

UNIT - I

ELECTRONIC COMMERCE:

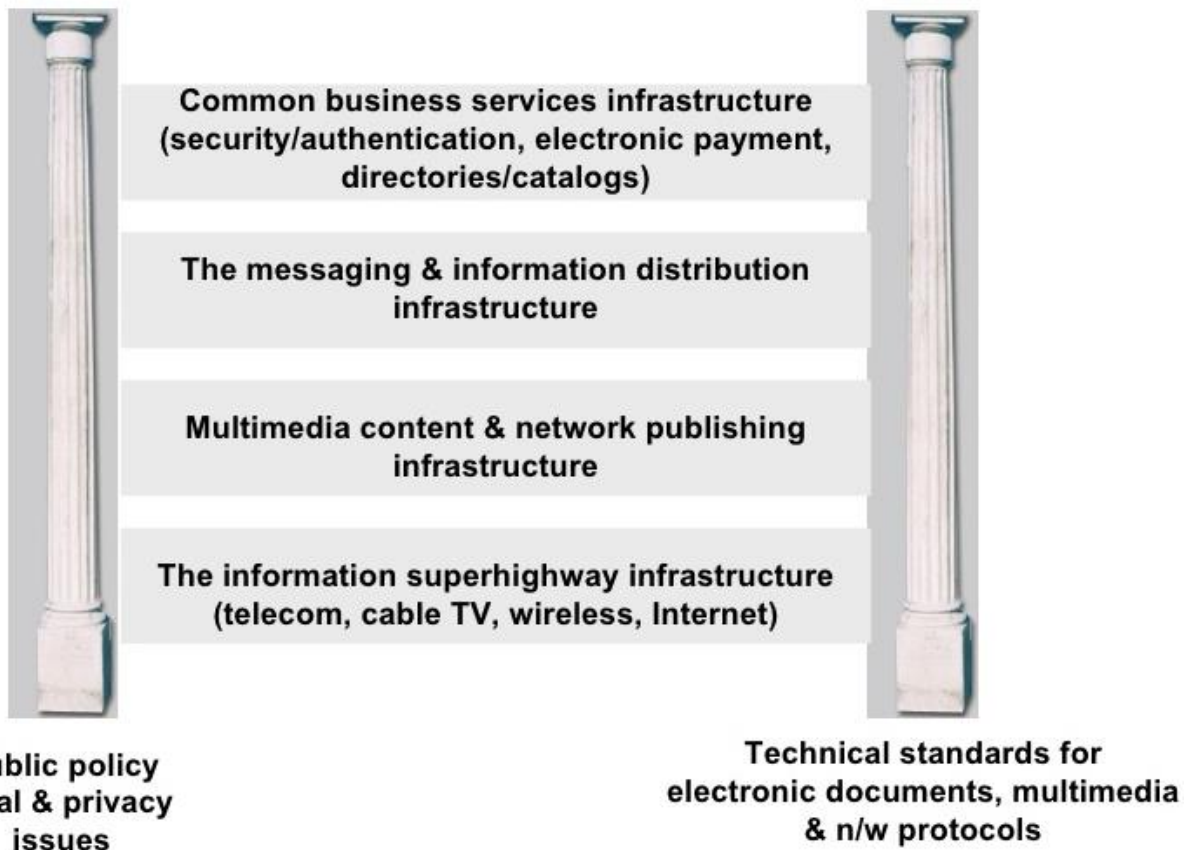
Electronic commerce is the application of communication and information sharing technologies among trading partners to the pursuit of business objectives. E-Commerce can be defined as a modern business methodology that addresses the needs of organizations, merchants, and consumers to cut costs while improving the quality of goods and services and increasing the speed of service delivery. E-commerce is associated with the buying and selling of information, products and services via computer networks. Key element of e-commerce is information processing.

