Unit -1

E-Commerce

Learning objectives

After reading this unit. you will

1. Understand what are e- commerce and e- business.
2. Know the trend and advancements in e-commerce.
3. Know what are the characteristics and business models of e-commerce

Structure

1.1 Introduction

Information is power. Management information system organises wide variety of information need of business. It provides inputs for the business to stay competitive. The computer collects , organises, interprets, and communicates vast amount of information with great speed. Electronics Data Interchange (EDI) facilitates the speedy, secured and accelerated transfer of documents across the globe. A paperless working system is in place. With computer of businessman linked to customers, and suppliers electronically, trade and commerce will undergo revolutionary changes.

1.2.1 E- Business

IBM defines e-business as "a secure, flexible and integrated approach to deliver differentiated business value by

combining the systems and processes that run core business operations with the simplicity and reach made possible by internet technology." E-business combines the traditional information system with world wide web and connect critical business systems directly to critical business constituencies – customer, employees and suppliers via Intranets, Extranets and the Web.

E-business can be divided into three areas. They are: (a) within the organization, (b) business-to-business (B2B) dealings and (c) business-to-customers (B2B) transactions.

(a)Within the Organisation

E-business within the organization use the Intranet. The Intranet uses Internet standards for electronic communication. People on the intranet are able to see organisation-specific web sites.. The Intranet web sites allow the employees to obtain information and place orders online. connect over the Internet via virtual private networks (VPN) to the Intranet using encryption lines and strong authentication for identification purposes.

(b)   Business-to-Business (B2B) Dealings

The second area is the business-to-business (B2B) dealings. Business-to-business (B2B) dealings take place over the Extranet. "The Extranet consists of two Intranets connected via the Internet, whereby two organization are allowed to see confidential data of the another." Maintaining the private networks is too expensive to the business concerns. Cost of usage of business-to-business solutions through the Internet has come down substantially. Use of virtual private networks (VPNs) keeps the costs low, at the same time, keeping the business transactions private.

(c)Business-to-Customer (B2C) Transactions

The third area of e-business is business-to-customer transactions. This is selling the goods and services through the intranet to the customers spread all over the world. Business concerns establish virtual shops and offer goods and services to whoever visits their web sites. "This is known as E-commerce

Electronic business is a super-set of business cases. E-commerce is one of the aspects of e-business. Some other important aspects of e-business, which are successfully carried through the Internet are e-auctioning, e-banking, e-directories, e-franchising, e-learning, e-mailing, e-marketing, e-operational resources management, e-supply e-trading etc.

1.2.2 E-commerce

Electronic Commerce (E-commerce) is "exchange of business information using electronic formats, including Electronic Mail (e-mail), Electronic Bulletin Boards (EBBs) and Electronic Funds Transfer (EFT). E-commerce Technologies are designed to replace traditional paper-based work flow with faster, more efficient and reliable communications between computer." According to WTO, E-commerce is production, distribution, marketing. Sale or delivery of goods by electronics means.

Transaction can be divided into 3 stages – (i) advertising stage. (ii) Ordering and payment stage (iii) Delivery stage. All these are connected under e-commerce.

As per the Microsoft Computer Dictionary Electronic Commerce is a "commercial activity that takes place by means of connected computer. Electronic commerce can be between a user and a vendor through and online information service, the internet, or between vendor and customer computers through electronic data interchange (EDI)." E-commerce has the following phases:-

➢ Electronic Data Interchange (EDI), the business-to-business exchange of data.
➢ Gathering and use of demographic data through Web contracts.

- ➤ E-tailing or "virtual storefronts" on Web sites with online catalogues, sometimes gathered into a "virtual mail."
- ➤ E-mail and fax and their use for reaching prospective and established customers .
- ➤ Business-to-business buying and selling.
- ➤ The security of business transactions.

EDI :

EDI facilitates the transfer of business documents stored in structured formats-through mutually agreed messaging protocols-from one computer application to another. It is computer-to-computer communication using a standard data format to exchange business information electronically between independent organizations. It eliminates paper work and leads to increased response.

EDI can be used to send an invoice or an order from one company to another. The "sending computer," located at a customer's premises, uses telecommunication technology center. After the order is received, data are manipulated to match the order entry files, in the "order database" of the supplier. The information is then transferred into the database and appropriate error messages, and/or exception reports are generated. The "sending computer" stores the order and follows up on it. The "Receiving computer" automatically, and the shipping department. Paper based information suffers from the following problems.

(i)   Labour Cost : Manual processing is required for data keying, document storage and retrieval, document matching, etc.

(ii)   Errors: The same information is required to be keyed in a number of times. Hence, the paper based information system is labour intensive and error prone.

(iii) Inventory : Uncertainty exists in the delays and uncertainties, as a lot of paper is required to record a variety of information.

(iv)   Uncertainty : a) Delay in transportation and keying b) the sender does not know whether the matter despatched will reach the party intended to or not. C) Uncertainty regarding bank payment.

Advantage : Advantages of EDI are :

(i) Order from the customers can be analysed and executed without any delay,

(ii) Order can be raised to reflect both demand and stock availability,

(iii) Carriage by road, rail, sea or air can be booked simultaneously,

(iv) Customs clearance can be obtained even before the goods arrive.

E-mail

E-mail is the exchange of text message and computer files over a communications network such as a local area network or the Internet, usually between computers or terminals. It is also defined as and electronic text message. Communication is the basis of all business. E-mail combines the strengths of phone calls and letters.

Advantage

i) E-mail combines the strengths of phone calls and letters

ii) It is in writing, unlike telephone call. The documents can also be enclosed.

iii) Few human errors.

iv) Reduction in manpower cost.

Internet

Internet is "the world wide collection of networks and gateways that use the TCP/IP Suite of protocols to communicate with one another. At the heart of the Internet is a backbone of high-speed communication lines between major modes or host computers, consisting of thousands of commercial, government, education and other computer systems, that route data and messages. One or more internet nodes can go off line without endangering the Internet as a whole or causing communications on the Internet to stop."

Advantage

i) The world becomes a market place.

ii) Wider choice for customer.

1.2.3. E-business

E-business is transformation of an organization's processes to deliver additional customer value through the application of technologies and computing paradigm of new economy.

There primary processes are enhanced in e-business:

i) **Production process :** Procurement, ordering and replenishment of stocks, processing of payments, electronic link with suppliers.

ii) **Customer focused process :** Promotional and marketing affords, selling over the internet, processing customer purchase order and payment, after sales service.

(iii) **Internal Management Process:** Employee services, trainings, internal information sharing, Video conferencing and recruiting.

Internet economy is broader than E-commerce and e-business. The University of Texas has developed a conceptual frame work for internal economy as given hereunder:

Internet Economy

Layer	Layer 1	Layer 2	Layer 3	Layer 4
	Internet Infrastructure Company that provide hardware, software and networking equipment.	Applications infrastructure company that make software product that facilitate Web Transaction Companies that provide web development design and	Internet Intermediaries that link E-commerce buyers and sellers. Companies that provides market place.	Internet commerce companies that sell directly to customers or business.

Type of Companies	Networking Hard Ware/ Software Companies PC and Server Manufacturers, Security Vendors, Fiber Optical Makers	Internet Commerce Application Web Development Software, Internal consultant, Multi Media Application.	Market Makers in Vertical Industry, Online Travel Agent, Online Brokers, Online Advertisers Portal, Content Providers.	e-Tailers, Entertainment & Professional Services, Airline Selling Online Tickets,
Example	CISCO AT & T	Adobe Microsoft IBM, Oracle	Yahoo, ZD Net, E-Steel	Amazon. com Dell

1.2.4. Types of Application

E-commerce business can be classified under seven categories

- (i)   B to B procurement(e-procurement)
- (ii)   B to B and B to C sales (e sales)
- (iii)   B to B virtual markets place and enterprise portals (e-portals))
- (iv)   One to one marketing and e promotion.
- (v)   Customers service (e-Cs)
- (vi)   Electronic payments (e-Pay)
- (vii) Employee self service (e-ESS)

These applications can be broadly classified as B to B and B to C.

E-Auctioning

  In traditional methods of auctioning all those who participate in the auction either assemble at one place or bid over the phone. Now, all those who have Internet connection can participate in the auction by sitting at home. The Internet enables everyone, irrespective of the country to which he belongs and where one is located, can visit the auction web site with a click and participate in the auction. The people who want to participate in the auction visit the web site with a click, go thorough the details of the goods offered on the concerned web pagers and place the price or prices they would like to offer on the web page. The auctioneer waits time limit and then hands out the goods to the highest bidder, http://www.ebsy.com/, http://www.qxl.co.uk/, http:/www.recardo.de/ are some of the popular auction web sites which provide an opportunity for everyone to become either a bidder or an auctioneer, or both at the same time for two different products.

