



**M.COM.**  
**SEMESTER - II (CBCS)**

**E-COMMERCE**

**SUBJECT CODE : 66704**

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# I

## **Revised Syllabus of Courses of Master of Commerce (M.Com) Semester II E-Commerce Modules at a Glance**

<b>Sr. No.</b>	<b>Objectives</b>
1.	Introduction to Electronic Commerce –Evolution and Models
2.	World Wide Web and E-enterprise
3.	E-marketing and Electronic Payment System
4.	Legal and Regulatory Environment and Security issues of E-commerce

### **Objectives**

<b>Sr. No.</b>	<b>Objectives</b>
1.	To provide an analytical framework to understand the emerging world of e-commerce
2.	To make the learners familiar with current challenges and issues in e-commerce
3.	To develop the understanding of the learners towards various business models
4.	To enable to understand the Web- based Commerce and equip the learners to assess e-commerce requirements of a business
5.	To develop understanding of learners relating to Legal and Regulatory Environment and Security issues of E-commerce

<b>Sr. No.</b>	<b>Modules / Units</b>
1.	<b>Introduction to Electronic Commerce –Evolution and Models</b>
	<ul style="list-style-type: none"><li>• Evolution of E-Commerce-Introduction, History/ Evolution of Electronic Commerce, Roadmap of E-Commerce in India, Main activities, Functions and Scope of E-Commerce.</li><li>• Benefits and Challenges of E-Commerce, E-Commerce Business Strategies for Marketing, Sales and Promotions.</li><li>• Business Models of E-Commerce- Characteristics of Business to Business(B2B), Business to Consumers (B2C), Business to Government (B2G)</li><li>• Concepts of other models of E-commerce.</li></ul>

## II

	<ul style="list-style-type: none"> <li>• Business to Consumer E-Commerce process, Business to Business E-Commerce- Need and Importance, alternative models of B2B E-Commerce.</li> <li>• E-Commerce Sales Product Life Cycle (ESLC) Model</li> </ul>
2.	<b>World Wide Web and E-enterprise</b>
	<ul style="list-style-type: none"> <li>• World Wide Web-Reasons for building own website, Benefits of Website, Registering a Domain Name, Role of web site in B2C E-commerce; push and pull approaches; Web site design principles.</li> <li>• EDI and paperless trading; Pros &amp; Cons of EDI; Related new technologies use in E-commerce.</li> <li>• Applications of E-commerce and E-enterprise - Applications to Customer Relationship Management- Types of E-CRM, Functional Components of E-CRM.</li> <li>• Managing the E-enterprise- Introduction, Managing the</li> <li>• E-enterprise, Comparison between Conventional and</li> <li>• E-organisation, Organisation of Business in an E-enterprise, Benefits and Limitations of E- enterprise</li> </ul>
3.	<b>E-marketing and Electronic Payment System</b>
	<ul style="list-style-type: none"> <li>• E-Marketing- Scope and Techniques of E-Marketing, Traditional web promotion; Web counters; Web advertisements, Role of Social media.</li> <li>• E-Commerce Customer Strategies for Purchasing and support activities, Planning for Electronic Commerce and its initiatives, The pros and cons of online shopping, Justify an Internet business.</li> <li>• Electronic Payment System-Characteristics of E-payment system, SET Protocol for credit card payment, prepaid e-payment service, post-paid E-payment system, Types of payment systems.</li> <li>• Operational, credit and legal risks of E-payment system, Risk management options for E-payment systems, Set standards / principles for E-payment</li> </ul>
4.	<b>Legal and Regulatory Environment and Security issues of E-commerce</b>
	<ul style="list-style-type: none"> <li>• Introduction to Cyber Laws-World Scenario, Cyber-crime&amp; Laws in India and their limitations, Hacking, Web Vandals, E-mail Abuse, Software Piracy and Patents.</li> <li>• Taxation Issues, Protection of Cyber Consumers in India and CPA 1986, Importance of Electronic Records as Evidence.</li> <li>• Security Issues in E-Commerce- Risk management approach to Ecommerce Security - Types and sources of threats,</li> </ul>

### III

	Protecting electronic commerce assets and intellectual property. <ul style="list-style-type: none"><li>• Security Tools, Client server network security, Electronic signature, Encryption and concepts of public and private key infrastructure</li></ul>
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Editor-in-Chief: Robert Kauffman  
  
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(Online) 1938-9027 (Print)  
  
([http://web.csulb.edu/journals/jecr/a\\_j.htm](http://web.csulb.edu/journals/jecr/a_j.htm))



**Scheme of Examination:**

The performance of the learners will be evaluated in two components. One component will be the Internal Assessment component carrying 40% marks and the second component will be the Semester End Examination component carrying 60% marks.

