BCA

Semester: V

MIS AND E-BUSINESS

Introduction to E-Commerce

REFERENCE NOTE

Unit-1: Introduction to E-Commerce

What is commerce?

➢ Commerce is a division of trade or production which deals with the exchange of goods and services from producer to final consumer.

➢ It comprises the trading of economic value as goods, services, information or money between two or more entities.

➢ Commerce primarily express the fairly abstract notions of buying and selling.

Definition of e-commerce

The term "Electronic Commerce" (or e-Commerce) refers to the use of an electronic medium to carry out commercial transactions. Most of the time, it refers to the sale of products via Internet, but the term e-Commerce also covers purchasing mechanisms via Internet (for B-To- B).

➢ It is commonly known as electronic Commerce.

➢ It consist of buying and selling goods and services over an electronic system such the internet. as ed by drapur the Internet and other

➢ Electronic commerce (EC) refers to networks (e.g., intranets) to purchase, sell, transport, or trade data, goods, or services.

➢ E-commerce is the purchasing, selling & exchanging goods and computer network or internet through which transactions or terms of sale are performed electronically. services Over computer network or internet through which transaction or items of sale are performed electronically.

➢

➢ E-Commerce or modern Electronics Commerce is a methodology of business which addresses the need of business organizations, vendors and customers to reduce cost and improve the quality of goods and services while increasing the speed of delivery. E-commerce refers to paperless exchange of business information using following way.

     i.   Electronic Data Exchange (EDC

    ii.   Electronic Mail (e-mail)

   iii.   Electronic Bulletin Boards

   iv.   Electronic Fund Transfer (EFT)

    v.   Other Network-based technologies

Electronic Commerce under different perspectives.

Communications Perspective

EC is the delivery of information, products /services, or payments over the telephone lines, computer networks or any other electronic means.

Business Process Perspective

EC is the application of work flow. I the automation of business transactions and work flow.

Service Perspective

EC is a tool that addresses of firms, consumers, and management to cut service costs while improving the quality of goods and increasing the speed of service delivery.

Online Perspective

EC provides the capability of buying and selling products and information on the internet and other online services.

This is how E-Commerce works

1. Select the vendor's website and browse.

2. Add item in a basket.

3. Give credit card details to pay off money

4. Payment Gateway verify credit card for Sufficient balance with help of bank.

5. Merchant a/c account debited by Bank

6. Vendor gives order to their warehouse to ship the product to customer.

E-Business
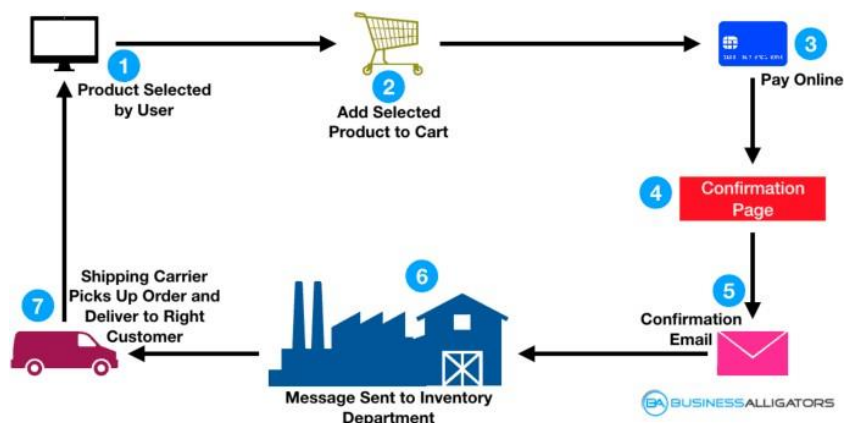
- ➡ E-Business refers to a broader definition of EC, not just the buying and selling of goods and services.
- ➡ But conducting all kinds of business online such as servicing customers, collaborating with business partners, delivering e-learning, and conducting electronic transactions within organizations.
- ➡ Others view e-business only as comprising those activities that do not involve buying or selling over the internet, such as collaboration and intra-business activities.
- ➡ That is, it is a complement of the narrowly defined e-commerce. In its narrow definitions, e-commerce can be viewed as a subset of e-business.

E-Commerce and E-Business

- **E-business** refers to a broader definition of EC, not just the buying and selling of goods and services, but also servicing customers, collaborating with business partners, conducting e-learning, and conducting electronic transactions within an organization.
- **E- Commerce** describes the process of buying, selling, transferring, or exchanging products, services, and/or information via computer networks, including the internet.
- We use the term **e-business** to refer primarily to the digital enablement of transactions and processes within a firm, involving information systems under the control of the firm.
- **E-commerce** include commercial transactions involving an exchange of value across organizational boundaries.

Elements, Framework, Advantages and disadvantages of Ecommerce

Advantages of E-Commerce

The benefits of e-commerce can be seen to affect three major stakeholders: organizations, consumers and society.