The effects of e-commerce are already appearing in all areas of business, from customer service to new product design. It facilitates new types of information based business processes for reaching and interacting with customers – online advertising and marketing, online-order taking and on-line customer service etc. It can also reduce costs in managing orders and interacting with a wide range of suppliers and trading partners, areas that typically add significant overhead to the cost of products and services. Also E-commerce enables the formation of new types of information-based products such as interactive games, electronic books, and information-on demand that can be very profitable for content providers and useful for consumers.

Virtual enterprises are business arrangements in which trading partners separated by geography and expertise are able to engage in complex joint business activities, as if they were a single enterprise. One example would be true supply chain integration, where planning and forecast data are transmitted quickly and accurately throughout a multi-tier supply chain. Another example would be non-competing suppliers with a common customer using E-commerce to allow that customer to do "one stop shopping" with the assurance that a single phone call will bring the right materials to the right location at the right time.

FRAMEWORK FOR E-COMMERCE

E-Commerce framework



Classification of E-Commerce:

- **Business-to-Business (B2B):** This includes inter-organizational information systems and electronic transactions between organizations. An example of B2B is General Electric's Trading Process Network (TPN)(www.tpn.geis.com).
- **Business-to-Consumer (B2C):** B2C transactions are mostly retailing transactions with individual customers or consumers. An example of B2C is Amazon.com (www.amazon.com).
- **Consumer-to-Business (C2B):** In this category one will find consumers who sell to organizations. It also includes individuals who seek sellers with whom they may interact in order to conclude a transaction. An example of C2B is Priceline (www.priceline.com).
- **Consumer-to-Consumer (C2C):** C2C involves consumers selling directly to other consumers. This type of application includes auction sites and advertising personal services on the Internet. It can also include intranets and other organizational networks to advertise items and services. An example of C2C is eBay (www.eBay.com).

The additional types of EC identified by the above researchers are:

- **People-to-people (P2P):** This type of transaction is a special type of C2C where people exchange CDs, videos, software and other goods (www.napster.com).
- **Non-business EC:** Many institutions or organizations also use EC to improve their operation and customer services.
- **Intrabusiness (organizational) EC:** All internal organizational activities involving exchange of goods, services or information usually performed on intranets are included in this category.
- **Business-to-employees (B2E):** This is a subset of the intrabusiness category, where the organization delivers services, information or products to individual employees.
- **Government-to-citizen (G2C):** and to others: In this type of EC, a government entity buys or sells goods, services or information to businesses or individual citizens.
- **Exchange-to-exchange (E2E):** With the proliferation of exchanges and portals, it is logical for exchanges to connect to one another. E2E is a formal system that connects exchange.
- **Collaborative commerce (c-commerce):** C-commerce is an application of an interorganizational information system for electronic collaboration between business partners and organizational employees.
- **Ultimate commerce (u-commerce):** U-commerce is the use of ubiquitous networks to support personalized and uninterrupted communications and transactions between a firm and its various stakeholders to provide a level of value over, above and beyond traditional commerce (Watson, 2000).
- **Mobile commerce (m-commerce):** When EC takes place in a wireless environment.

The anatomy of E-Commerce:

1. Multimedia content for E-commerce application:

Multimedia content can be both fuel and traffic for electronic commerce application. The basic definition of multimedia is the use of digital data in more than one format. i.e., combination of text, movements of pictures sounds etc., in one document. The main purpose of multimedia to interact with the user in friendly manner. Multimedia is used in telecommunication computer and cable industry. The main goal of multimedia is to increase the utility of all the information through the processing and distribution of new forms such as images, audio and video.

2. Multimedia storage servers and E-commerce applications:

Electronic commerce requires distributing large amount of data to consumers. This multimedia storage device provide large amount of storage place. These storage servers are the large

information warehouse handling of books, newspapers, advertisement catalogs movies, games etc.,It must provide large scale-distribution guarantee, security and complete reliability to the consumers. For e.g. an entire feature length movie could be stored on four to ten memory chips.