**Internal Assessment:**

The Internal Assessment will consist of one class test of 40 marks for each course excluding projects. The question paper pattern will be shown as below:

**Question Paper Pattern  
(Internal Assessment)**

Maximum Marks: 40 marks

Questions to be set: 03

Duration: 1 hours

Question No.	Particular	Marks
Q - 1	<p>Objective Questions</p> <p>Students to answer 10 sub questions out of 15 sub questions.</p> <p><i>(*Multiple choice/ True or False/ Match the columns/ Fill in the blanks)</i></p> <p style="text-align: center;"><b>OR</b></p> <p>Objective Questions</p> <p>A) Sub Questions to be asked 08 and to be answered any 05</p> <p>B) Sub Questions to be asked 08 and to be answered any 05 <i>(*Multiple choice/ True or False/ Match the columns/ Fill in the blanks)</i></p>	10 Marks
Q - 2	<p>Concept based short questions</p> <p>Students to answer 5 sub questions out of 8 sub questions.</p>	10 Marks
Q - 3	<p>Practical problems or short questions</p> <p>Students to answer 02 sub questions out of 03 sub questions</p>	20 Marks



## VI

### ***Question Paper Pattern (Theoretical Courses)***

Maximum Marks: 60

Questions to be set: 04

Duration: 2 hours

All Questions are Compulsory Carrying 15 Marks each.

<b>Question No.</b>	<b>Particular</b>	<b>Marks</b>
Q - 1	Full length Question	15 Marks
	OR	
Q - 1	Full length Question	15 Marks
Q - 2	Full length Question	15 Marks
	OR	
	Full length Question	15 Marks
Q - 3	Full length Question	15 Marks
	OR	
	Full length Question	15 Marks
Q - 4	Objective Question (Multiple Choice/ True or False/ Fill in the Blanks/ Match the Columns/ Short Questions.)	15 Marks
	OR	
	Short Notes (Any three out off Five)	15 Marks

**Note :**

**Full length question of 15 marks may be divided into two sub questions of 08 and 07 marks.**

## VII

Sr.	Particular
01	<b>Standard of Passing</b> The learner to pass a course shall have to obtain a minimum of 40% marks in aggregate for each course where the course consists of Internal Assessment & Semester End Examination. The learner shall obtain minimum of 40% marks (i.e. 16 out of 40) in the Internal Assessment and 40% marks in Semester End Examination (i.e. 24 out of 60) separately, to pass the course and minimum of Grade E in the project component, wherever applicable to pass a particular semester. A learner will be said to have passed the course if the learner passes the Internal Assessment & Semester End Examination together.
02	<b>Allowed to Keep Terms (ATKT)</b> 1) A learner shall be allowed to keep term for Semester II irrespective of number of courses of failure in the semester I. 2) A learner shall be allowed to keep term for Semester III if he/she passes each of the semester I and Semester II OR a learner fails in not more than two courses of Semester I and not more than two courses of Semester II.



# **EVOLUTION AND INTRODUCTION TO ELECTRONIC MODELS**

## **Unit Structure:**

- 1.0 Objective
- 1.1 Introduction
- 1.2 Benefits and Challenges of E-Commerce
- 1.3 Business models of E-commerce
- 1.4 Concepts of other models of E-Commerce
- 1.5 Business to consumer E-Commerce process
- 1.6 E-Commerce Sales Product Life Cycle (ESLC) Model
- 1.7 Summary
- 1.8 Exercise

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## **1.0 OBJECTIVES**

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After studying this unit the student will be able to -

- Understand the concept of E-Commerce and its History/Evolution and roadmap of E-Commerce in India.
- Know the functions, scope benefits and challenges of E-Commerce
- Explain various business models of E-Commerce
- Describe E-Commerce Sales Product Life Cycle (ESLC) Model

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## **1.1 INTRODUCTION**

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Commerce is basically an economic activity involving trading or the buying and selling of goods. The customer would physically visit to the shop, pick up the product he/she wants to purchase and make payment. As we enter the electronic age, all such activities are undertaken using internet, which is known as E-Commerce.