1) Benefits of E-commerce to Organizations

1. *International marketplace,* what used to be a single physical marketplace located in a geographical area has now become a borderless marketplace including national and international markets? By becoming e-commerce enabled, businesses now have access to people all around the world.
2. *Operational cost saving.* The cost of creating, processing, distributing, storing and retrieving paper-based information has decreased.
3. *Mass customization.* E-commerce has revolutionized the way consumers buy well and services. In the past when Ford first started making motor cars, customers could have any color so long as it was black. Now customers can configure a car according to their specifications within minutes on-line via the ford.com website.
4. *Enables reduced inventories* and overheads by facilitating 'pull'-type supply chain management – this is based on collecting the customer order and then delivering through JIT (just-in-time) This is particularly beneficial for companies in the high technology sector, where stocks of components held could quickly become obsolete within months. For example, companies like Motorola (mobile phones), and Dell (computers) gather customer orders for a product, transmit them electronically to the manufacturing plant where they are manufactured according to the customer's specifications (like color and features) and then sent to the customer within a few days.
5. *Lower telecommunications cost*. The Internet is much cheaper than value added networks (VANs) which were based on leasing telephone lines for the sole use of the organization and its authorized partners. It is also cheaper to send a fax or e- mail via the Internet than direct dialing.
6. *Digitization of products and processes*. Particularly in the case of software and music/video products, this can be downloaded or e-mailed directly to customers via the Internet in digital or electronic format.
7. *No more 24-hour-time constraints*. Businesses can be contacted by or contact customers or suppliers at any time.

2) Benefits of E-commerce to Consumers

1. *24/7 access.* Enables customers to shop or conduct other transactions 24 hours a day, all year round from almost any location. For example, checking balances, making payments, obtaining travel and other information.

2. *More choices.* Customers not only have a whole range of products that they can choose from and customize, but also an international selection of suppliers.

3. *Price comparisons.* Customers can 'shop' around the world and conduct comparisons either directly by visiting different sites.

4. *Improved delivery processes.* This can range from the immediate delivery of digitized or electronic goods such as software or audio-visual files by downloading via the Internet, to the on-line tracking of the progress of packages being delivered by mail or courier.

5. *An environment of competition* where substantial discounts can be found or value added, as different retailers for customers.

3) Benefits of E-commerce to Society

1. *Enables more flexible working practices,* which enhances the quality of life for a whole host of people in society, enabling them to work from It also potentially reduces environmental pollution as fewer people have to travel to work regularly.

2. *Connects people,* Enables people in developing countries and rural areas to enjoy and access products, services, information and other people which otherwise would not be so easily available to them.

3. *Facilitates delivery of public services,* For example, health services available over the Internet (on-line consultation with doctors or nurses), filing taxes over the Internet through the Inland Revenue Website.

Limitations of E-commerce

1. Limitations of E-commerce to Organizations

Lack of sufficient system security, reliability, standards and communication protocols. There are numerous reports of websites and databases being hacked into, and security holes in software. For example, Microsoft has over the years issued many security notices and 'patches' for their software. Several banking and other business websites, including Barclays Bank, Powergen and even the Consumers' Association in the UK, have experienced breaches in security where 'a technical oversight' or 'a fault in its systems' led to confidential client information becoming available to all.

Rapidly evolving and changing technology, so there is always a feeling of trying to 'catch up' and not be left behind.

Under pressure to innovate and develop business models to exploit the new opportunities which sometimes leads to strategies detrimental to the organization. The ease with which business models can be copied and emulated over the Internet increases that pressure and curtails longer-term competitive advantage.

Facing increased competition from both national and international competitors often leads to price wars and subsequent unsustainable losses for the organization.

Problems with compatibility of older and 'newer' technology. There are problems where older business systems cannot communicate with web based and Internet infrastructures, leading to some organizations running almost two independent systems where data cannot be shared. This often leads to having to invest in new systems or an infrastructure, which bridges the different In both cases this is both financially costly as well as disruptive to the efficient running of organizations.

2. Limitations of E-commerce to Consumers

Computing equipment is needed for individuals to participate in the new 'digital' economy, which means an initial capital cost to customers.

A basic technical knowledge is required of both computing equipment and navigation of the Internet and the World Wide Web.

Cost of access to the Internet, whether dial-up or broadband tariffs.

Cost of computing equipment. Not just the initial cost of buying equipment but making sure that the technology is updated regularly to be compatible with the changing requirement of the Internet, websites and applications.

Lack of security and privacy of personal data. There is no real control of data that is collected over the Web or Internet. Data protection laws are not universal and so websites hosted in different countries may or may not have laws which protect privacy of personal data.

Physical contact and relationships are replaced by electronic processes. Customers are unable to touch and feel goods being sold on-line or gauge voices and reactions of human beings.

A lack of trust because they are interacting with faceless computers.

3. Limitations of E-commerce to Society

Breakdown in human interaction. As people become more used to interacting electronically there could be erosion (divide) of personal and social skills which might eventually be detrimental to the world we live in where people are more comfortable interacting with a screen than face to face.

Social division. There is a potential danger that there will be an increase in the social divide between technical haves and have-nots – so people who do not have technical skills become unable to secure better-paid jobs and could form an underclass with potentially dangerous implications for social stability.

Reliance on telecommunications infrastructure, power and IT skills, which in developing countries nullifies the benefits when power, advanced telecommunications infrastructures and IT skills are unavailable or scarce or underdeveloped.

Wasted resources. As new technology dates quickly how you do dispose of all the old computers, keyboards, monitors, speakers and other hardware or software?

Facilitates Just-In-Time manufacturing. This could potentially cripple an economy in times of crisis as stocks are kept to a minimum and delivery patterns are based on pre-set levels of stock which last for days rather than weeks.

Difficulty in policing the Internet, which means that numerous crimes can be perpetrated and often go There is also an unpleasant rise in the availability and access of obscene material and ease with which pedophiles and others can entrap children by hidden in chat rooms.

Pure Versus Partial EC

- ➢ EC can be either pure or partial depending on the nature of its major activities:
    - o Ordering and payments.
    - o Order fulfillment.
    - o Delivery to customers.
- ➢ For example, purchasing a computer from Dell's website or a book from Daraj.com is partial EC, because the merchandise is physically delivered.
- ➢ However, buying an e-book from Daraj.com or a software product from Microsoft.com is pure EC, because ordering, processing, and delivery to the buyer are all digital.