Advantages

   (i)   Wider participation, participation from home.

   (ii)   Less manipulation

   (iii)   Reduction in transaction cost

E-Trading

E-trading requires a PC, a modem and the Internet connection. The investor can log on to an online trading portal, go through a comprehensive database of information, use the online analytical tools, and pass on instructions to a friendly and reliable online broker. Online trading is the perfect combination of the medium of net catering to a real life concept. Online trading retrieves the relevant information and processing. E-broking offers the real-time stock prices to every desk throughout the world. People are able to react in real-time to changes in the stock market.

Advantages

   (i)   Up-to-date at the lowest possible cost
   (ii)   Wider choice for traders
   (iii)   Availability of information & processing of information which was difficult in the paper based system.

Online shopping is the process of purchasing products or services over the Internet. An online shop, e-shop, e-store, Internet shop, webshop, online store, or virtual store is like a bricks-and-mortar retailer or in a shopping mal. Consumer can use on-line catalogue to place order. They can pay for the product or service by using credit card or debit card.

Advantages

(i)   Wider choice for customers.

(ii)   Low cost of by abolition of intermediaries.

(iii)   Better price for the customers.

(iv)   Wider market for the Vendor.

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Electronic Procurement

E-procurement essentially comprise a number of inter-related methods for improving the procurement process through the use of electronic systems and processes. The need for e-procurement arises from the fact that a manufacturer can source inputs such as raw materials, components, machinery and consumable from any part of the world. Enterprises use automated applications to streamline buying both production goods and services.

The entire electronic procurement process can be divided into three major components. Pre-purchase, purchase, and payment activities. Request for Purchase (RFP) is generated by the user department for the purchase department. The electronic platform helps to plan pre-purchase activates starting with the vendor pre-qualification process. Vendors to register organisation, and state availability of resources, such as manpower, machinery, and monetary resources. Reference letters from their bankers establish is their standing in the market. The shor-listed vendors are registered. A Request for Quota (RFQ) is sent to them. In case of very large purchase orders, vendors are invited to bid in a competitive bidding process. Tender evaluations tools help identify the most suitable bid. Some adopt reverse auctions, whereby, they announce the auction process on their website and ask the vendors to make their bids before the deadline.

Advantages

1. Reduction in manpower Cost

2. Reduction in Purchase Cycle Time
3. Reduction in Transaction Cost
4. Wider Choice of Vendors
5. Better price for the Purchase Goods

Electronic Marketing

Internet has changed the way we exchange goods for money. It has broken geographical barriers between buyers and sellers. The internet enables a manufacturer in India to sell his/her goods to a customer in any part of the world though the World Wide Web.

Specification of their products and prices are also displayed so that buyers have a clear idea about the product and price.

Advantages

1. 24x7 Connectivity – Buyer and seller in website 24 hours a day and 7 days a week.
2. Less Expensive
3. Online Payment Facility – The buyer can make online payment via credit card. This facility speeds up the transaction, assuring the seller of payment.
4. User-Friendliness- Most e-marketing websites are very easy to use.
5. Convince – The buyer can purchase goods on the internet. The payment can be made with a click of the mouse and the goods can be delivered at the buyer's door step.
6. Personalised Service – Customers indeed are recognised and provided personalised services.

Electronic Logistics

Electronic logistics is use of web-based technologies to support warehousing and transportation management process. E-logistics enables distribution to couple routing optimization with inventory tracing and tracking information.

Advantages

(i) Lower transaction cost
(ii) World Wide Reach
(iii) Reduction in manpower cost

1.3.1 Evolution and trend

Year		Event
1979	:	Michael Aldrich introduces online shopping system.
1981	:	First business to business online shopping system installed – Thomson Holidays, U.K
1982	:	France telecom used for online ordering.
1984	:	Gateshead sis/tesco- first B 2 C online shopping system. Electronic mall launched in USA and Canada.
1990	:	World wide Web set up.
1992	:	Bookstacks Unlimited in Cleveland open for online selling of books.
1995	:	Jeff Berzos launches Amazaon. Com, first commercial free 24 hour internet Ebay started as Auction web.
1996	:	India Mart B 2 B market place established in India.
1999	:	Alibaba group in China.
2001	:	Alibaba attains profitability.
2002	:	E bay acquires Paypal.
2009	:	Zaypo.com acquired by Amazon.com
2014	:	Alibaba group has largest initial public offering of $ 25 billion. Indian E-commerce industry grows by more than 30% to $ 2.6 billion in 2013. US E-commerce and on line retail sales reached $ 294 billion.
2015	:	Amazon.com accounts for more than half of E-commerce growth.

1.3.2. BUSINESS APPLICATION

Some common applications relating to e- commence are

- Online banking.
- Domestic & and international payment system.
- Online shopping & order tracking.

- Group buying
- Teleconferencing
- Electronic tickets
- Social networkings.
- Instant messaging
- Pre-tail
- Digital Wallet

1.4 Market Size:

India had an internet user base of 35 crores as on June, 2015 which is expected to cross 50 crores in 2016. However with the second largest user base In world next to China (65 crores), the penetration of E-commerce is low (18%). In U.S.A., 84% of population is in e-Commerce. Even in China, it is 48% of population. But India' is growth rate is the fastest, adding 6 million new entrants every month. According to Internet and Mobile Association of India (IAMAI), the E-commerce will reach Rs.211, 005 crores by Dec. 2016. The market was Rs.1,07,800 crore in 2015. Online travel and e-tailing contribute size-ably to this business. The retail market is about $ 675 billion in 2016. According to Forester, E-commerce is to grow at 57% annually between 2012-2016. Online travel accounts for 70% of market. There are about 10 crores online shoppers . Electronics and apparel segments are the largest earners. The largest companies in e-market are Flipcart, Snapdeal, Amazon India and Paytm.

DRIVERS :

- Large base of broadband internet users, growing at 35% MOM. The number of rural users growing by 58% annually. Rapidly increasing growth of smart –phone users. World's second largest smart phone base. The number grew at 91% during 2012-16 from 2.9 crores to 38.2 crores. The number of 3G subscribers grew by 84% from 2.3 crores 26.6 crores.

- Rising standard of living and decline of poverty in general.

- Availability's of wide range of products in e-market.

- Competitive price in E-commerce eliminating real estate cost, inventories and wide chain of intermediaries in supply chain.

- Increased user online classified sites.

- Popularity of second hand goods reaching lower. income levels.

- Startups like Jabong.com, Savn, Make My Trip, Book My Show, Zomato etc. offering strong competition.

- Increasing investments by venture capital firms –
  - Accel partners investing is Book my show.com.
  - Flipcart receiving funds from Tiger Global, Naspers, Accel Partners & ICONQ Capital.
  - Flintobox assisted by (GSF) global, Globe Vestor (USA), AECAL (Germany).

- Rise of niche retailers, about 25,000 website websites registered daily. Bigger online retailers like Arvind, Mahendra Group & Godrej Group telling in niche market.

- Enhanced supping experience because of television, social media (face book), week end can and holidays sales.

There are three major forces driving e-commerce.

