the increase options in terms of pricing, quality, availability and delivery of goods. The third party e-commerce marketplace acts as a hub for both suppliers and buyers, where buyers place their request for the quotations and seller’s respond by bidding electronically, leading to a match and ultimately to a final transaction. The role of the intermediary company is that of an electronic market maker. It is essential that the intermediary company represent a large number of members in that specific market segment, i.e. both the buyers and the sellers. The intermediary reduces the need for buyers and sellers to contact a large number of potential partners on their own. The intermediary, by electronically connecting many different buyers and sellers through database of potential. Suppliers and buyers, fulfills the role. The information available from the intermediary’s database allows a buyer to screen out obvious unsuitable sellers and to compare the offerings of many different potential. Sellers quickly, conveniently and inexpensively.

2) Business - to - Consumer

Business - to - Consumer (B2C) e-commerce offers consumers the capability to browse, select, and buy merchandise online, from a wider variety of sellers and at better prices. The two or more entities that interact with each other in this type of transaction involve one selling business and one consumer. The selling businesses offer a set of merchandise at given price, discounts, and shipping and delivery
options. In this type of e-commerce the sellers and consumers both benefit through the round clock shopping accessibility from any part of the world, with increased opportunity for effective direct marketing, customizations, and online customer service. The application of e-commerce in the retailing segment has

Seen. It evolves from an online version of catalog selling to accepting orders and payments online and translating zero inventories into huge discounts on the prices of items. The B2C model of e-commerce transaction is ideally suited for the following types of merchandise.

1. Goods that can be easily transformed into digital format, such as books, music clips and videos and software packages.

2. Items that follow standard specifications, like printer ribbons, ink, cartridges etc.

3. Highly rated branded items or items with return security: such as Dell and Compaq computers, electronic gadgets from Sony, etc.

4. Items sold in packets that cannot be opened even in physical stores, eg. Kodak film rolls.

5. Relatively cheap items where saving - outweigh risks.

6. Items that can be experienced online, such as music, videos etc.

The B2C electronic commerce opportunity has been utilized by three types of businesses - channel enhancement, the online internet based stores and small businesses trying to surpass entry barriers. Existing businesses may use it for expanding the market place and
revenues by utilizing the internet as a new channel to do business with customers. Mail-order catalogue businesses were the early players who took advantage of the web and internet as they set-up their websites where customers could place orders for goods and services online.

Also existing consumer merchandisers with established store channels adopt B2C electronic commerce to augment sales through a new channel, as well as to make it easier to reach out to global customers. Online internet based B2C electronic commerce consists of those business that start and build their own electronic commerce business solely on the web to compete with established players utilizing the market efficiency offered by e-commerce. These business gain from average the market efficiency offered by reduced or no inventory online transaction, and payment and delivery mechanisms. Since the internet offers global reach and an ever expanding market place for goods and services, many small businesses, and antiques and arts and craft sellers can also derive the benefits of e-commerce. These B2C electronic commerce businesses have the option of either setting up their own online shop to attract consumers to the business or becoming part of an intermediary who may be running a shopping mall representing a cluster of businesses. A vast majority of these small businesses may not be in position to create a website and attract enough customers to that site in order to make it a viable option. In the intermediary model consumers are attracted to the mall or some shop in the mall and may in window-shopping or cross-shopping at other stores.
3 Consumer - to Business

Consumer - to - Business (C2B) can be described as a form of e-commerce where, the transaction, originated by the customer has a set of requirement specifications and specific price for a commodity, service or item. It is the responsibility of the e-commerce business entity to match the requirements of consumers to the best possible extent. C2B enables a consumer to determine the price of product and or service offered by a company. In this type of e-commerce consumers get a choice of a wide variety of commodities and services along with the opportunity to specify the range of prices they can afford or are willing to pay for a particular item, service, or commodity. As a result, it reduces the bargaining time, increases the flexibility and creates ease at the point of sale for both the merchant and the consumer.