What are the features of EC?

- ➢ Non- Cash Payment-
- ➢ 24x7 service availability-
- ➢ Advertising/ Marketing
- ➢ Improved sales
- ➢ Support
- ➢ Inventory Management
- ➢ Communication improvement

In Details

- ➢ **24/7 availability:** Service is available to the customers 24 hrs. a day. Anyone can get the service of E-commerce anytime and anywhere. Service can be delivered faster, reliably.
- ➢ **Cashless System:** Using E-payment and electronics transaction like credit card, debit card, mobile banking, etc physical cash can be completely eliminated.
- ➢ **Customer Support:** Customer can report, review, and give feedback back to the organization through their EC site which can be used for improving the service even-more.
- ➢ **Better sales:** Wider range, large number of customers and more internet traffic equals to higher sales and profit.
- ➢ **Advertisement:** Advertisement and marketing become more effective through E-commerce. It can leverage the huge number of its users to promote products and services.
- ➢ **Automation:** All the process are automated. Transaction, organizational records, reports, and other inventory management are managed efficiently and easily.

Limitation of EC

Technical Limitations

- ➢ Lack of system security
- ➢ Software development tools are still evolving and changing rapidly.
- ➢ Vendors may need special web servers and other infrastructures, in addition to the network servers.
- ➢ Some e-commerce software might not fit with some hardware

Non- Technical Limitations

- ➢ Initial cost
- ➢ User resistance
- ➢ Security / Privacy
- ➢ Lack of touch or feel of products during online shopping.
- ➢ E-Commerce applications are still evolving and changing rapidly.
- ➢ Internet access is still not cheaper and is inconvenient to use for many potential Customers like one living in remote villages.

Limitation and barriers of EC

Technological limitations

1. Need for universal standards for quality, security, and reliability
2. The telecommunications bandwidth be insufficient, especially for m-commerce, videos, and graphics
3. Software development tools are evolving.
4. It is difficult to integrate Internet and EC software with some existing (especially legacy) applications and databases.
5. Special Web servers are needed in addition to the network servers, which add to the cost of EC.
6. Internet accessibility is still expensive and/or inconvenient for many Large-scale B2C requires special automated warehouses for order fulfillment.
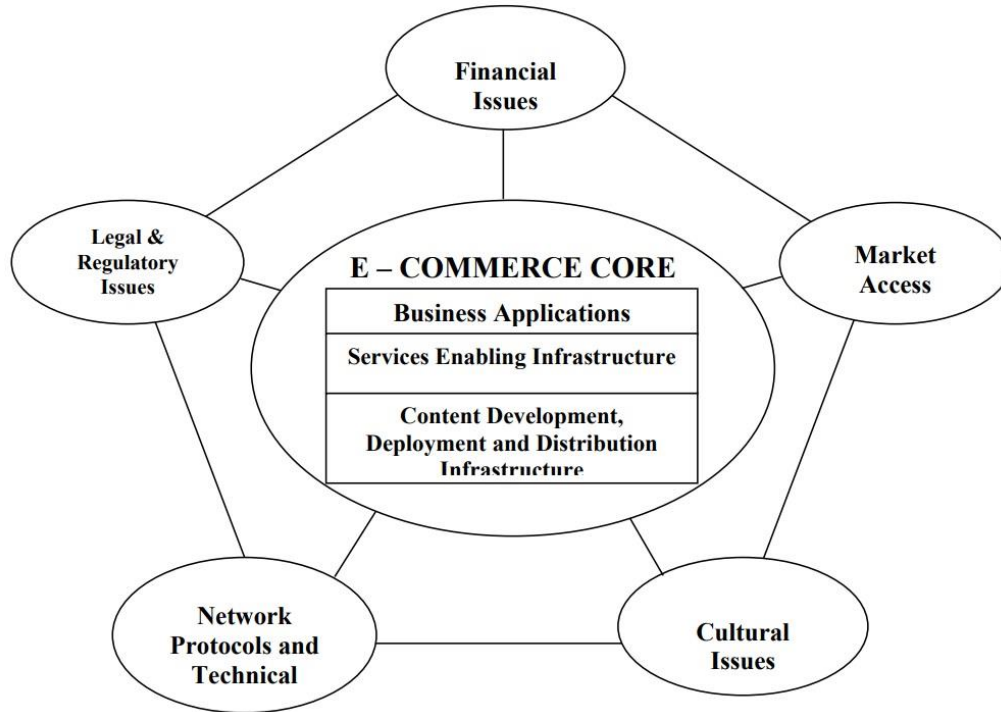
Non- Technological limitations