Economic forces

Market Forces

Enhanced
Customer

Development
of ICT
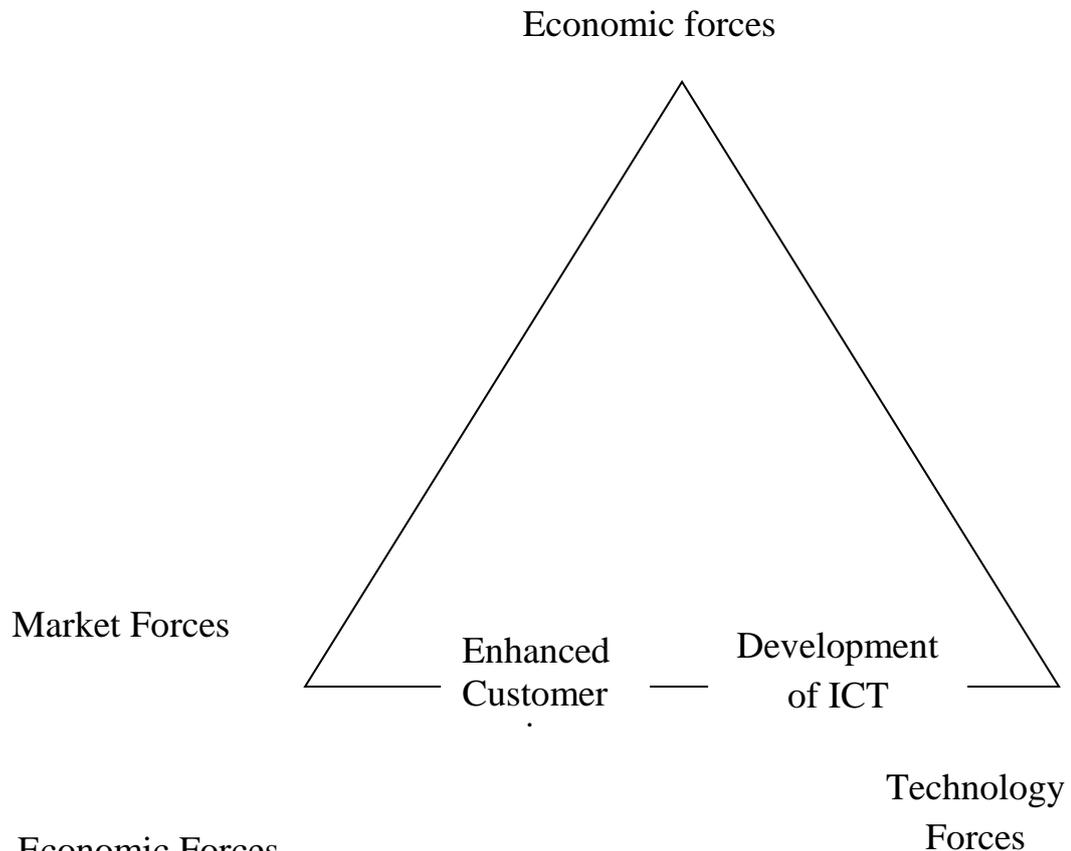
Technology
Forces

- Economic Forces
    - Reduction in communication cost.
    - Speeding electronic transaction with suppliers.
    - Low cost technological infrastructure.
    - Lower cost of sharing information globally.
    - Cheaper customer service alternatives.

- Market Force
    - Medium for enhanced customers service.
    - New types of service with better information.
- Technology Forces

- Convergence of communication services in a single platform - no separate network for telephone, television and internet access.

1.5. Characteristics

- In absolute terms, India's internet users are almost of the size of population in USA and higher than that in Japan, Brazil and Russia.

- E Travel accounts for 70% of total E-commerce market. E-Tailing i.e. online retail plus online market place is the fastest growing segment having grown at the rate of 56% annually between 2009-2016. Books and apparels are the largest selling products through e-tailing, constituting 80% of product distribution.

- E-commerce attracts business from tier 2 and 3 cities where people have limited access to brands but have high aspirations. These cities showed 30% to 50% rise in transactions.

- 50% of orders are on mobile-most mobile transaction are for movie tickets and music downloads.

- 75% of internet users are in the age group of 15-24 years. This category shops more than other age groups. Rising aspirations, peer pressure, fashion trends encourage this segment.

- Illiterate and literate up to class VIII internet users in India number.25 crores. So, literacy, affluence and modernization may not be the limiting factors. But how to educate the internet users with primary education only will be a tough task in the next decade.

- E-market concentration in China is on account of Ali Baba owned Taobao and Timall. In India, the market share is divided

among several e-companies, each coming up with its own business model. So, Indian customers have a wide variely of products and services to choose from.

1.6.1 Business Models:

- Private label : E-commerce company sets up it own brand goods selling though own website.

Advantage : (i) Wide ranging products competing with branded labels.

(ii) Margins higher than brand third party branded goods.

- White label : settings up of a branded online store managed by E-commerce players or third party.

Advantage   (i)   It provides services by partnering with payment gateways.

(ii)   It builds customer affinity and loyality.
- Market place and pick up & drop.

Sellers team up with leading market places to set up dedicated online store on the lottery website.

Advantage : Access market place's distribution network.

(ii)   Sellers manage inventory and drive sales. But they have less role in pricing and customer experience.

- Self-owned inventory.

The company owns the inventory.

Advantage : Access to –information on inventory, location and supply chain results in better control of inventory.

Particulars	Area	Advantage
MC	Information Technology	- Retail outlet in customer's pocket. - Helps Mobile Banking, Mobile Purchase, Mobile Marketing, Mobile Money Transfer. - Built-in security measures for safety of funds.
EFT	Information Technology	Transfers fund easily & conveniently without paper work.
SCM	Industrial Engineering Operations Management Logistics	- Customer relation management - Customers service management - Order fulfillment - Supplier relationship management - Product development - Return management
IM	Computer	Streamlining advertising and marketing efforts.
OLTP	Information System	Availability / speed recoverability of data.
EDI	Information Technology	- Reduces errors of paper based system. - Reduces inventory.
IMS	Computer	Facilitates - Order management - Asset tracing. - Service management - Inventory optimisation
ADCS	Computer	- Reduces Inventory, Wastage - Facilitates SCM.

1.6.2 Technology:

E-commerce is trading in products or services using computer networks such as internet or online social networks. It uses the following technologies.

Mobile Commerce:

Mobile Commerce is the delivery of electronic commerce capabilities directly in to the customer's hand via wireless technology.

Electronic Funds Transfer (EFT) faster transfer of funds electronically by passing paper based funds transfer and clearing system.

Supply Chain Management (SCM) SCM to design, planning, execution, control and monitoring of supply chain activities for creating net value and synchronizing supply with demand.

Internet Marketing IM is using web/ email to drive direct sales via electronic commerce.

Online Transaction Processing (OLTP) - Information system that facilitates data entry and retrieval transaction processing.

Electronic Data Inter change (EDI) :- EDI is computer to computer communication exchanging business information electronically between independent organisations. Inventory Management System : Computer based system for tracking inventory level, orders sales and deliveries.

Automated Data Collection Systems (ADCS) computer based data correction system.

Technology

The methods are

i. Online shopping websites for retail sale direct to customers.
ii. Collecting demographic data through web/ social media.
iii. Participating in online market place.
iv. Business to business EDI.
v. E-marketing by email.
vi. Engage in pretail for launching new products and services.
vii. Online financial exchange.

1.7. Government Regulation :

Information Technology, Act 2000 provide legal frame work for electronic Governance by recognizing electronic record and digital signature. The Controller of Certifying authority regulates issuing of digital signature. It defines cyber crimes and prescribes penalties. A Cyber Appellate Tribunal is established to resolve disputes arising from the law. The act amends

- Indian Penal Code 1860.
- Indian Evidence Act, 1872
- Bankers Book of Evidence Act, 1891
- Reserve Bank of India Act, 1934

The act contained 94 sections in 13 chapters and 4 schedules.

An amendment of section 66A penalized sending of offensive messages. It made publishing offensive, false or threatening information, liable for imprisonment up to three years with fine. It was challenged to have violated article 19(1) (a) of the Constitution of India. In 2015, in PIL filed by Shreya Singhal, Supreme Court gave the verdict that section 66(A) is unconstitutional. It did not strike down Section 69 A & 79. Section 69 allows interception of information. Though Supreme Court gave verdict in 1996 that government can tap phones in case of a 'Public Emergency', there is no restriction in section 69. As intelligence agencies are not able to deal with online posts involving national security, a committee of official, from various agencies under Home Ministry are discussing to provide a legal framework.

The Data Privacy Rules state that firms must obtain written permission from customers before collecting and using their personal data. The issue becomes controversial with some firms insisting it as too strict and some others saying that it removes fear of outsourcing to Indian companies.

List of offences and penalties are given as under:

Section	Offence	Description	Penalty
65	Tampering with source document	If person knowingly or intentionally conceals, destroys or alters or intentionally or knowingly causes another to do so computer source code, computer programme, computer system, computer network.	Imprisonment up to 3 years and / or with fine up to Rs. 2,00,000/-
66	Hacking with Computer System	If person with intent to cause wrongful loss or damage to the public or any person destroys or deletes or alters any information residing in a computer resource.	Imprisonment up to 3 years and / or with fine up to Rs. 5,00,000/-
66B	Receiving Stolen Computer or communication device.	A person receives or retains a computer resource or communication device.	Imprisonment up to 3 years and / or with fine up to Rs. 1,00,000/-
66C	Using password of another person	A person fraudulently uses password, digital signature or other unique identification of another person.	Imprisonment up to 3 years and / or with fine up to Rs. 1,00,000/-
66D	Cheating using computer resource	If a person cheats using a computer resource or communication.	Imprisonment up to 3 years and / or with fine up to Rs. 1,00,000/-
66E	Publishing Private Image of others	If a person captures, transmits or publishes, images of a person private, parts without his or her consent or knowledge.	Imprisonment up to 3 years and / or with fine up to Rs. 2,00,000/-
66F	Acts of Cyber Terrorism.	If a person denies access to an authorised personnel or communicates or contaminates system with the intension of threatening the unit,	Imprisonment up to life

		integrity or security of India.	
67	Publishing obscene information in electronic form	If a person transmits any material which is lascivious or appeals to deprave and corrupt person.	Imprisonment up to 5 years and / or with fine up to Rs. 1,00,000/-
67A	Publishing images containing sexual acts.	If a person publishes or transmits images containing sexual explicit act or conduct	Imprisonment up to 7 years and / or with fine up to Rs. 1,00,000/-
67B	Publishing child porn of predating children online.	A child is anyone under 18. If a person captures, transmits images of a child in a sexually explicit act or conduct if a person induces a child into a sexual act.	Imprisonment up to 5 years and / or with fine up to Rs. 1,00,000/-. On first conviction, up to 7 years and /or with fine up to Rs.10,00,000/- on second conviction.
67C	Failure to mention records.	Intermediary failing to maintain required records for stipulated time.	Imprisonment up to 3 years and / or with fine
68	Failure / refusal to comply to orders.	The Controller may, by order, direct a Certifying Authority to take measures for compliance with Act.	Imprisonment up to 3 years and / or with fine up to Rs. 2,00,000/-
69	Failure / refusal to decrypt data	If the controller is satisfied that it is necessary to do in the interest of sovereignty or integrity of India, the security of state order direct agency of the state to decrypt information.	Imprisonment up to 7 years and possible fine.