4 Consumer to Consumer

C2C is the e-commerce activity that provides the opportunity for trading of products and / or services amongst consumers who are connected through the internet. In this category electronic tools and internet infrastructure are employed to support transactions between individuals. Traditional economic activities corresponding to classified advertisement and actions of personal possessions form the basis for the category much of the transactions in this category correspond to small gift items, craft merchandise, and similar items that are normally sold through flea markets or bazaars, where individuals sell their goods to other individuals at a market determined prices.
C2C electronic commerce promotes the opportunity for consumers to transact goods or services with other consumers present on the internet. The C2C, in many situations, models the exchange systems with a modified form of deal making for deal making purposes a large virtual consumer trading community is developed. The customer operates by the rules of this community to complete, check, and decides his own basic selling and / or buying prices. To many others, it is defined as a financial interaction between non-business entities using the web traditionally, C2C electronic commerce has been conducted through both trading forms and intermediaries such as auctions classified advertisements and collectible shows.

5 Business to Government (B2G)  

It is a new trend in e-commerce. This type of e-commerce is used by the government departments to directly reach to the citizens by setting-up the websites. These websites have Government policies, rules and regulations related to the respective departments. Any citizen may interact with these websites to know the various details. This helps the people to know the facts without going to the respective department. This also saves time of the employees as well as citizens. The concept of Smart city has been evolved from B2G e-commerce.

6. Business - to - Employee  

This is concerned more with marketing a corporation’s internal process more efficiently. Customer care and support activities also hold ground the requirement is that are all self service with applications on the web that the employees can use themselves.
1.5 Applications of E-commerce

Following are some of the widely used e-commerce applications.

* Internet Bookshops

It is one of the first applications of e-commerce on internet. Books as an item of merchandize have the following significant advantages for the online retailers.

* Books can be described well on the internet moreover, it is not an item, which is required to be checked physically.

* Normally the books have nominal prices and not too much risk is involved in the online payments.

* Books are small items and can be delivered in the customer’s letterbox.

The customer does not need to be at home.

Amazon.com is an example of internet book shops. The large online bookstores need a sophisticated website, both to attract and retain the attention of their customers. The facilities of the online bookshop may include

* A large database of books. The details available for display include a picture of the cover, description of the book including page numbers, price of the book and reviews of other customers also if possible.

* The book can be searched with the help of search engines. The
search can be made on the Author’s name, title of the book or the subject etc.

* There may be software on the site, that may record the interest of the particular customer and can inform the customer on the new arrivals on that subject. Some large online bookshop sites are -
  * www.amazon.com
  * www.barnsandnoble.com
  * www.bol.com
  * www.bookshop.blackwell.co.uk.

* **Grocery Supplies**

One who goes to purchase items from the supermarket must be aware of some of the similar problems as described below.

* The customer has to plan to go to the supermarket at the scheduled time of opening of the supermarket.

* The car park may be overcrowded.

* The supermarket may also have a big crowd.

* You have to pick the items on the checkout, reload into bags, load again into the car, take to the home and unload again from the car.

  All these problems may be resolved with the help of online supermarket or those who do not want to go.
The online supermarket is similar to any other online shop. The customer has to log-on on the site and select the groceries that are required. The staff pick the goods pack and dispatch them.

Some of the noteworthy sites for grocery supplies are as follows:

* www.peapod.com
* www.homestore.com
* www.sainsbury.co.uk
* www.tesco.net
* Electronic Newspapers

One of the hot areas on the internet is the electronic newspaper. Electronic Newspaper has advantages over both, the printed newspapers and the broadcast news on radio and televisions. In comparison to printed newspapers, the e-newspaper can give up-to-date news similar to broadcast news. Further, the browser could be set to select the news of interest of the reader and to leave out the rest. This is not possible with the broadcast news. Despite the said advantages, the electronic newspapers are not being very popular due to the following reasons:

* Radio and television news are often consumed while people are doing other things like eating their foods or driving a car.
* Printed newspapers may be read on the train or in the park and then may be shared with someone else.
The printed newspapers give the reader the chance to be selective (the selection depends on the moods and time of the reader). There are a number of online newspapers and most of them are web versions of existing newspapers. For example:

- www.timesofindia.com
- www.dainikjagran.com

**Internet Banking**

Some times the bank customers want to make an urgent payment but to visit the bank is not convenient. Similarly, to go to the bank to just know the balance is also not justified. Internet banking (or telephone banking) can solve these problems. To solve the problems on phone or internet is also profitable for banks as it reduces their overheads. With the help of online banking a customer can check his or her balance at any time of the day or night. The customer can also pay various bills like telephone electricity etc. without going to the bank or billing centers. The typical services offered by the online banking are as follows:

- The customers can check their account balances at any time.
- The customer can obtain statements regarding any specific debit or credit that has gone through.
- Credit transfers so that bill can be paid online.
- Maintenance of standing orders and direct debits.
- The major service that is not provided in cash and cash out. To get the money, the customer has to go to the bank or ATMs.