1. Security and privacy concerns deter from buying.
2. Lack of trust in sellers, in computers, and buying faceless transactions hinders buying.
3. Resistance to change
4. Many legal and public policy issues are not resolved or are not clear
5. National and international government regulations sometimes get in the way
6. Global competition intensifies
7. It is difficult to measure some of the costs and benefits of EC
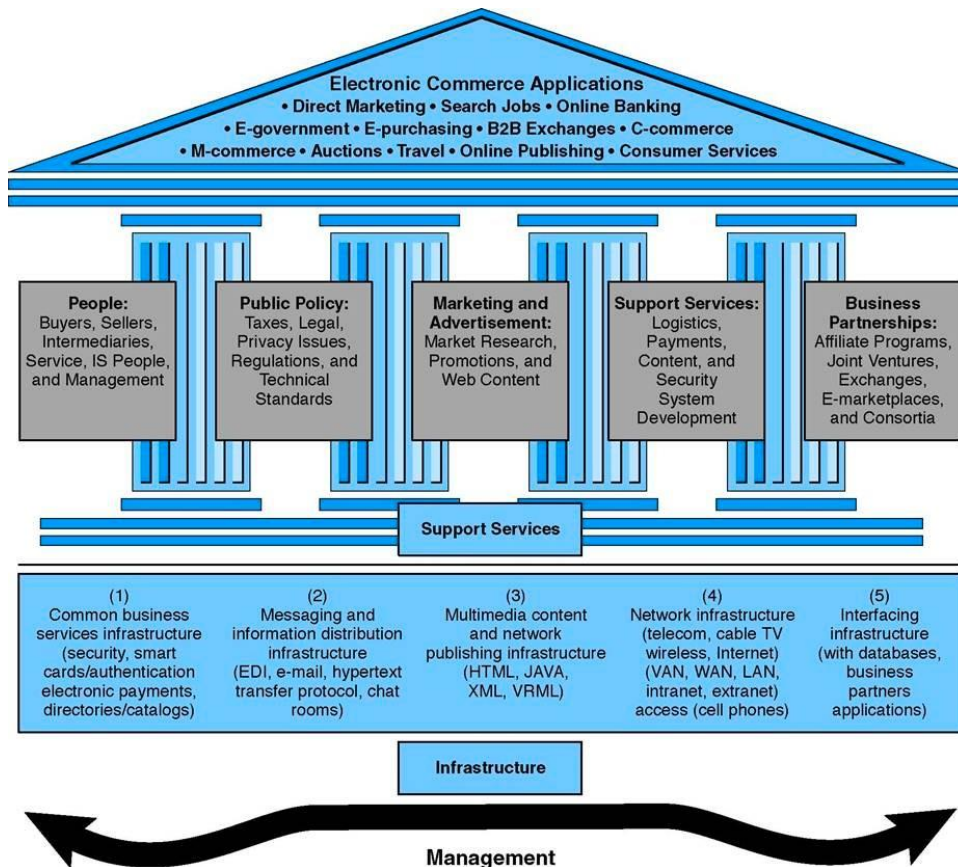8. Not enough customers. Lack of collaboration along the supply chain Management

EC Framework

A generic e–commerce framework can be explained in two basic parts;

1. The E–Commerce core consisting of basic infrastructure which will enable the e-Commerce activities, and
2. A five–corner web of basic issues that will ultimately shape all e–commerce efforts.

The E-Commerce Core framework diagram shows the E-COMMERCE CORE (Business Applications; Services Enabling Infrastructure; Content Development, Deployment and Distribution Infrastructure) surrounded by Financial Issues, Legal & Regulatory Issues, Market Access, Network Protocols and Technical, and Cultural Issues.

➢ In general, a **framework** is a real or conceptual structure intended to serve as a support or guide for the building of something that expands the structure into something useful.

➢ **EC Framework** is the framework for establishing a proper functioning of an E-commerce business.

Electronic Commerce framework "temple" diagram.

Electronic Commerce Applications
• Direct Marketing • Search Jobs • Online Banking
• E-government • E-purchasing • B2B Exchanges • C-commerce
• M-commerce • Auctions • Travel • Online Publishing • Consumer Services

People: Buyers, Sellers, Intermediaries, Service, IS People, and Management

Public Policy: Taxes, Legal, Privacy Issues, Regulations, and Technical Standards

Marketing and Advertisement: Market Research, Promotions, and Web Content

Support Services: Logistics, Payments, Content, and Security System Development

Business Partnerships: Affiliate Programs, Joint Ventures, Exchanges, E-marketplaces, and Consortia

Support Services

(1) Common business services infrastructure (security, smart cards/authentication electronic payments, directories/catalogs)

(2) Messaging and information distribution infrastructure (EDI, e-mail, hypertext transfer protocol, chat rooms)

(3) Multimedia content and network publishing infrastructure (HTML, JAVA, XML, VRML)

(4) Network infrastructure (telecom, cable TV wireless, Internet) (VAN, WAN, LAN, intranet, extranet) access (cell phones)

(5) Interfacing infrastructure (with databases, business partners applications)
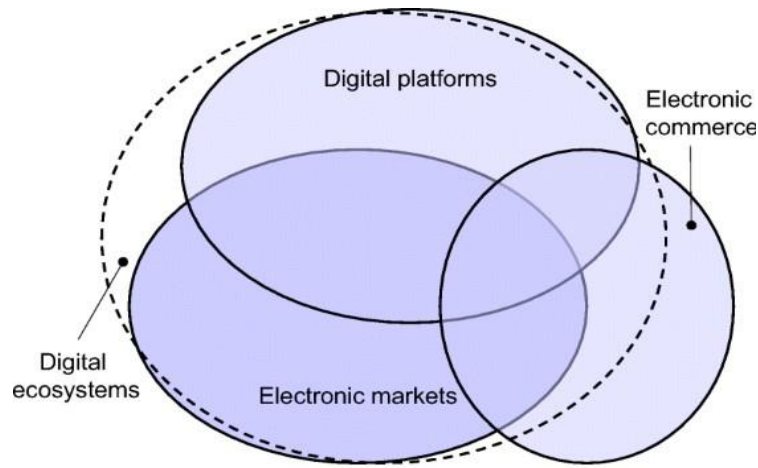
Infrastructure