70	Securing access or attempting to secure to a protected system.	Government to notify in Official Gazette any computer, Computer system or Computer network to be a protected system.	Imprisonment up to 10 years and / or with fine.
71.	Misrepresentation	If anyone makes mis-representation or suppression of material facts from the Controller or Certifying Authority.	Imprisonment up to 3 years and / or with fine up to Rs. 1,00,000/-

1.8. Let us sum up

e-business and E-commerce are different. E-commerce started in 1979 with online shopping system and has become popular world wide. The rate of the growth in faster in India (57%) annually between 2012-16. E-commerce has reached Rs.2 lakh crores by 2016. The drives of E-commerce are: long base of broad band internet users, second larger smart phone base, availability of wide range of products, competitive price, increased use of online classical sites, increasing investment by venture firms in E-commerce companies etc. Economic forces, market forces and technology forces are three major forces.

The characteristics is of E-commerce are (i) Youth between 15-24, comparing 75% of internet users are shopping more than any other age group. Many of them are illiterate & literate up to class VIII (ii) E-commerce attracts business from tier 2 and tier 3 cities and is now going to smaller towns. (iii) e-travel accounts for 70% of E-commerce market. (iv) Books apparels and electronics are the largest selling products through e-tailing.

The business models are private label, white label, market place and pick up & drop, self-owned inventory. Several technologies are used: Mobile Commerce, Supply Chain Management, Electronic Funds Transfer, EDI, ADCS, OLTP.

E-business operations include e-auctioning, e-banking, e-marketing, e-trading, e-procurement, e- logistics, etc. They have specific advantages, the common advantage being 24 x 7 connectivity, worldwide reach, easy to operate, user friendly, reduction of transaction cost, manpower cost, reduction in purchase cycle time, sale cycle times and better price for the purchased goods. …

1.9 Key Terms

- E-business: e business is 'using the convenience, availability and worldwide reach to enhance existing business or creating new virtual business.'

- E-commerce: E-commerce is 'the exchange of business information using electronic mail e-mail, and Electronic Fund Transfer (EFT)'.

- E-mail : email is 'exchange of text message and computer files over a communication network such as local area network or internet usually between computers or terminals'.

- Internet: Internet is "world-wide collection of networks and gateways that use the TCP/IP suits of protocols to communicate with one another'.

- Electronic Data Interchanges (EDI) : EDI is "transmission of information of business or strategic significance between computers of independent organizations"

- E-auctioning: Those who have internet can participate in the auction by sitting at home.

- e-banking: e-banking allows customers to access their accounts and execute orders through a simple-to-use website.

- Online banking : one which allows the customer tor self service himself.

- Mobile commerce: Mobile commerce is the delivery of electronic commerce capabilities directly in to the customers hand via wireless technology.

- Electronic Funds Transfer: EFT is faster transfer of funds electronically.

- Supply Chain Management (SCM): SCM is designing, Planning, execution, control & monitoring of supply chain activities for synchronising supply with demand.

- Inventory Management System: Communication, Exchanging Business Information, electronically between independent organisations helps in inventory management..

- E-trading: With a PC, modem and internet collection, the investors do online trading.

- E-procurement: A number of inter related methods for improving procurement process through the use of electronic systems and processes.

- E-marketing: e-marketing is enables manufacturer to sell his product any whore in the world through World Wide Wave

- e- Logistics: It is web based technology to support warehousing and transportation management process.

1.10 Self-assessment question.

1. What is e-business?
2. Describe e-commence.
3. What are types of application in e-commerce?

1.11. Further Readings.

1. Subba Rao, P., International Business, Himalya, Mumbai.
2. Maheswari RP, International Business, International Book House, New Delhi.
3. P.W.C. report on E-commerce in India.

1.12. Model Questions

1. What are benefit of e-marketing and e-logistics.
2. Discuss various business models adopted by e-commerce.
3. How does Govt. regulate e-commerce?

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Unit-2

Opportunities and Problems in e-commerce

Learning objectives:

After reading this unit, you will.

1. Understand the advantages and problems of e-commerce
2. Know the opportunities and challenges.

Structure:

2.1.1 Introduction:

Commerce is a division of trade or production which deals with the exchange of goods and services from producer to final consumer. E-commerce's is purchasing selling and exchanging goods and series over computer network or internet through which transactions are performed electronically.

Diagram-1: E-commerce

B2 B: Business that sells products or provides services to other business e.g. Intel selling microprocessor to Dell.

Diagram-2

B2B - Two Distinct Sides

Sales Process
Presentation, Recap, Quote & Order

Seller
(Brand)

Buyer
(Retailer)

NuORDER

Buying Process
Browse, Review, Query & Order

B-2 C: Business that sells products or provides services to end-user consumers e.g. Lenovo selling computers direct to customers.

C2 C: Commerce between individuals or consumers e.g. A selling computer or mobile to B.

B.2G: Commerce between companies and government e.g. use of internet for public procurement payment of taxes.

M-commerce: Buying and selling of goods, through wireless technology e.g. mobile banking, mobile ticketing.

2.1.2: Major business models:

B 2 B business model:

Table-1: B 2 B Business Model:

Business model	Activity	Example	Revenue model
Market place	Get buyers and sellers together to reduce procurement cost for a specific		Transaction fees

	industry.		
e- distributor	Connecting business directly with other business, reducing sales cycle		Sale of goods
Service provider	Supports companies through online business services		Sales of services
Intermediary	Collects customer data, processes and uses it to direct vendors to customers.		Referral fee.

Table-2: B2C Business Models

Business model	Business Activity	Example	Revenue model.
E-tailer	Retail store open 24x7	Amazon com Flipchart	Sale of goods
	Online distribution channel for company having physical stores.	Wallmart.com	Sale of goods.
Portal	Offers a package of services for	Yahoo.com	Advertising, Subscription fees

	information and entertainment.		
Content Provider	Information and entertainment.	CNN.Com	Advertising, Subscription fees
Transaction broker	Processor of online sales transactions by stock brokers, travel agents etc.	E- trade.com	Transaction fees.
Service provider	Companies that sets services rather than product	Nexsus solutions	Sale of services

Different business models earn money by selling product/services or providing the link or processing information which are considered useful for buyers and sellers on internet.

2.1.3 Alternative e-business strategies:

Brick and mortar: This refers to tangible physical assets such as manufacturing unit or building. This is a traditional business model wherein websites are used as company brochure.

Pure Click: Under this model, the entire marketing transactions are carried out online with little physical presence. Amazon.com and indiatimes.com, for example, sell books and other products on this basis.

Brick and click: Under this model, a company conducts marketing activities and transactions both online and offline. For example, Walmart.com and Wal-Mart function separately to that there is no conflict between traditional sales and online sales. Physical location supplements online efforts.

2.2 Benefits:

Benefits to customer:

- **Access anytime:** Products/Services are available with 24x7 supports, 2H hours every day. Customers can
    - Save time
    - Eliminate travelling cost
- **Relevant information:**

Customers can get relevant information in a single place. She doesn't have to travel from place to place.

Customers buy and offer comments. This also helps in product selection.

- **Convenience:** It is easy and convenient, shopping from horne.
- **Shopping experience:** With wide variety available in a market place, the customers can compare quality of services, product, price, colour, texture and enjoy shopping experience.
- **Cheaper product:** The intermediaries are eliminated. The claim of wholesaler and retailers is cut short. The providers also offer discounts ranging from 20% to 70% on festive occasions. The customer enjoys the price advantage.
- **Search engine:** The online retail is driven by traffic from search engine Customers can follow a link in search engine and get some websites which they don't know. This not only helps them in getting more, information, and better quality information but also gives them wider choice at different price ranges.
- **Product rating/ review:**
  Customers sell products by their rating/ reviewing. These provide valuable information to the new customers in addition to those provided by the producer's / service providers.
- **No Geographical Limitations:** The marketplace all over the world is connected. So customers get over geographical limitations through shopping. They can purchase products not only any time but anywhere.