Changing lifestyle, online banking facilities, plastic money in the form of debit and credit cards, tech savvy generation, boom of IT companies and increase in disposable income are few of the reasons for e-

commerce boom in India. Apart from technical reasons one of the reasons for this change is the avoidance of all sorts of traffic and mental stress on the roads. To reach at the shopping place one has to travel through jam packed streets. With increase in the number of smartphones, mobile shopping becomes part of e-Commerce boom in India.

It was mid 1990s when the Internet companies started rising in India, but lack of awareness, low penetration of Internet and undeveloped payment system were the bottlenecks. Online classified, matrimonial and job portals were the main e-commerce portals at that time. The dot com started gaining recognition in 2000s which gave a push to the e-commerce industry in India. Along with the developments in dot com sector, India's retail sector started to excel. With time retail stores opened their virtual stores.

Recently, India's 14 billion e-commerce industry got a boost with the announcement of a proposal in the Union Budget 2014-15 which will allow foreign retailers to sell their products in the country via e-commerce platform. Brands like Nike, Puma, Marks & Spencer which were selling through licensing agents and franchisees will be benefited a lot with this announcement.

### 1.1.1 CONCEPT OF E-COMMERCE

E-commerce is a popular term for electronic commerce or even internet commerce. The name is self-explanatory; it is the meeting of buyers and sellers on the internet. This involves the transaction of goods and services, the transfer of funds and the exchange of data

So when a customer logs into his/her Amazon account and purchase a book, this is a classic example of an e-commerce transaction. Here customer interacts with the seller (Amazon), exchange data in form of pictures, text, address for delivery etc. and then he/she makes the payment.



In other words, E-Commerce refers to the buying and selling of goods or services using the internet, and the transfer of money and data to execute these transactions. E-commerce is often used to refer to the sale of

physical products online, but it can also describe any kind of commercial transaction that is facilitated through the internet.

“E-Commerce describes the process of buying and selling or exchanging of products, services and information, via computer networks including the internet.” **E. Turban.**

E-Commerce is India’s fastest growing and most exciting channel for commercial transactions. The Indian e-commerce market is expected to grow to US\$200 billion by 2026 from US\$ 48.5billion as of 2018. This growth has been triggered by increasing internet and smartphone penetration.

The ongoing digital transformation in the country is expected to increase India’s total internet user base to 829 million by 2021 from 560.01 million as of September 2018. India’s internet economy is expected to double from US\$125 billion as of April 2017 to US\$ 250 billion by 2020, majorly backed by e-commerce. India’s E-commerce revenue is expected to jump from US\$ 39 billion in 2017 to US\$ 120 billion in 2020, growing at an annual rate of 51 percent, the highest in the world.

(Source: <https://www.ibef.org> as of December 2018)

### **Current Market Trends**

Online retail sales in India are expected to grow by 31 percent to US\$ 32.70 billion in 2018, led by Flipkart, Amazon India and Paytm Mall.

Electronics is currently the biggest online retail sales category with a share of 48 percent, followed closely by apparel at 29 percent.

E-Commerce has made it easier for top American brands to reach Indian customers and has emerged as one of the fast-growing trade channels available for the cross-border trade of goods and services.

There is a growing appetite for international brands and better-quality foreign products amongst digitally connected Indian shoppers due to rising income levels and increased awareness. Several categories including lifestyle products, consumer electronics, clothing, footwear, jewelry and accessories, health and beauty, household goods, art and collectibles, event tickets and online music are doing well for online sales.

Technology enabled innovations such as digital payments, hyper-local logistics (Process of delivering goods directly from a seller to the customer via courier agents), analytics driven customer engagement and digital advertisements have enabled the E-Commerce industry in India to grow at a much faster rate.

Government initiatives such as Digital India, Skill India, Startup India and Make in India are also contributing to the growth of the E-Commerce industry.

### **E-commerce Sector Composition**

Currently there are 1 to 1.2 million transactions per day in E-Commerce retailing. Given below is the split of sectors according to popularity:

- Electronics: 48%
- Apparel: 29%
- Home and Furnishing: 9%
- Baby, Beauty & Personal care: 8%
- Book: 3%
- Others: 3%

(Source: <https://www.ibef.org/download/Ecommerce-March-2018.pdf>)

### **E-Commerce Services**

There is a new trend of emerging E-Commerce aggregators aiming to digitize several offline services to create a convenient ecosystem for consumers.