Management

A Framework for Electronic commerce

- Figure shows that the EC applications are supported by infrastructures, and their implementation is dependent on four major areas (shown as supporting pillars) people, public policy, technical standards and protocols, and other organizations.
- The EC management coordinates the applications, infrastructures and pillars. It also includes internet marketing and advertisement.
- Information superhighway (i-way) infrastructure
    - Internet, LAN, WAN, routes, etc.
    - Telecom, Cable TV, wireless etc.
- Messaging and information distribution infrastructure
    - HTML, XML, email, HTTP, etc.
- Common business infrastructure
    - Security, authentication, electronic payment, directions catalogs, etc.
- Web architecture
    - Client/ server model
    - N-tier architecture; e.g. web servers, application servers, database servers, scalability

Electronic Market

- ▶ Basically, an electronic market is a website where companies can buy from and sell to each other using a common technology platform. They are the commerce sites on the internet that allow a large number of buyers and suppliers to meet and trade with each other. They are also known as electronic marketplaces, online markets or e-hubs.
- ➢ EC can be conducted in an electronic market (e-marketplace), an online location where buyers and sellers conduct commercial transactions such as selling goods, services, or information.
- ➢ Electronic markets are connected to sellers and buyers via the Internet or to its counterpart within organizations, an intranet. Polish
- ➢ An intranet is a corporate or government internal network that uses Internet tools, such as Web browsers and Internet protocols.
- ➢ Another computer environment is an extranet, a network that uses Internet technology to link intranets of several organizations in a secure manner.
- ➢ Examples: E-commerce sites, online stock market, etc.

▶ Characteristics of E-markets

- ▶ Online platform for large number of buyers and sellers
- ▶ Maintain electronics transaction and EDI (Electronic Data Interexchange)
- ▶ Provide legal infrastructure and proper integration of trading processes like
  - ▶ Search
  - ▶ Negotiate
  - ▶ Valuation
  - ▶ Logistics
  - ▶ Payment
  - ▶ Authentication
- ▶ Maintain online community forums and discussion groups
- ▶ Advertisement and marketing to promote products

▶ Role of Internet and web in E-commerce

- ▶ The Internet and World Wide Web (WWW) enables people from all over the world to connect in a cost-effective and reliable manner. It is a global collection of networks connected to share information utilizing a standard set of protocols as technical infrastructure.
- ▶ The Internet is an enabler for e-commerce because it allows businesses to showcase and sell their products and services online while also providing potential customers, prospects, and business partners with information about these businesses and their products and services that could lead to a purchase.
- ▶ Advancement of web technologies from web 1.0, 2.0 to 3.0 have brought tremendous growth in E-commerce.
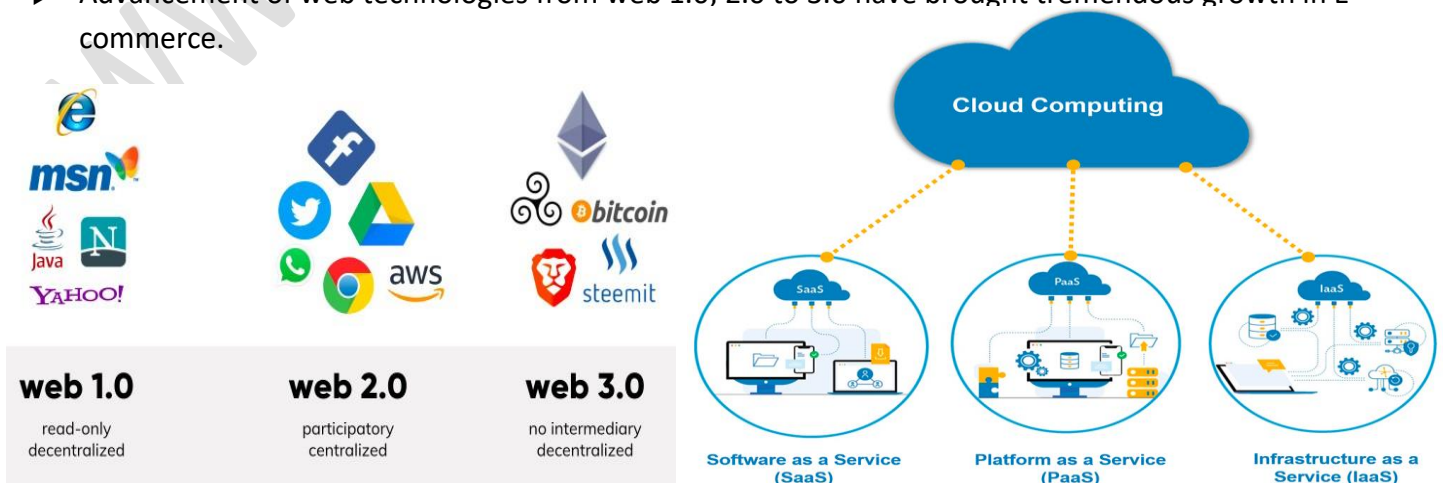
► Search Engine Optimization helps buyer to search their desired product more easily and efficiently.

► 3D graphics makes E-commerce more interactive and immerging

► Cloud technologies is making EC more cost effective by using appropriate services like Infrastructure as a service (IaaS), Platform (PaaS), Software (SaaS).

► Social Networks are being used as medium for commerce and business nowadays.

► Development of strong and more powerful mobile apps is helping in the growth of E- commerce

► Integration of AI and machine learning in EC sites helps to better recognize the needs users and helps in decision making process of the business.

Social network and services

► Social network is an online platform for connecting people around the globe.

► A social networking service (SNS) is an online vehicle for creating relationships with other people who share an interest, background, or real relationship. Social networking service users create a profile with personal information and photos and form connections with other profiles.