Benefits to organisations:

- **Low operational cost:** The chain of wholesalers and retailers is eliminated. The operating cost becomes low.
- **Less paperwork:** Reduced paper work but only improves efficiency but also reduces cost.
- **Overcome geographical limitations:** The world becomes a marketplace with the advent of M-Commerce. E-Commerce on mobile devices eliminates geographical limitation.
- **Low cost of selling product:**
    - Search engine and social media are some of the advertising channels those reduce cost.
    - Automation of billing, Inventory management and payments reduces the numbers of employees and thereby the cost.
    - Real estate is reduced. An e-commerce shop does not require a prominent physical location.
- **Better and faster customer service.**

    - Better customers service as they provide comparison shopping. The customers can compare price and quality easily.
    - Faster service as there are no intermediaries and shop open any time.
    - Abundant information makes good customer service possible are the customer can have wider choice without going to shapes or waiting in queue or in crowd.
        - **Manages pull type supply management:** A customers wants product in a particular way. This is managed under e-commerce with a low response time. This creates market for niche products.
    - **Low cost of inventory management:** The suppliers can shaping reduce inventory, following automated management system. This leads to less cost for the suppliers and lower price for the consumers.

Strategic marketing:

E-commence

- Enables more strategic marketing.
- Sells add- on products.
- Facilitates divestment of noncore competencies to company specializing on it.
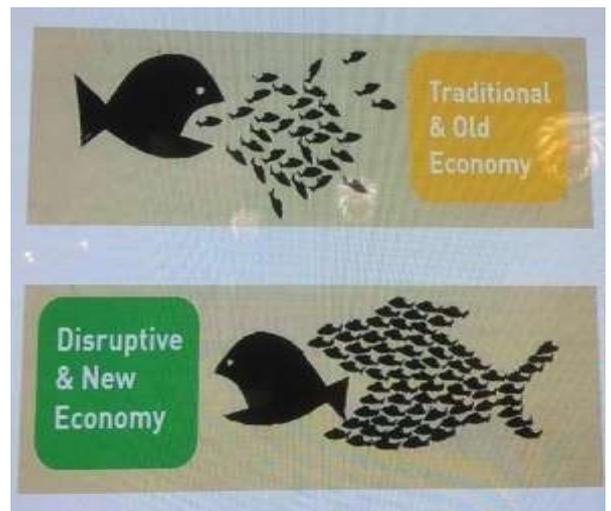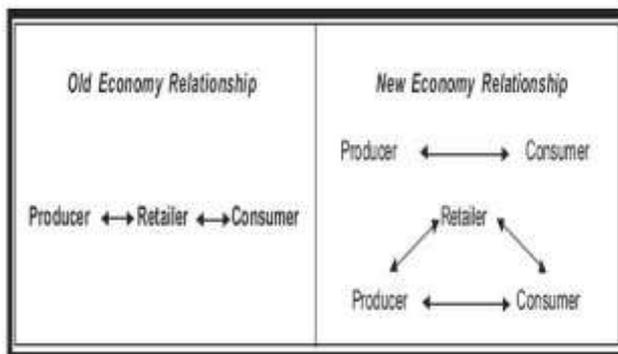- Links customers, suppliers, distributor and competitor:

Supply chain management consists of

- Product flow from supplier to consumer.
- Information flow transmission of order and update of status delivery.
- Financial flow- Payment schedules, credit terms etc.

Old economic relationship in transformed.

Diagram-3

Transformation old economy.

New Economy:

- **Scalability:**- Scalability is a problems with brick and mortar, shop, E- commerce sites can scale, customer requirements by

introducing different sales channels and reach different market segments. It makes mass customization possible.

- Monitors customers buying habit and preferences.
    - To supply new product of their choice.
    - To reach the customer speedily.
    - To build long-lasting relationship with the customer
- **Equalizer:** It enables the start up and small enterprises to reach the global market.

Benefit to Society:

- **No travel cost:** Investment in infrastructure is reduced. Individuals work at home and do less travelling for shopping.
- **Environment Friendly:**
    - There is low/no traffic load and low air pollution.
    - Access to refusal areas.
    - It enables access to eservices are products un rural areas. Initially, rural market is small and brick & mortar shop is considered costly. Opening a big shop and mall is cost-intensive. Ordering through E-commence. provides a cheaper alternative.
- **Delivery of public services.**

E-commerce helps government to deliver public service life healthcare, education and social services at reduced cost, For example, quality teachers are not available in rural areas. But government can make available quality reading materials with digital class room facilities. With the click of computers, students in rural areas can have access to such class room and reading materials.

- **Social commerce:**

Social commence intro by Yahoo in 2005 is a set of online collaborative shopping tools such as user rating or getting advice from trusted individuals to find goods and services and purchase these.

A company give something free to the persons who will return to the site for buying again. Assistance becomes a business

proposition later. There is reciprocity between the company and the person.

The companies like Amazon, ebay allow public feedback on products which provide social proof. Focsani commerce and twitter do social network-driven sales.

- **Transparency**: E-commence offers various information to the customer/enterprise. This makes possible transparency in business transactions.
- **Empowerment of consumer:**

The customer, armed with required information, becomes really a sovereign. This maximizes social welfare.

- **Employee loyalty:** The new economy can only function with employee loyalty which is crucial in the niche market. The enterprise must pay attention to how to build up enterprise inner culture. This ensures improvement of quality of their life.

Reverse Marketing:

Earlier, the information was market controlled. Customers were not fully informed. In the new economy, information has become affordable and universal. This has lay not only to customer-oriented marketing but also to customer-initiated marketing. This is known as reverse marketing wherein customer initiates the exchanges and gathers the required information. A customer can carry out the following activities;

Reverse promotion: A customer can solicit promotion from marketers without revealing personal information.

Reverse advertisement:

Company used advertisement as a mass communication tool for promotion. Now customers request for more information from manufacturers.

Reverse pricing:

Customer can set prices and specify the price and model options. India time.com, for example, allows the customers to set their prices.

Reverse product design:

Customers ask for a particular design and companies meet the products of their choice.

2.3.1 Problems:

Customer's view point:

- **Quality:** E-commerce model of business does not provide guarantee of product quality.
- **Touch and feel:** Customers cannot touch and feel goods before purchasing. They fear about quality of high value appliances and precious items like gold, jewellery etc. Further, It is difficult to check product quality of jewellers, antique items from their description.
- **Return policy and refund policy**: Return policy and refund policy are not properly conceived and implemented. Many sites wash off their hands 48 hours after delivery. Refund Policy is framed from the point of view of seller, not customer.
- **Lack of professionalism:** There is free entry/exit of sellers in the marketplace. There are many undesirable who make quick sale and money and vanish without trace. So, customers don't trust e-commerce sites for their lack of professionalism.

Seller's viewpoint:

- **High customers acquisition cost:** Cost rising on account of intense competition among companies
- **High payment cost:** On account of high Cash-on-delivery services.
- **Low Profitability**: On account of high cost and mostly free shipping.

- **Lack of professionalism:** Low entry barrier leading to many unprofessional players in the market. Quite a few of them are after quick money.
- **Lack of skilled manpower:** Lack of talent, high attrition and quick movement of employees from one site to another create marketing problems.
- **Lack of substitutes for 'touch and feel':** E-commerce sites cannot provide touch and feel experience. But if they have section wise designated point of reference, this can give better shopping experience.
- **Rapidly Changing Business Models:** Every site busy is adding to products/service provides variety, but adds to cost specialization in a few areas might have reduced cost shapes, Shops specialize in apparel, shoes, appliances etc. They save cost and acquire expertise. E-commerce sites try to cater to all. So, they add to cost yet cannot provide rich shopping experience.
- **Lack of social experience:** On-line shopping is a transaction experience without social experience. Customers avoid on _ line transactions as they cannot get benefit of views of family and friends.

2.3.2 How to attraction on line customers.

- Maintain product quality
- Provide value for money.
- Focus on branded products
- Assure about the secured transactions on line.
- Conform about delivery time and mode. Many articles are not delivered because of un cooperative attitude of couriers who do not deliver in time and also in the far corners of the city/town.
- Frame suitable return and refund policy- The customer should be enabled to return within 4 days, not 2 days as prescribed now. They should get refund within a week, not 10/15 days.
- Launch customer loyalty scheme where customers can encase points for further shipping.

- Develop single point of reference area wise/section of product wise (say, apparel, appliances, food etc.) for better customer shopping experience.
- Provide proper awareness of product/service rather than pushing what we have in store approach.