- **Tourism:** MakeMyTrip; Goibibo; Yatra; IRCTC
- **Education:** EduKart; Meritnation
- **Healthcare:** Portea; Healthkart
- **Entertainment/ Ticket booking:** Netflix; bookmyshow
- **Real Estate:** MagicBricks; Housing, 99 acres
- **Fin-tech:** PayTM, Freecharge, PayUmoney, Mobikwik, PhonePe

## **1.1.2 HISTORY/EVOLUTION OF E-COMMERCE**

### **1) 1969: CompuServe is founded.**

CompuServe was founded in 1969 by electrical engineering students Dr. John R. Goltz and Jeffrey Wilkins as a computer time-sharing service (allowing many users to share the computer resources simultaneously).

In 1979, CompuServe became the first service to offer electronic mail capabilities and technical support to personal computer users. In 1980 CompuServe introduced the first online service to offer real-time chat online. By 1982, the company had formed its Network Services Division to provide wide-area networking capabilities to corporate clients.

### **2) 1979: Michael Aldrich invents electronic shopping.**

English inventor Michael Aldrich introduced and pioneered as e-Commerce by connecting television and telephone lines.

He invented a system that advertised goods and services on television, giving viewers the ability to call in to a processing center to place orders. Aldrich called his system "teleshopping."

**3) 1982: Boston Computer Exchange launches.**

Technically, the first e-Commerce company was Boston Computer Exchange, which launched all the way back in 1982.

It was primarily an online market that served people who wanted to sell their used computers.

**4) 1992: Book Stacks Unlimited launches as first online book marketplace.**

Charles M. Stack introduced Book Stacks Unlimited as an online bookstore. Originally, the company used the dial-up bulletin board format (Computerized system used to exchange public messages or files). However, in 1994 the site switched to the internet and operated from the Books.com domain.

**5) 1994: Netscape Navigator launches as a web browser.**

Marc Andreessen and Jim Clark co-created Netscape Navigator as a web browsing tool. During the 1990s, Netscape Navigator became the primary web browser on the Windows platform, before the rise of modern giants like Google.

**6) 1995: Amazon and eBay launch.**

Jeff Bezos introduced Amazon primarily as an e-commerce platform for books.

Meanwhile, eBay emerged as a successful online auction website, debuting in 1995.

**7) 1998: PayPal launches as an e-commerce payment system.**

Originally introduced as Confinity by founders Max Levchin, Peter Thiel, Luke Nosek and Ken Howery.

PayPal launched in 1998 as a global eCommerce company that offered payment processing for online vendors and other commercial users. PayPal customers can hold, send, and receive funds in many different currencies.

**8) 1999: Alibaba launches.**

Alibaba Online launched as an online marketplace with more than \$25 million in funding. By 2001, the company was profitable. It went on to turn into a major B2B, C2C, and B2C platform that's widely used today.

**9) 2000: Google introduces Google AdWords as an online advertising tool.**

Google Adwords was introduced as a way for e-commerce businesses to advertise to people using Google search.

With the help of short-text ad copy and display URLs, online retailers began using the tool in a pay-per-click (PPC) context. PPC advertising efforts are separate from search engine optimization (SEO).

**10) 2004: Shopify launches.**

Tobias Lütke and Scott Lake launched Shopify. Shopify is an e-commerce platform that allows anyone to set up an online store and sell their products. Merchants can also sell their products in person with Shopify POS.

**11) 2005: Amazon introduces Amazon Prime membership.**

Amazon launched Amazon Prime as a way for customers to get free two-day shipping for a flat annual fee.

The membership also came to include other perks like discounted one-day shipping and access to streaming services like Amazon Video and members-only events like “Prime Day.”

This strategic move helped boost customer loyalty and incentivize repeat purchases. Today, free shipping and speed of delivery are the most common requests from online consumers.

**12) 2005: Etsy launches.**

In 2005, Etsy launched as a global marketplace where people could create shops to sell their unique and often handmade items. These items fall under a wide range of categories, including jewelry, bags, clothing, home décor and furniture, toys, art, as well as craft supplies and tools.