Some sites related to Internet banking are as follows.
You cannot use the services provided by the online banks till you are not the customer.

**Electronic Auctions**

Auctions have been a well-established market mechanism for trading items at a market negotiated price, based upon demand and supply. The internet has added a new dimension by creating an online mechanism for implementing the auction process. Traditional Auctions had limited participation of people who turned up at the place of auction. Today, the same auction mechanisms can be implemented using e-commerce technologies, allowing people connected through the internet to bid. Electronic auctions potentially encourage greater participation as internet users can connect to a web hosting an Auction and bid for an item. www.wbay.com<http://www.wbay.com> and www.auctionindia.com<http://www.auctionindia.com> are the examples of such sites.

**1.6 ARCHITECTURAL FRAMEWORK FOR E-COMMERCE**

Architectural framework of e-commerce means the synthesizing of various existing resources like DBMS, data repository, computer languages, software agent based transactions, monitors or communication protocols to facilitate the integration of data and software for better applications.
The Architectural framework for e-commerce consists of six layers of functionally or services as follows.

1. Applications :-

In the application layer services of e-commerce, it is decided that what type of e-commerce application is going to be implemented. There are three types of distinguished e-commerce applications i.e. consumer to business application, business to business application and intra-organizational application.

2. Interface and support services :-

The third layer of the Architectural framework is interface layer. This layer provides interface for e-commerce applications. Interactive catalogs and directory support services are the examples of this layer. Interactive catalogs are the customized interface to customer applications such as home shopping. Interactive catalogs are very similar to the paper-based catalog.

The only difference between the interactive catalog and paper-based catalog is that the first one has the additional features such as use of graphics and video to make the advertising more attractive.

Directory services have the functions necessary for information search and access. The directories attempt to organize the enormous amount of information and transactions generated to facilitate e-commerce. The main difference between the interactive catalogs and directory services is that the interactive catalogs deal with people while directory support services interact directly with software applications.
3. Information Brokerage and Management Layer

This layer is rapidly becoming necessary in dealing with the voluminous amounts of information on the networks. This layer works as an intermediary who provides service integration between customers and information providers, given some constraint such as low price, fast services or profit maximization for a client. For example, a person wants to go to USA from India, the person checks the sites of various airlines for the low-price ticket with the best available service. For this he must know the URL’s of all the sites. Another aspect of the brokerage function is the support for data management and traditional transaction services. Brokerages may provide tools to accomplish more sophisticated, time-delayed updates or future-compensating transactions.

4. Secure Messaging Layer

In any business, electronic messaging is an important issue. The commonly used messaging systems like phone, fax and courier services have certain problems like in the case of phone. If the phone line is dead or somehow the number is wrong, you are not able to deliver the urgent messages. In the case of courier service, if you want to deliver messages instantly, it is not possible as it will take some time depending on the distance between the source and destination places. The solution for such type of problems is electronic messaging services like e-mail, enhanced fax and EDI.

The electronic messaging has changed the way the business operates. The major advantage of the electronic messaging is the
ability to access the right information at the right time across diverse work groups.

The main constraints of the electronic messaging are security, privacy and confidentiality through data encryption and authentication techniques.

5. Middleware Services:

The enormous growth of networks, client server technology and all other forms of communicating between among unlike platforms is the reason for the invention of middleware services. The middleware services are used to integrate the diversified software programs and make them talk to one another.

6. Network Infrastructure:

We know that the effective and efficient linkage between the customer and the supplier is a precondition for e-commerce.

1.7 Significance of Electronic Commerce

The electronic market place participants are not limited only to digital product companies e.g. publishing, software and information industries. Most important significance of E-commerce are as follows. Firm use technology to their lower operating costs or increase revenue. Electronic commerce has the potential to increase revenue by creating new markets for old products, creating new information-based products, and establishing new service delivery channels to better serve and interact with customers. The transaction management aspect of electronic commerce can also enable firms to reduce operating costs by enabling better coordination in the sales,
production and distribution processes and to consolidate operations and reduce overhead. It leads to more effective performance i.e. better quality, greater customer satisfaction and better corporate decision making. Electronic commerce endeavors to improve the execution of business transaction over various networks.