Diagram:

2.4: Challenges and solutions: Challenges are many. Some of the important ones are discussed as under:

Table : Challenges and Solution

	Lack of education	Offer branded product, spread awareness by advising merits and limitation of product/service.
	Cultural Tradition.	Taken time to be off from traditional shopping. Provide real discourses, not the illusory man (like) 0/0 to 90 0/0) provides customer loyalty preforms to external benefits with increased time and amount of shaping.
	Internet usage cost	Pressure Govt. and telecom companies to formulate affordable policy so that e-commerce resides the unreached.
	Too many hand very for sale-one selling product, the third shipping four-able after-sales service.	Have handlers in back office. Let customer interest with a single provial of reference for product, apiece, shopping, return and refunds.
	Lack of First mover	The e-commerce sites are to reorganize their business-approach, methods and strategy to overcome these. They are to build a business, not a website.
	Lack of secure transaction	The e-commerce sites are to

		reorganize their business-approach, methods and strategy to overcome these. They are to build a business, not a website.
Lack of trust	The e-commerce sites are to reorganize their business-approach, methods and strategy to overcome these. They are to build a business, not a website.	
Inventory managements too many items, data migration not properly done silent about quality.	Ponded products, assumed quality. It necessary, many things are done to cater to the lower income group specifically without mixing up product/services for all categories.	

Some of important ones.

Challenges and solutions

Solution

Taken time to be off from traditional shopping. Provide real discounts, not the illusory man (like) 0/0 to 90 0/0) provides customer loyalty preformat to external benefits with increased time and amount of shaping.

Inventory management money interrupt, data migration not properly done. Silent about quality.
Then purchase are made in rural area with low connectivity the problems becomes real.
(5) Payments and transactions.
- Cash on delivery services is popular as the country is cash based society. They measures added cost of holding cash and engaging labour for delivery.
-Date protection and the integrity of the system and at a cost.
- How best to contain the will be the concern of e-commence companies.
6. Regulation environment:
-Law regulating e-commerce are still evolving in India.

-Intermediation of tax law adds problem union introduction of General inter-state taxation may not be problem anymore.

- Companies auto promote anti-corruption preformed for sourcing and vender management and effective compliance framer works.

7. Operational frame work

- In view of increases competition, companies will have to innovate country to sustain their business.

Lack of will defined capabilities; organizational structure and talent management are problems of companies who have grown as a result of strong growth in the market.

8. Customer acquisition:

Along with high cost, e-commerce suffers from one compete to party from one company to other. 75% of customers switch between brands. 60 of customers so India does so. So companies should continuously work for brand positioning.

9. Digital infrastructure

Companies to spend resources on technology development as also advertising and branding.

10. Addressable market.

11. Companies stood manage demand by constantly being in touch with customers.

12. Improve their logistics and supply chain management, now in rural areas.

PWC study states that e-commence players need to address light try aspects of their business, internal and external.

External Challenges:

External forces impact growth of e-commence.

Product and market strategy.

Companies should focus on new geographies, branches and products.

They should have access on market intelligence on growth, size and share of market.

They should manage in a hyper completive pricing environment.

Customer and digital experience compares should-cope up with proliferation of technologies provide rich, fresh rough customers experience.

Use social media instead of paid marketing to provide rich experience.

Payments and transactions

Fulfillment:

Innovation based fulfillment can cause delivery issue.

Physical infrastructure may get affected by the internal speed.

Internal challenges:

Organisational problems

Identifying acquisition opportunised fund raising, IPO readiness are the relevant issues.

From technological point of new, intersection of business technology and operations functions of the enterprises is necessary.

Tax and regulatory regiments.

Goods and service tax is a great facilitator of FOREX investment norms have been liberalized. But government will balance between FDI norms and adequate entity controls. Into problems have to be astricpets and solved on an any.

Intellectual property rights issue need to be addressed.

Risk, fraud and cyber necessity:

Insider threat, employee- vendor nexus, bribery and corruption are issues to be tacked.

Website exploitation by external entities may pose cyber security problem.

Compliance framework.

e-commerce companies have to face.

-ineffective cyber law compliance.

-inefficient anticorruption drive.

- uncertainty in direct and indirect tax frame work rigidities in front complacence Suggestions:

PWC identities Top in compliance for e-commerce companies to accede growth.

(1) Customer experience:
To fulfill customer expectations, e-commence companies should on line product reviews ratings.
Streamline return and delivery options.

Develop touch and feel product experience before buying.

Ensure adequate after sales service.

(2) Technology upgradation.
- Websites should have required seed to do fast business, during sales, reals and discounts reason.
- Inventory management should enable efficient service. Gags destroy customer experience.
- Inventory management should enable efficient service. Gays destroy customer's experience.
- Integration of back end and transit end infrastructure will customers experience.
- Convergence of online and offline chariest:
Companies to offer.
Touch and feel product supports online product reviews, ratings, and video.
Sufficient after sales service and support.
Gap unsettles country like to enter on e-commerce transactions.

4. Delivery experience:

Keeping control on logistics and management of couriers companies essential. Gaps are found on procurement operation and transportation.

2.6 Key Terms:

Brick and click- Conduct of business activities, both online and offline.

Brick and mortar- Conduct of business activities through manufacturing unit or building.

Click: Commercial transactions carried out online with little physical presence.

Disintermediation: Suppliers interact with buyers, eliminating intermediaries. The process is known as disintermediation.

B 2 B- Business that sells products or provides services to other business.

B 2 C- Business that sells products or provides services to end- use consumers

B2 G- Commerce between Companies and Government.

C2 C- Commerce between individuals or consumers

M Commerce- Buying and selling of goods through wireless technology e.g. Mobile banking

E-tailing- Retailing through the internet.

E- readiness: Measures a country's e-business environment.

Reverse marketing: Marketing system wherein the customer initiates the exchange and gets the required information.

Reverse promotion: Customer soliciting promotion from the marketers.

Reverse pricing: Customer sets the price and model options.

Reverse product design: Customer asking the product of their choice which the suppliers customize.

Social Commerce: Online collaborative shopping tool such as user rating or getting advice from trusted individuals to find goods and services and purchase these.

Low conversion rate: People browse in internet but don't purchase.

Cart abandonment: When people go through won a purchase and leave the payment process for some reasons.

Personalization: Personal touch is difficult to replace when selling online.

Shipping challenges: Issues related to a lack of supply chain integration.

Firewall and antivirus software: These play a significant role in protecting computer secretly.

E-Readiness: E-readiness is a measure of the quality of internet infrastructure and the ability of its consumers business and government to use it.

2.7 Self-assessment questions.

State, with reasons, whether the following statements are correct or not:

1. Computer and internet have charged the way business is run the world over.

2. E –marketing is user-friendly

3. E- procurement benefits both the parties- the manufacturer and the customer.

4. E- commerce markers reverse marketing possible.

5. Find out Indian company employing the following business models.

(i) B to B (ii) B2 C (iii) C2B (iv) C2 C

2.8 Further Reading:

1. Joshi R.M., International Business, Oxford, Delhi.

2. Maheswari R.P. International Business,. IBH, New Delhi

3. E- commerce in India, Wikipedia

4. Chaudhury A, Kailboer Jean Pierre, e-business and e-commerce infrastructure, MC Graw Hill.

5. Internet and mobile Association of India (IAMI) and IMRB reports.

Model Questions:

1. Explain benefits of e-commerce to customers and society.
2. What are issues and challenges in e-commerce.
3. State top 7 e-commerce's problems and how to overcome these.
4. Write short notes on:
   (i)   E- readiness
   (ii)   Reverse marketing
   (iii)   Disintermediation.
   (iv)   High customer acquisition cost.

UNIT-3
Recent Trends and Advancement in E-commerce

1.1 Introduction

2016 is another great year for the E-commerce industry. The year-on-year data shows that there is a continuous growth in the online sales this year. By analyzing the growth curve the experts expect that there will be a consistent growth in the following years. For both the established brands and e-Commerce start-ups, it is important to follow the latest trends in E-commerce that have fetched high returns and implement strategies to get a competitive edge.

To achieve the business goal, it is not enough for the ecommerce stores have unique and nice items in their inventory. Customers are now increasing savvy, they are demanding. So, shopping experience matters most to them than what they buy. They expect a certain level of customer service like the ease of shopping, timely delivery, payment process and loyalty offers. The focus will be more on customer experience.

If retailers want to keep up with their competitors, then need to follow the latest trends in E-commerce. These trends are in sync with the technical advancements like omnichannel integration, contextual shopping, big data analytics, use of beacons and sensors and use of multiple devices.

1.2 Resource requirements for successful implementation of E-Commerce

Successful implementation of e-commerce requires the following resources.

Well-designed Website: A business enterprise must develop a comprehensive website to communicate effectively with its customers and business partners. The basic infrastructure of a website consists of pages with text, graphics, audio, and links to other pages. The entry point is called the homepage and other web pages are linked to the homepage. The website must be able to provide information about the company, its history, its products, their features and prices and other

technical details. The website should also have the ability to input data into the system, for instance, filling out a form, sending an e-mail message to the company or sending feedback about the website.