3.Client Server architecture in e-com:

All e-com applications follow the client server model. Clients are devices plus software that request information from server. The client server models replace. The traditional main frame-based model. The frame model requires glass room and it is too costly. It works slowly to cope with new data types like audio and video. The client-server model allows message passing facility. It means it allow to interact with the server through a request-reply sequence.

Video server and E-commerce:

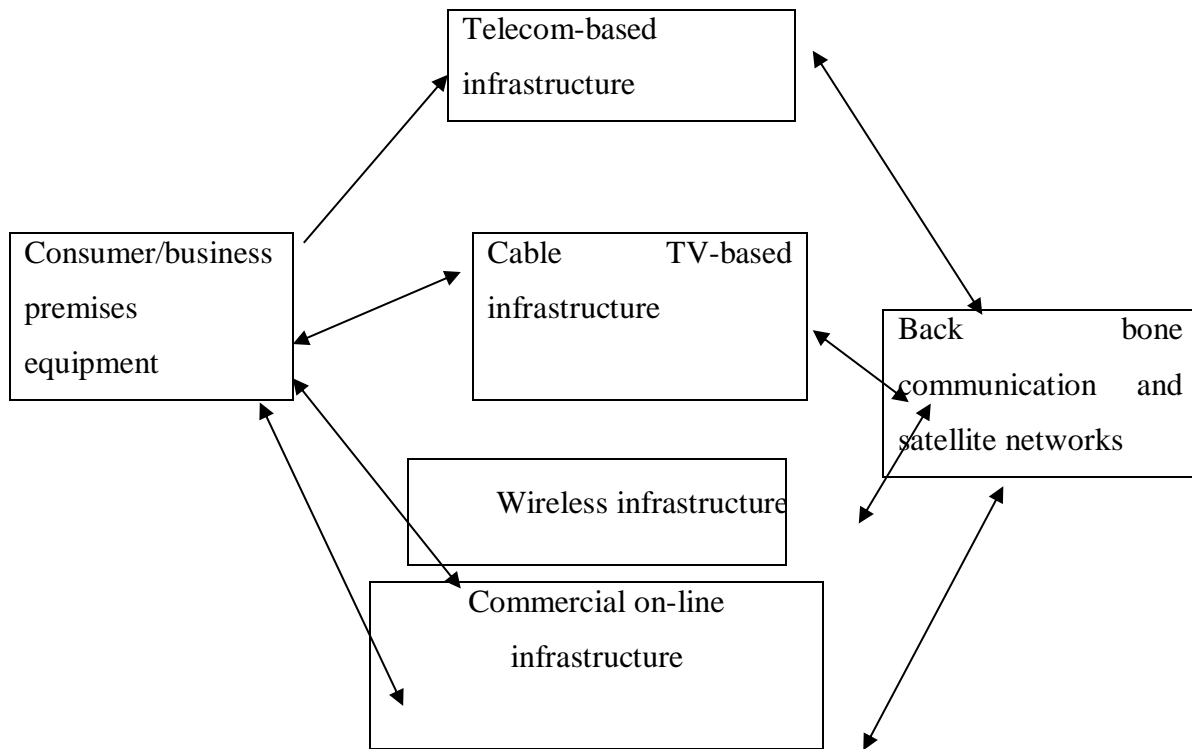
The digital videos include tale communication and video conferencing, geographical information system that require storage and navigation over maps. Corporate multimedia servers post production studies and shopping.E.gI. Interactive telephone yellow pages.Information deliver/Transport and E-commerce application: The information transport providers are telecommunications. Cable, wireless industries, counter networks. Such as compu server, America online etc., As earlier does not function as large information transporting system, there is no single interstate 80 that connects most of the cities.