Electronic commerce is also impacting business to business interactions. It facilitates the network form of organization where small flexible firms rely on other partner, companies for component supplies and product distribution to meet changing customer demand more effectively. Hence, an end to end relationship management solution is a desirable goal that is needed to manage the chain of networks linking customers, workers, suppliers, distributors and even competitors. The management of “Online transactions” in the supply chain assumes a central role.

We may achieve greater economic efficiency (Lower cost) and more rapid exchange (high speed, accelerated or real time interaction) with the help of electronic commerce.

Electronic commerce also incorporates transaction management, which organizes, routes, processes and tracks transactions. It also includes consumers making electronic payments and funds transfers.

Broadly speaking, electronic commerce emphasizes the generation and exploitation of new business opportunities and to use popular phrases: “generate business value” or “do more with less”.

Electronic commerce is enabling the customer to have an increasing say in what products are made, how products are made and
how services are delivered movement from a slow order fulfillment process with little understanding of what is taking place inside the firm, to a faster and restore open process with customers having greater control.

It is facilitating an organizational model that is fundamentally different from the past. It is a control organization to the information based organization. The emerging forms of techno-organizational structure involve changes in managerial responsibilities, communication and information flows and work group structures.

It enables the execution of information-laden transactions between two or more parties using inter connected networks. These networks can be a combination of plain old telephone system (POTS), cable TV, leased lines and wireless. Information based transactions are creating new ways of doing business and even new types of business.

The digital age and the digital revolution affect all by virtue of their process innovations:

* Web TV and digital television is going to affect TV news and entertainment programmes.

* Phone, fax machines, copiers, PCs and printers have become essential ingredients in doing business, so are E-mail, websites and integrated digital communication and computing.

* Changes in telecommunication will affect the way the information is received, product announcements, orders etc.
* Todays office business machines are not integrated (eg. Faxed orders have to be typed in on computers), the much talked about convergence will drive all these equipment into one digital platform, whether it be a computer connected to the internet and intranet, a new kind of device capable of interacting with other devices, because that device will prove to be more efficient and productive.

1.8 Advantages of E-Commerce

* Increases Sales : - Secure real time processing increases sales on the website by providing a means for immediate payment that provides closure for sale. E-commerce solutions have been delivering down to earth selling strategies to enterprises, who wish to profit from this emerging explosive new technology. E-commerce increases sales by making it easy for customers to do comparison shopping based on their specific situations and to choose an insurance carrier. Sales are enhanced by making it much faster and simpler for customers to evaluate their levels of need.

* Easy To Use : - For the internet business, the ease of use means more than simplicity. The internet payment services including security features make the management of e-business easier. By using the services of website providers, one can set up in little as 15 to 20 minutes nearly and transact thousands of online business throughout the world. It drastically reduces time-taking decisions, lengthy procedures, thus streamlining the order process entirely, this service is easy to use and operate.
* **Improved Customer Service** : - With the emergence of electronic commerce, the supply chain is shortened. It improves services given to customers; increases productivity, efficiency, access to international markets and cost reduction, doing commerce over the internet. It also helps companies to render improved services to their customer.

* **Cost Effective** : - As a new medium of business, the net affords the lowest transaction costs among all other methods of doing, the world wide web (www) helps to promote services and ideas for a fraction of the cost of traditional advertising and marketing. There is no printing cost and no postage cost. It’s cost is effective because there is no maintenance cost, stationery and other costs.

* **Direct Contact** : - It establishes business to customer (b2c) contact, but not business to business (b2b). This eliminates the intermediaries between various businesses and customers. The competitive advantage of e-commerce from this point of view is significant. Online business through the internet puts business in direct contact with a multitude of competitive suppliers and services and millions of customers. The survival of business will depend on how to set up shop along the information super highways i.e. Internet.

* **Saving Money** : - The entire process of e-commerce routine saves a lot of money. The average cost for a mail order phone call is higher. The cost of setting up of shop online compared to the cost of setting up of shop on land is cheaper.
The land store is higher several times than online. As such, online stores can be set up or just a few thousands and hosted for the financial security of Net users.

* Security And Privacy: - Today, secure encryption technology is available following episodes of cyber crime. For instance, the Secure Socket Layer (SSL) and Secure Electronic Transaction offer security. The public key and private key mechanisms protect sensitive payment information. Protocol securities are now available and customers are assured that their personal sensitive financial data is protected by most sophisticated systems.