Characteristics:

► While social networking services may take many forms, they share several characteristics, such as all utilizing the internet. Other similar characteristics include

► User-generated content, such as photos, videos, and posts that inform other users about the activities and interests of the poster.

► The ability to connect individuals from all over the world, though some platforms recommend that individuals know one another in real life before connecting online.

► They are free. Their business model is based on breadth of membership, therefore charging for use would be counterproductive. Still, the possibility remains that if a network grew large and useful enough, charging a fee may be possible.

► They connect people with common histories, such as school attendance, work colleagues, or people who share a common interest.

► They may help forge and develop relationships between people who share a profession or business network.

► They may be used to help individuals find information, products, services, or resources that are relevant to them.

The following are examples of representative social networking services: Facebook.com: The most visited social coming website.

► **YouTube.com and metacafe.com:** Users can upload and view video clips.

► **Flickr.com:** Users share and on photos.

► **LinkedIn.com:** The major enterprise-oriented social network.

► **Habbo.com:** Entertaining country-specific sites for kids and adults.

► **Pinterest.com:** Provides a platform for organizing and sharing images.

► **Google + (plus.google.com**): A business-oriented social network.

► **MySpace.com:** Facilitates socialization and entertainment for people of all ages. Instagram.com: Provides a platform for sharing photos and videos

M-commerce

► Mobile Commerce: Using wireless handheld devices like smartphones and tablets for conducting E-Commerce.

► It is dependent on mobile based applications (apps)

► Main concept of M-commerce is that people can use their mobile phones to carry out the business transactions anytime and anywhere they go.
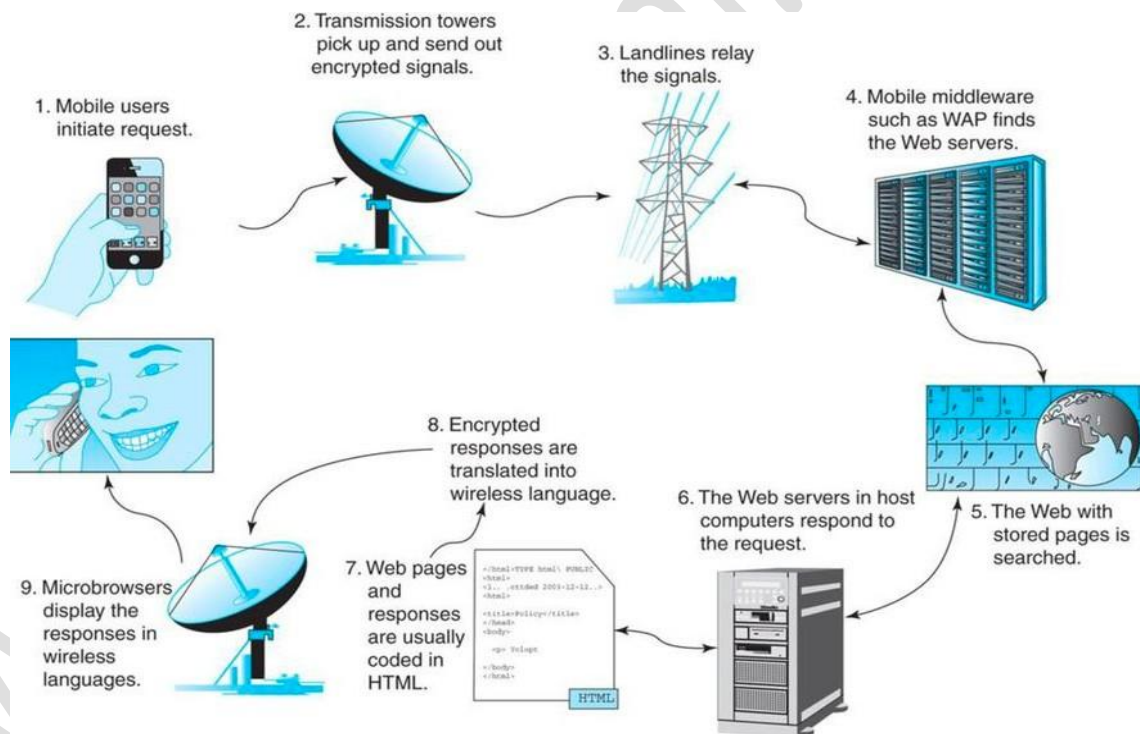
➢ Mobile commerce (m-commerce), also known as m-business, refers to conducting e commerce by using mobile devices and wireless networks.

➢ M-commerce involves electronic transaction conducted by using mobile devices via the Internet, corporate intranets, private communication lines, or over other wireless networks.

➢ For example, paying for an item in a vending machine or paying taxes with an iPhone is considered m-commerce.

➢ M-commerce provides an opportunity to deliver new services to existing customers and to attract new customers to EC anytime, anywhere.

- Initially, the small screen size and slow bandwidth limited the usefulness to consumers.
- However, this situation is changing rapidly due to the widespread use of smartphones and tablet computers.
- In addition, now consumers are more accepting of the handheld culture.
- Furthermore, the adoption of m-commerce is accelerating due to the spread of 4G networks (and soon 5G). Finally, free Wi-Fi Internet access in many locations helps.

M-Commerce: Attributes

▶ **Specific attributes of M-commerce**
   - **Mobility:** Mobile computing and m-commerce are based on the fact that users carry a mobile device anywhere they go.
   - **Broad Reach:** In mobile computing, people can be reached at any time. Of course, users can block certain hours or certain messages, but when users carry an open mobile device, they can be reached instantly.