Adequate Computer Hardware: The computer hardware consists of its monitor, servers, back up devices, printer etc. For smooth e-commerce transactions, a business needs a computer with a lot of memory, a powerful Central Processing Unit (CPU), and a fast link to the internet. A large storage space will give a quicker access to stored data. A processor with good speed will lead to quicker download.

Adequate Computer Software: Computer software consists of operating systems like Windows, Linux etc. In addition to an operating system, the company needs a browser such as Internet Explorer which allows surfing on the net. Some basic software like File Transfer Protocol (FTP), Telnet, Archie etc. are also required.

Effective Telecommunication System: E-commerce requires an effective telecommunication system in the form of telephone lines, optic fibre cables, and internet technology to handle the traffic on the internet. E-commerce cannot be successful if telephone lines are getting frequently disconnected and it is difficult to access the internet.

Technically Qualified and Responsive Workforce: A well-trained workforce that is capable of working easily with the internet and computer networks is essential for the success of e-commerce. The company staff must be trained to handle sales inquiries, processing orders and ensuring prompt delivery. There must be proper coordination between receipt of order, delivery of goods and receipt of payment so as to minimize errors.

Business Service Infrastructure: A foolproof system of receiving payment for the goods and services must be developed. Adequate information must be made available to enable the customers to know their bill amount. An inbuilt system of refunds, in case excess amount is received should be created. Electronic payments and refunds should be secured through banks and credit agencies.

1.3 Threats to E-Commerce Transactions

E-commerce transactions face the following threats.

Hacking: Hacking refers to breaking security to gain access to a system. It thus, refers to unauthorized entry into a website. They intercept confidential information and misuse such information to their advantage or modify and even destroy its contents to harm the parties.

Cyber Squatting: In order to take advantage of some established brand name or trade mark, a firm might use the name/mark for its own website while getting the domain name (name of the website) registered. This is done so as to induce a customer to believe that there is a direct link between the website holder and the trade mark. Such a practice is known as cybersquatting. For instance, a US company, infospace.com, which offers various commercial services to online customers, complained against the resident of Bhopal for registering his website as indiainfospace.com. It was held that the addition of the word 'India' would only induce the people to believe that the site was an Indian affiliate of the US company and thus, amounted to cybersquatting.

Viruses: Viruses cause harm to the efficient and smooth functioning of e-commerce. Some viruses destroy all the information stored in a computer. They cause huge loss of revenue and time. Viruses may enter a computer system through e-mail or disc drive floppies.

Typo piracy: Some websites try to take advantage of common typographical errors that the users might make in typing a website address to direct users to a different website. Such people who try to take advantage of some popular websites to generate accidental traffic for their websites are called typo pirates and such a practice is referred to as typo piracy. For instance, if a user instead of typing rediff.com in the address bar of Internet Explorer, types by mistake ridif.com or redif.com, then he will find that a different webpage with altogether a different name might open.

Impersonation: In e-commerce transactions, sometimes hackers may pretend to be consumers themselves. They, thus, make use of stolen credit card numbers of real customers.

Fraudulent Trading: A business enterprise operating a website might indulge in fraudulent practices. It may operate a fake website, take away money from customers and not supply the good or service to the customer.

1.4 Recent Trends in E-commerce

In the competitive landscape, what matters is how the customers experience the brand. Brands that can predict the customer expectations based on their past purchasing behaviour, meet those and actively engage with customers- online or mobile, are the winners. Sticking to the brand-centric approach will reduce the chance of brands to earn revenue and increase the customer base. To stay competitive, brands need to abide by the latest trends in E-commerce to ride the growth curve and reach the zenith by the end of this decade.

1. **Smartphone rules the market**– Criteo suggested that the share of mobile in the global E-commerce market will increase from 40 percent in 2015 to 70 percent in 2017. As per a study by Demandware, in the first quarter of 2016, Smartphone accounted for almost 45.1 percent web traffic who shopped in the E-commerce stores. The study suggests that the Smartphone will be a major contributor of traffic (almost 60 percent) by the end of 2017. Smartphone provides retailers to reach the customers easily.
2. **Beacons and RFID tags will drive more sales**– Beacons are connected wireless devices that help retailers to send and collect information. These Bluetooth-connected devices help in tracking the movement of targeted customers inside the stores and provide relevant information to the prospective buyers likewise. Beacons integrate the offline and online worlds- for instance, if a customer hangs out in any particular section of a physical store, beacons recognize it and send information through the E-commerce sites. The report suggests that beacons will increase the sales from USD 4 billion to USD 44 billion in the year 2016. By the end of 2018, retailers will install approximately 3.5 million beacons. Within the next five years, retailers will invest USD 2.5 billion in RFID tags and beacons (both IoT-enabled devices). Regardless of the location, beacons ensure a seamless shopping experience.

3. **Big data analysis increases business margin**– Traditional analytics will take a back seat and will be replaced by big data analytics. Retailers now emphasize on real-time analytics as it helps in the decision making process. Retailers who have already integrated big data have experienced an average increase of 60 percent in the business margin and a considerable improvement in the labour productivity. Companies implementing predictive analytics have experienced 73 percent higher sales. Real-time analytics highlights the customer habit, behaviour; problems faced by them and provide services based on it. You can customize the offers based on the real-time analytics. In short, it will be instrumental in increases shopping experience and sales.

4. **Omni channel rules**– According to Google, almost 85 percent of customers start shopping with one medium or channel and conclude it on another one. Multichannel shopping will be high in the next few years. It is a perfect blend of the best attributes of both online and offline channels. With the fast changing E-commerce landscape, now retailers aim at providing Omni channel experience to customers.

5. **Contextual shopping and an enhanced shopping experience**– To get competitive advantage, it is important for the E-commerce stores to emphasize on user-centric and optimized customer experience. The majority of the executives (almost 89 percent) believe that customer experience is will be the game changer. It will be the most important factor that will give a competitive edge to the E-commerce stores. Correct context- relevant information to guide customers in purchase decision making, will become the new form of personalization. Context shopping will take the experience of customers much beyond item recommendation and personalized greetings. This customer-centric technology can map the customer journey, anticipate needs and provide information to ensure a hassle-free shopping experience.

6. **Location-targeted ads**– Location-targeted ad revenues will grow from USD 4.3 billion in 2014 to USD 18.2 billion in 2019. By using the location of customers, you can send them across personalized messages and advertisements. These ads are based on real-time data which provide brands the opportunity to create personalized moments for target audiences. Thus, businesses can tailor-make their offers and advertisements as per specific markets, local trends and language.

7. **Flexibility in payment**– Payments will be more focused on mobile. But apart from the traditional method of using credit and debit cards, customer can now use flexible payment options. Retailers first need to know the preference of their customers and integrate the same in

the payment procedure. Using payment gateways preferred by the customers will also prove to be cost-effective.

8. **Loyalty programs**– Studies show that to acquire new customers, businesses need to spend 5 to 10 times more than selling products to the existing customer base. Statistics prove that existing customers spend almost 67 percent more than new customers. Reward and loyalty programs act like a magic wand. Loyalty programs are generally aimed for customers who make maximum purchase. Be it the point system or tier-wise rewards or free benefits, loyalty programs help in improving the conversion rate. Main aim of loyalty points is to improve customer retention and happiness.

9. **Magic Mirrors**– It is one of the most innovative latest trends in ecommerce. Brands now use the magic mirror technology and RFID tags that help customers to try out the virtual outfits. Touch screen mirrors help the buyers to select various lighting options, request sizes, colours, and they can keep a track what they have tried earlier. Investing in mirror technology makes sense as this is an important factor responsible for the conversion. It is an innovative way of interacting with the customers.

10. **Flash sales**– Buyers are impulsive, if they get a good deal, they often tend to purchase a good even if it is not planned. Impulse is the key to success for Black Friday, Cyber Monday or Singles Day. Flash sales on these days comes as a surprise and products are available at an unexpected low price. In 2015, Cyber Monday in the USA witnessed the maximum online shopping, in China Singles Day had seen the highest online sales. It is expected that these days will see greater influx of customer in the coming years. Even if the targeted customers do not purchase anything on these days, there is a chance that they will remember the brand and come back to the website later.

11. **Faster and instant delivery**– Same day delivery will soon be the rule of the game. Customers become impatient when they have to wait for 3 to 4 days or more for products they purchase online. E-commerce giants like Amazon who have Prime option that ensures fast delivery among other offers. Same day and fast delivery guarantee that your target audiences will return back to the E-commerce store. It gives a competitive edge to the stores and boosts the customer count in terms of cross-border sales.