* Simplicity: - The advancement in sophisticated communication technology has revolutionized the designing of internet technology. It is easy to use and the credit order can be processed on the spot. It is easy for customers to buy and sell products online with fast applications web pages can easily be updated. The process of e-commerce is simplified by adding products or services, product information, viewing orders, downloading orders and other administrative tasks are made easy.

* Serving Customers Better: - Another reason why enterprises’ are moving towards e-commerce is to offer better service levels to their customers. E-commerce can support this business through different ways. Starting with an online catalogue for ordering goods or a simple ordering system that allows the customer to fill an online order form for services, businesses can bring in
more reliability in their operations; since errors can be weeded out at the point of data captured itself. After an error free order has been logged and in the process of being executed the customer might want to constantly be aware of the status of the order.

* Integration Into Business Cycle : - A website that is well integrated into the business cycle can offer customers more information than was previously available. For example, if Dell tracks each computer through the manufacturing and shipping processes, customers can see exactly where their order is at any time. E-commerce offers the same luxury as traditional mail order companies who introduced the concept of multiple vendors easily and search large catalogues of various business.

* Creating New Business Models : - With e-commerce, you can create completely new business models. In mail order companies, there is a high cost of printing and mailing catalogues that often end up in the trash. There is also a high cost of staffing including the order taking department that answers that phone in e-commerce, both the catalogue cost and office costs are nil, that means it may be possible to offer products at a lower price or products that could not be offered before the change in cost dynamics.

* Online Purchasing : - By organizing their products or services offering into the interactive catalogue, e-stores allow customers to shop at a time i.e. convenient for them. They compare different brands and pricing outside the
pressure sales environment and by direct dealing from the home or office.

* **Larger Purchases Per Transaction**: - For instance Amazon.com offers a feature that no other book store does. When you read the description of the book on the site, you can see what other books on related subjects, have other people who ordered this book also purchased the book. Because of features like this, people ended up buying more books.

* **Serving Customers Better** : - Another reason why enterprises are moving towards e-commerce is to offer better service level to their customers. E-commerce can support this business need through different ways. Starting with an online catalogue for ordering goods or a simple ordering system, that allows the customer to fill an online order form for services, businesses can bring in more reliability in their operations, since errors can be weeded out as the point of data captured itself. After an error free order has been logged and in the process of being executed the customer might want to constantly be aware of the status of the order.

* **Improved Customer Interactions** : - With automated tools it is possible to interact with a customer in many ways, at virtually no cost and once you invest in and make personal connection, a happy customer is more likely to purchase something again from the company.

* **Improves Networth** : - Putting Business on the internet can improve its net worth. It is evidenced as a phenomenal savings
to gain and the equally phenomenal profits the company stands to make because of complete lack of physical barriers and collapsing of time frames. It permits to make tons and tons of profit.

* **Reaching New Customers** : - Online stores offer capability to researcher wider sections of customers by offering a product or service world wide. When a shop is opened online, the store is opened 24 hours a day, 7 days a week and 365 days in a year, permitting to do business from anywhere and at anytime.

The website hosted will be visited by several people, and a presence on the web promotes a company’s image and product, improves customer service, encourages new customers, service acquisition and provides a new vehicle for sales and information. Business people are more concerned about e-commerce with accessing new markets particularly international markets. It is closely associated with the web business environment and new methods to acquire customers.

* **Instant Payment** : - In recent years, market do not like to accept cash or cheques. The problem with a cheque is that sometimes it is bounced. The merchants have to wait before goods are shipping in case cheques are used. In a credit card (Smart Card) and Automatic Teller Machine (ATM) the merchants can get nearly instant approval and goods can be sent out immediately. In the instant payment technology in this new media of business, both the merchant and the customers are benefited.
* **Increase Market Size** : - Look around. The internet is everywhere. It is changing the business environment in a great way, small business are using it to reach wider sections of consumers. Retailers on the internet are doing potential businesses on groceries, books, toys, music electronic goods and sending e-greetings to the customers. Customers are accessing websites over the world, all at the click of a button. So the Net is also changing and widening the way globally. Business people do business. It increases market size and has become electronically enabled.

1.9 **Disadvantages of E-commerce**

* **Credit Cards Frauds** : -

In India, distribution channels are just one part of the problem related to e-payments. The bigger problem is that of security. All credit card related transactions are approved offline and given the high incidence of frauds, the Banks are extremely wary of approving them. Infact, there are some unconfirmed reports of a multi-national bank refusing to approve credit card transactions carried out by a large Indian portal.