▶ **Value-added attributes of M-commerce**
   - **Ubiquity:** The availability of any products or services at any location at any given time.
   - **Convenience:** Users can operate the wireless devices in any environments.
   - **Instant connectivity:** Connections are available quickly and easily at anytime and anywhere.
   - **Personalization:** The ability to customize the information to the customers.
   - **Localization of products and services:** Knowing the exact locations of the customers to offer product or services information is the key factors to success.

The Benefits of M-commerce

M-commerce has many benefits to organizations, individuals, and society. As a result, many believe that the future of EC mobile applications.

Benefits for Organizations

1. Increases sales due to ease of ordering by customer from anywhere, anytime
2. Allows location-based commerce customers from anywhere, more sales and revenue.
3. Provides an additional channel for advertising and distribution of coupons (wider reach)
4. Increases customers' loyalty.
5. Improves customer satisfaction through real-time apps
6. Increases collaboration, advertisement, customer service, and sales by using IoT.
7. Enables many enterprise application
8. Facilitates CRM and collaboration.
9. Reduces employee training time and US help desk resources.
10. Improves time utilization and productivity of mobile employees.
11. Expedites information flow from mobile employees.
12. Delivers digitized products and services directly to mobile devices.
13. Reduces order lead-time and fulfillment cycle.
14. Allows for lower, competitive pricing.
15. Ability to work at home and have flextime.

Benefits for Individuals and Customers

1. Allows e-commerce from any place, anytime.
2. Assists in shopping by providing real-time information and other shopping app.
3. Helps organization and communication while traveling
4. expedites banking and financial services.
5. Provides rich media entertainment anytime and anywhere.
6. Facilitates the finding of new friends and whereabouts of existing ones.
7. Provides a choice of mobile devices for transactions.
8. Expedites communication (e.g., locate people, get fast answers to queries, compare prices while in physical stores or via shopping comparison sites/apps)
9. Increases affordability over the cost of using desktop computing in some countries
10. Allows "smart" applications.

Benefits to Society

1. There are many benefits to society. For example, self-driving cars can reduce accidents; smart cities can benefit the dwellers and visitors.
2. Contributions are in to almost any field, from medical care and education to law Enforcement.
3. Significant reductions in energy expenses are achieved by using smart grids.
4. Traffic jams can be reduced by using wireless sensors and much more.

Location-based commerce (L-commerce)

➢ It is refers to the use of location-finding systems such as GPS-enabled devices or similar technologies (e.g cell-based stations) to find where a customer with a mobile device or an object is located and provide relevant services, such as an advertisement or vehicle route optimization. LBC is also known as LBS (location-based systems).

➢ LBS is "a software application for an IP-capable mobile device that requires knowledge about where the mobile device is located.

➢ L-commerce offers convenient services to consumers such as connections with friends, the ability to receive relevant and timely sales information, safety features (e.g. emergency assistance), and convenience (a user can locate what facility needed is nearby without consulting a directory or a map).

➢ Sellers get the opportunity to advertise and provide or meet a customer's needs in real time. In essence, LBC is the delivery of m-commerce transactions to individuals who are in a known specific location, at a specific time.

L-Commerce: Location based commerce

➢ E-commerce applications provided to customers based on a user's specific location

Location-based technologies

➢ **Global positioning systems (GPS**): a wireless system that uses satellites to enable users to determine their position anywhere on the earth.

➢ **Geographical information systems (GIS):** relates longitude and latitude of GPS into place or address (mapinfo.com)

➢ **Location Based Mobile System (LBMS):** Real time location tracking feature of the smartphone.

L-Commerce Infrastructure

- ➢ Location finder (positioning) component
- ➢ Mobile Positioning Center
- ➢ User
- ➢ Mobile devices
- ➢ Mobile communication network
- ➢ Service or application providers
- ➢ Data or content provider
- ➢ Geographical Information System (GIS)

Basic Concepts in L-Commerce:

Location-based m-commerce mainly includes five possible activities, all done in real time:

1. Location= Finding where a person (with a smartphone) or another mobile device or a thing (e.g., a truck) is Located

2. Navigation= Finding and illustrating a route from one location to another (e.g., as is done in Google Maps)

3. Tracking= Monitoring the movements and whereabouts of people or objects (e.g., a truck, airplane)

4. Mapping= Creating maps of certain geographical locations with superimposed data if needed (e.g., GIS, Google Maps)

5. Timing= Determining the arrival or departure time of something at a specific location (e.g., arrival of a bus to a specific bus stop or an airplane to an airport)

- ➢ For example, WeatherBug (weather weatherbug.com) and Send Word Now (sendwordnow.com) have combined some of these five services to ensure the safety of customers, employees, and stores during severe weather and other emergencies.
- ➢ A recent development of L-commerce is known as real-time location systems (RTLS), which are used to track and identify the location of objects in real time.

L-Commerce Infrastructure

L-commerce is based on an infrastructure. The components depend on the applications. However, the following conditions usually exist:

1. Location finder (positioning) component. A GPS (or other device) that finds the location of a person or a thing.

2. Mobile Positioning Center. This includes a server that manages the location information received from the location finder.

3. User. The user can be a person or thing (e.g., a vehicle).

4. Mobile devices. The user needs a mobile device (e.g., a smartphone) that includes a GPS or other feature that locates the location (position) of something or someone.

5 Mobile communication network. The network(s) that transfers user requests to the service providers and then transmits the reply to the user.