COMPONENTS OF THE I-WAY:

INFORMATION SUPERHIGHWAY (I-Way)

Any successful E-commerce application will require the I-Way infrastructure in the same way that regular commerce needs the interstate highway network to carry goods from point to point. A myriad of computers, communications networks, and communication software forms the nascent Information Superhighway (I-Way). The I-Way is not a U.S phenomenon but a global one, as reflected by its various labels worldwide. For instance, it is also called the National Information Infrastructure (NII) in the United States, Data-Dori in Japan and Jaring, which is Malay for "net" in Malaysia. The I-Way and yet-to-be developed technologies will be key elements in the business transformation. And while earlier resulted in small gains in productivity and efficiency, integrating them into the I-Way will fundamentally change the way business is done. These new ideas demand radical changes in the design of the entire business process. I-Way is not one monolithic data highway designed according to long-standing, well-defined rules and regulations based on well-known needs. The I-Way will be a mesh of interconnected data highways of many forms: telephone wires, cable TV wires, radio-

based wireless-cellular and satellite. The I-Way is quickly acquiring new on-ramps and even small highway systems.



Components of the information superhighway

NETWORK ACCESS EQUIPMENT:

Equipment and Internet Connection

- Minimum hardware specification
- Software requirement
- Equipment issued on loan
- Internet connection
- Internet service provider
- Video graphics card. Must support 1024 x 768 pixels resolution and 256 colours as a minimum.

- CPU. May be Pentium 2/3/4, Celeron, Athlon, Duron, AMD K6-2 faster than 350 MHz.
- Memory. 64MB is sufficient but more will enhance performance and is recommended.
- Modem. Must be 56Kbps, internal type, or external with fast serial port; hardware types are preferable. A cable modem or broadband connection (ADSL) is better still, but is not essential.
- CD-ROM drive.
- Display device. Must be able to display 1024 x 768 pixels, in colour. A 17inch screen or above is recommended.
- Mouse. Three button mouse. (The middle button is used by some EDA software).
- Sound card and speakers or headphones.
- CD writer (useful for backups).

INTERNET TERMINOLOGY

Today, the internet is a mesh that envelops thousands of interconnected networks linking approximately 4 million computers worldwide. It is estimated that every thirty minutes a major network links into the internet.

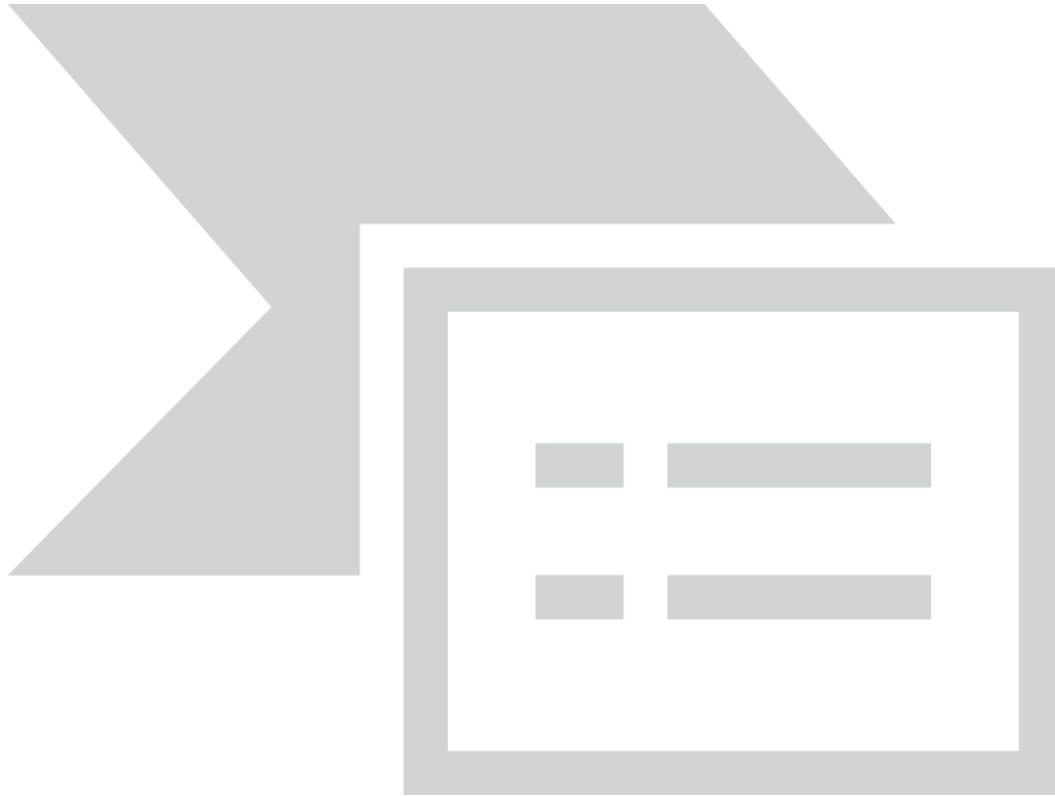
These networks belong to several domains-universities, government institutions, large private companies, and small entrepreneurial start-ups.