1.5 Advancement in E-commerce

Smart Refrigerators

Gone are the days of putting little Danny's artwork on the fridge. With today's new smart refrigerators, users can display photos, update digital calendars, watch TV, see the weather forecast, play music, compile recipes, receive voice instructions for cooking, and leave notes for others. More importantly, shoppers can access camera views of their refrigerator's contents on their smart phones and even order groceries and kitchen essentials straight from their refrigerator door. Several prototype refrigerators can even suggest groceries that are running low or notify the user when foods expire and can generate online shopping lists to be purchased and delivered at a chosen time. Shoppers can also order necessities from favourite recipes they've saved without the hassle of going to the grocery store, with the refrigerator first taking inventory of the supplies already present and only ordering the necessary ingredients.

With the nearing arrival and growing popularity of these technological advances, the E-commerce industry will likely adjust to leverage new capabilities. With drone and droid delivery technology, fulfilment will have lower long-term costs and faster delivery rates. Augmented reality will provide an in-home shopping experience to customers and will likely decrease return rates with more accurate sizing abilities. Specialty retailers will also get a new opportunity to sell unique pieces online as customers will be able to visualize these products in their homes. Appliance technologies like the smart refrigerator will capitalize on recurring kitchen purchases and will simplify ordering online with delivery

options. In the future, retailers can utilize these and additional new technologies to align forward-thinking business strategies so they can possibly obtain an advantage over their direct competition.

Self-Driving Vehicles:
Will They Affect Ecommerce?

Reduced fuel consumption, faster driving speeds, safer roads, and fewer costs; these are just some of the possible benefits attained by the advent of self-driving vehicles. The technology is also expected to impact the E-commerce industry. Autonomous vehicles are capable of sensing environments, navigating roads without human input using radar, LIDAR (a detection technology that measures distance by illuminating a target with a laser light), GPS, odometry (the use of motion sensors to calculate a change in position), and computer vision. Forecasts indicate that there will likely be 10 million autonomous vehicles on the road by 2020 (Business Insider).

During the next few years, the popularity of self-driving vehicles is expected to grow as more vehicle manufacturers and tech firms continue to innovate and refine autonomous technologies. Society may benefit by the potentially safer driving conditions, enriched ride sharing services, accident

prevention, and decreased personal liability. As cities struggle to manage traffic due to urban sprawl (the expansion of populations into low density, suburban areas), self-driving ridesharing vehicles and autonomous public transit could provide a sustainable solution for metropolitan areas to keep roads uncluttered.

As autonomous vehicles begin to drive passengers, they might also drive E-commerce. One of the key growth factors for the E-commerce industry will likely be the integration of self-navigating technology into trucking and shipping fleets. Today in the U.S., approximately 75% of shipping costs are related to labour. This includes truck driver wages and restrictions that limit drivers to 11 hours on the road per day. Self-driving truck fleets may be able to alleviate some of these issues by removing the need for a driver and by navigating roads for nearly 24 hours without stopping. Furthermore, autonomous trucks are engineered to travel at the most fuel-efficient speeds, the results of which could double the entire delivery output of the U.S. transportation network at a quarter of the cost. This new technology may also result in reduced shipping times, swaying shoppers to order more everyday goods online due to speed and convenience.

With self-driving vehicles on the road, consumers could spend less time driving and more time shopping online. The average travel time to work in the U.S. is 25.4 minutes, according to the U.S. Census Bureau. This equates to nearly 200 hours and $2,600 a year in costs that American drivers lose on their way to work (CNN Money). With autonomous vehicles in control, commuters could spend this time working, catching up on sleep, or browsing the web. By utilizing autonomous ride sharing and public transit options, passengers could spare their wallets from the expense of fuel and car maintenance and instead use more of their earnings shopping online. Global digital-media revenues could increase $5.5 billion per year for every additional minute people spend on the mobile Internet while in a car (McKinsey & Company).

E-commerce and digital marketing firms could see additional business *opportunities arise from the commercialization of self-driving* vehicles. Self-driving ride sharing services and

autonomous public transit may offer new avenues for companies to target their customers. Interactive window and dashboard displays could allow consumers to learn about new products and promotions from their favourite brands. Companies could harness the data provided from self-navigating vehicles to know exactly who their customers are, where they're going, and what they're doing while riding.

Although there are several foreseen benefits for the widespread use of self-driving vehicles, three barriers have been preventing the new technology from hitting the road:

1. **Technology Pricing-** In order for automakers to build an autonomous vehicle, they must add complex systems and components to the car. By 2025, self-driving vehicles are projected to add $7,000 – $10,000 to a car's sticker price, while freight forwarders will see a $23,500 price increase on trucks (IHS Automotive). Approximately 15% of the additional cost is expected to be derived from hardware needs while 85% is a result of advanced software packages. Although early adopters of self-driving technology will likely experience steep pricing, greater market presence in the future will create economies of scale, allowing the average consumer as well as logistics firms to afford the previously exclusive technology. To alleviate costs, many manufacturers are currently looking to replace the expensive lidar and radar capabilities with new optical computer software that recognizes its surroundings.

2. **Consumer Trust-** With the rapid growth of self-driving vehicles, many drivers are reluctant to give up control of their cars or drive alongside autonomous cars and trucks. Among those who do not want fully autonomous vehicles, 84% said they trust their driving skills more than the technology, and 60% feel the technology is too new and untested (AAA survey). However, autonomous

technologies can be found in a large amount of cars on the road today. Features like brake assistance, lane guidance, and self-parking are all semi-autonomous driving innovations that drivers have become comfortable with over time. In general, consumer opinions may shift as the importance of safety is projected to be a large contribution that autonomous vehicles bring to the public. According to research from McKinsey & Company, automated vehicles could reduce accidents by up to 90 percent.

3. **Government Regulation-** The future of self-driving vehicles is largely dependent on how government regulations will impact the technology. What kind of restrictions and limits will be placed on autonomous technology? How will regular vehicles and autonomous vehicles communicate on the road? For many fleet operators, the cost benefits of adopting driverless trucks are not yet sufficient enough to justify an investment. According to consulting firm Roland Berger, government funding and subsidizing may be needed before the technology is adopted on a massive scale. Furthermore, regulations are necessary for self-driving vehicles to become road legal and therefore be incorporated in E-commerce fulfilment initiatives. The National Highway Traffic Safety Administration has begun creating guidelines for the vehicles and over 20 states have introduced legislation. The NHTSA recently committed to spending $3.9 billion over 10 years to accelerate the development of self-driving cars and vehicle-to-infrastructure communications, paving the road for the technology to be integrated within streets across the country.

With the support of governments, the acceptance of consumers, and decreasing transportation costs, self-driving vehicles are poised to shape the future of E-commerce. Commuters may gain additional time to shop online and

search the web by spending less time behind the wheel. Companies may profit from new sales and advertising platforms that provide advanced consumer data. E-commerce sales have the potential to increase substantially as the industry could benefit from higher consumer purchasing power and shopping convenience. Autonomous vehicles are no longer a futuristic vision from The Jetsons; self-driving vehicles have arrived, and over time may change the way we move and alter fulfilment and transportation infrastructures by providing new capabilities and offering an array of new business models.

1.6 Let's Sum-up

Customers are now increasingly techno-savvy, they are demanding to get so much in so little time. So, shopping experience matters most to them than what they buy. They expect a certain level of customer service like the ease of shopping, timely delivery, payment process and loyalty offers. The focus will be more on customer experience.

In the competitive landscape, what matters is how the customers experience the brand. Brands that can predict the customer expectations based on their past purchasing behaviour, meet those and actively engage with customers- online or mobile, are the winners.

E-commerce giants like Amazon who has Prime option that ensures fast delivery among other offers. Same day and fast delivery guarantee that your target audiences will return back to the E-commerce store. It gives a competitive edge to the stores and boosts the customer count in terms of cross-border sales.

1.7 Key Terms

Techno-savvy

Hacking

Cyber Squatting

Typo Piracy

1.8 Self-Assessment Questions

1. What are the common threats to E-Commerce transactions?

2. Identify the recent trends in E-Commerce with suitable examples.

1.9 Further Readings

➢ Kalakota, Ravi and Whinston, Andrew B. ―Frontiers of Electronic Commerce‖, Pearson Education, Inc.
➢ Rich, Jason R. ―Starting an E-Commerce Business. IDG Books, New Delhi.
➢ Kalakota, Ravi and Whinston, Andrew B. ―Electronic Commerce – A Manager's Guide‖, Pearson Education, Inc..
➢ Chaudhury, Abijit; Jean-Pierre Kuilboer (2002). eBusiness and e-Commerce Infrastructure McGraw-Hill.

1.10 Model Questions

1. At present Smartphones rule the market significantly. What substitute technology of Smartphones is possible? Specify your view points.

2. How do you visualize regarding the advancement of E-Commerce business during rest of 21st Century?