6. Service or application providers. Providers are responsible for servicing a user's request. They may use applications such as GIS
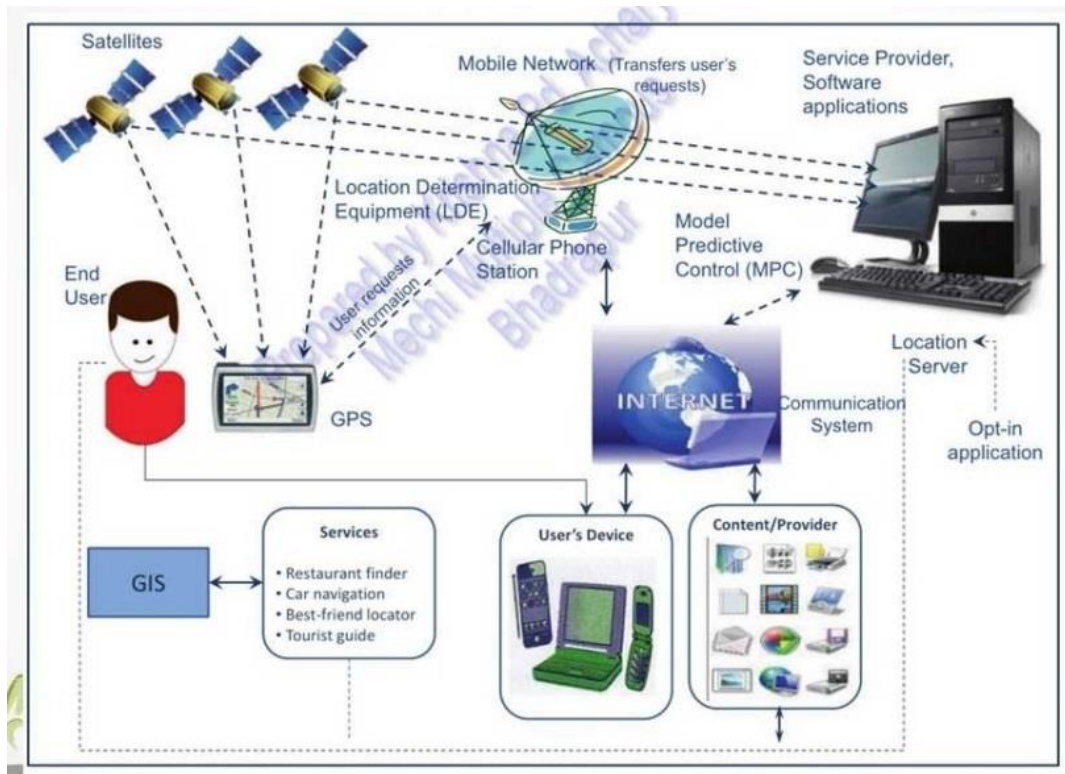
Location- based services and Applications:

A location based service (LBS) is a mobile device-based computerized service, which utilize information about the geographical position of a user's mobile device (e.g. mobile phone tracking) for delivering a service (e.g. advertisers can target ads to specific location), to the user.

There are a large number of LBS applications. For a list of location based services (applications)

Location based services can be used in marking, operations, services, finance, and so forth.

LBS also works in asset tracking (e.g. of parcels at USPS or FedEx) and in vehicle tracking LBS also includes location based games.

Other examples of location based services are:

1. Recommending public events in a city to tourists and residents
2. Asset recovery, for example, finding stolen cars
3. Pointing a user to the nearest business (e.g. a gas station) to his (her) location
4. Providing detailed navigation from any place to any address (sometimes with voice prompts)
5. Location things (such as trucks) and displaying them on the mobile device map
6. Inventory tracking warehouses
7. Delivering alerts, such as notification of a real time sale in a specific store.

Barriers to Location Based M-Commerce

1. **Lack of GPS in some mobile phones.** Without GPS, it is difficult to use LBS. However, GPS- enabled phones are increasing in availability. In addition, the use of cell phone towers helps.
2. **Accuracy of device.** Some of the location finding tools are not too accurate. A good, but expensive, GPS provides accuracy of 10 ft. Less accurate locators provide accuracy of about 1500 ft.
3. **The cost- benefit justification.** The benefits of location based services may not justify the cost. For customers, it may be inconvenient to utilize the service.

4. **Limited network bandwidth.** Wireless bandwidth is still limited. As bandwidth improves with 4G and 5G, applications will expand, which will increase the use of the technology.

5. **Invasion of privacy.** Many people are reluctant to disclose their whereabouts and have their movements tracked.

Assignment

1. Describe some of the benefits of studying EC.
2. Define EC and e-business.
3. Distinguish between pure and Partial EC
4. Describe the key elements of the L-commerce infrastructure.
5. Define intranets and extranets.
6. List the major components of EC framework.
7. What is GPS? How does it work?
8. What are some of the basic questions addressed by location-based services?
9. List five benefits each to customers, organizations, and society.
10. Define geographical information systems. How do they relate to LBS?
11. Define social networks.
12. Describe the capabilities networking services (SNSs).
13. Define Social commerce.
14. List the services enabled by LBS.
15. Define social commerce.
16. Describe social location based marketing.
17. List some applications of LBC.
18. List the major technological and non-technological barriers and limitations to EC.
19. List the major barriers of LBC.
20. Define m-commerce.
21. List and briefly describe drivers of m-commerce.
22. Describe the major online enterprise applications.
23. List five major mobility trends 20. Briefly describe the five attributes of m-commerce.
24. Describe the framework of m-commerce applications.
25. What are the major categories of m-commerce applications?
26. Describe the landscape of m-commerce.
27. What are the major benefits of m-commerce?