The interconnected computers include stand-alone computers, **LANs** (local area networks-networks whose span is limited to one building), **MANs** (metropolitan area networks-networks that span an area up to 100 square miles), and **WANs** (wide area networks that cover large geographic distances).

A LAN is characterized by its small geographic location, which allows resource sharing and work-group interaction within a single building, has total management control residing with the local manager (who bought and installed the technology), and consists of a limited number of users.

The term MAN is used to describe campus networks or “Big LANs,” which connect 1000-10,000 computers that could be a combination of Pcs, servers, and mainframes. MANs are usually segregated hierarchically into smaller LANs that are interconnected using devices called bridges.

A WAN links several dispersed MANs and extends the principles of information resource sharing to several locations. It is characterized by multiorganizational control; in other words, a company may own the LAN host, but various carries own communications subnetworks on which the WAN operates.



Internet can be differentiated based on language spoken (protocol) by inhabitants (host computers) into two classifications:

1. Academic internet
2. Business internet

Academic internet (also known in the literature as core internet), all the host computers speak the language TCP/IP.

In the business internet the host computers can speak a variety of languages other than Tcp/IP, including Iso/OSI X.25-based packet awitching networks, SNA-based BITNET and other languages for networks run by such commercial providers as CompuServe, Prodigy, and America online; FidoNet, AppleLink, Minitel, and UUPC networks.

SIX STAGES OF INTERNET GROWTH:

THE FIRST STAGE, experimental networking, covers the early years from 1965 under the aegis of the DOD ARPA and the province of a relatively small technical community. That group developed not

only the technology but the cooperative mechanics that made it possible to scale and allow further innovation to occur.

THE SECOND STAGE, discipline-specific research 1980-1985 grew out of the more general ARPANET and began to build international on-line communities. CSNET for instance, linked computer science researchers from all over the world.

THE THIRD STAGE, general research networking 1985-1991 and called the NSFNET program, unfolded following the explosive growth in the mid 1980s. The NSFNET program was established chiefly to allow exchange of information access to remote resources within the research and education community.

THE FOURTH STAGE, privatization and commercialization 1991 involves removing government subsidies to regional networks and dismantling the barriers imposed by restrictive acceptable usage policies. The network extends far beyond the research community and today supports not only the expanding backbone services, but also commercial transactions and extensive connections for commercial organizations.

HPCC is an R&D program wherein each new set of technologies forms the foundation for the next. As high-performance computing hardware is built, the systems software to make it usable is developed, then the applications software. As advanced networking technologies are developed and deployed, software developers at remote locations access this hardware by using systems software to develop applications.

THE SIXTH STAGE, national information infrastructure, or the I-way, is the ultimate goal. The objective is to extend networking everywhere. The I-way is rather broad in scope and represents the convergence of computing, entertainment, telecommunications, the internet, cable TV, publishing, and information-provider industries. New niche markets and synergies emerge as these intersections occur.