* **Lack of Confidence** : -

The people in India still show hesitancy in buying through the Net. Lack of quality products, timely delivery of products as some of them tend to go out of stock, lack of solutions security are the potential reasons for not developing e-commerce. People do not
understand this New way of buying and selling products. i.e. the services in a digital environment which are available online.

* **Lack of Infrastructure :**

E-commerce infrastructure development is at its infancy stage in India. This unsatisfactory development is yet another major bottleneck for successful net business in India. The lack of infrastructure, if made available as required will

* **Cyber Competition :**

It is becoming clearer that cyber structure is not enough to support cyber growth. Such a growth rate needs a proper planning and world class global supply chain parameters. The profit strapped, not-struck cyber entrepreneurs have no vision and invest money on this. One should not forget about low entry barriers, and as a result, cyber competition is perhaps more fierce. Cyber competition needs improvement in better contents, faster delivery of services and online support. It is a great task of pacifying angry live customers and then think how difficult it is to e-reassure a lost one. This means again more investment and more capitalization which is further from break-even.

* **Preferring Foreign Sites :**

Online shoppers in India are not preferring Indian websites to a large extent and prefer US and other foreign websites. There are many reasons for this as they provide better selection, prices, stock, quality products, shipping, payment process security, customer service and wide variety of sites among other things.
* Lack of Skills and Expertise :

Lack of skilled and trained personnel impedes the growth of implementation of IT related e-commerce. The use of the Net for trade requires a complex Introduction of servers, browser software and knowledge of web design, hosting, promotion and many more skills. It requires understanding many new things. Many Indian businesses are not prepared to approach electronic commerce. For many business houses for which commerce over internet may not work, would take a lot of efforts for every little return.

* Lack of true strength :

The presence on the web alone will not always ensure successful e-commerce. Having a website or dotcom is no longer a novelty and merely setting up a website will not help companies in increasing the volume of business. They must accept the true strength of this new electronic medium of business and its potential for improving efficiency in extending services to the consumers.

There are many people who are connected to the internet but cannot browse the web and they are only availing the e-mail facility for communication.

* Absence of Cyber brand Image :

Another problem is that advertising on the Net tends to focus on e-commerce rather than on brands found in the real world. This would prove to be a deterrent in ensuring consumer loyalty.

The biggest thing going for it, is a brand Image and power. Though the already existing name is known and trusted, the issue is
how to extend it into the new cyber reality. A concern should be to preserve the old values of trust and dependability of the brand, and at the same time, keep it upon the Net. At the same time, the whole business structure will have to undergo a change re-engineered.

* Internet outrage : -

Failures in Networks and the Net itself can play havoc. We read of frequent press reports of internet outrages. The IT industry is not yet attempting to improve network reliability to prevent these outrages. Reliability is a major issue in net business that needs to be attended. Though worldwide many business people looking at e-commerce as a blessing, many people also perceived the cyber space as a threat. There are also reported evidences of enforcing new censorship regimes to prevent cyber crimes.

* Lack of Awareness : 

The biggest challenge before successful e-commerce over the net is that of changing the minds and attitudes of the merchants in tune with the emerging information technology. Further, optimism and strategic business projections are required, if e-commerce has to be an alternate means of doing business in India, a new awareness is needed, something that would cut through the hype and u.s. look alike.

The single most important challenge today pertains to increasing awareness of the benefits of e-commerce to potential customers, educate the market and the customers will themselves opt for these services. So the e-commerce fraternity should accept the fact that the customers are extremely demanding and that they
should be geared up towards this end and surpass the expectations of customers.

* Barriers - Survey Findings :

According to a survey conducted by promoters of e-commerce, shoppers don’t trust on e-commerce, they cannot find what they are looking for, and there’s no easy way to pay for things being ordered online. Other than that, it is smooth sailing.

Customers are worried about credit card theft, the privacy of their personal information and unacceptable network performance. Most shoppers are not convinced that it is worth while to look onto the internet, search for shopping sites, wait for the images to download, try to figure out the ordering process, and then worry about whether their credit card numbers would be filched by a hacker.

* Internet for Small Business :

Another problem is that for major project, a large consumer product company needs profiling of customers who undertake transaction through e-commerce.

E-commerce is still being dominated by large corporations. Small and medium sized business houses have to take advantage of everything on the net. Online shopping is clearly catching on with consumers and retailers need to keep pace with growing demands.
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