**13) 2009: Big Commerce launches.**

Eddie Machaalani and Mitchell Harper co-founded Big Commerce as a 100% bootstrapped (a business without outside investment funds) e-commerce storefront platform. Since 2009, more than \$25 billion merchant sales have been processed through the platform, and the company now has headquarters in Austin, San Francisco and Sydney.

**14) 2011: Google Wallet introduced as a digital payment method.**

Google Wallet was introduced as a peer-to-peer payment service that enabled individuals to send and receive money from a mobile device or desktop computer.

By linking the digital wallet to a debit card or bank account, users can pay for products or services via these devices.

Today, Google Wallet has joined with Android Pay for what is now known as Google Pay.



**15) 2011: Facebook rolls out sponsored stories as a form of early advertising.**

Facebook's early advertising opportunities were offered to Business Page owners via sponsored stories. With these paid campaigns, e-commerce businesses could reach specific audiences and get in the news feeds of different target audiences.

**16) 2011: Stripe launches.**

Stripe is a payment processing company. It was founded by John and Patrick Collison.

**17) 2014: Apple Pay introduced as a mobile payment method.**

As online shoppers began using their mobile devices more frequently, Apple introduced Apple Pay, which allowed users to pay for products or services with an Apple device.

**18) 2014: Jet.com launches.**

Jet.com was founded by entrepreneur Marc Lore (who sold his previous company, Diapers.com, to Amazon.com) along with Mike Hanrahan and Nate Faust.

Jet.com is an online retailer offering discounted prices on a wide variety of products, and its profits derive from annual subscription fees that members pay. Using algorithms, prices change in real time depending on the combination of products in the customer's shopping cart. Jet claims that it makes its entire profit from the subscription fees, and that it does everything possible to give customers the lowest possible prices.

**19) 2017: Shoppable Instagram is introduced.**

Instagram Shopping launched with e-commerce partner Big Commerce. Since then, the service has expanded to additional e-commerce platforms and allows Instagram users to immediately click an item, and go to that item's product page for purchase.

**20) 2020: COVID-19 Drives Ecommerce Growth.**

COVID-19 outbreaks around the globe pushed consumers online to unprecedented levels. By May of 2020, ecommerce transactions reached \$82.5 billion — a 77% increase from 2019. It would have taken four to six years to reach that number looking at traditional year-over-year increases.

Consumers have moved online to make purchases normally made in physical stores, such as food and household items, apparel, and entertainment. Many consumers say they'll continue to use online storefronts until a COVID-19 vaccine is available.

**E-Commerce Timeline: from the Beginning to Modern Day**

- **1969:** CompuServe is founded. It will go on to become what many consider to be the first true e-Commerce company.

- **1979:**Fed up with regular trips to the market, Michael Aldrich introduces the world to electronic shopping
- **1982:**Boston Computer Exchange becomes one of the first e-Commerce platforms
- **1992:**Charles M. Stack launches Book Stacks Unlimited, one of the first online marketplaces
- **1994:** Netscape releases Netscape Navigator, which becomes the most prominent of the early web browsers
- **1994:**Jeff Bezos unveils Amazon
- **1995:**AuctionWeb launches. Its name will eventually be changed to eBay.
- **1998:**PayPal revolutionizes e-Commerce with a secure way for websites to accept payments
- **1999:**Jack Ma launches Alibaba.com, a first-of-its-kind B2C, B2B, and C2C e-Commerce company.
- **2005:**Amazon changes e-Commerce forever by introducing flat-fee, two-day shipping through Prime
- **2011:** Facebook throws its hat in the e-Commerce ring with sponsored stories
- **2011:**Stripe enters the world of online payments
- **2014:** Apple follows suit with Apple Pay
- **2015:**Google responds by introducing Android Pay
- **2015:**Cyber Monday sales reach a new record high of more than \$3 billion
- **2016:**Alibaba sets a record with \$17 billion in sales in just one day
- **2017:** Instagram enters the e-Commerce game with shoppable posts
- **2019:**ECommerce sales reach\$3.5 trillion

### **1.1.3 ROADMAP OF E-COMMERCE IN INDIA**

On the back of growing internet penetration and evolving consumer mindset the e-commerce space has touched new heights. The market was initially limited to print media dominated classified services. It has now expanded to include the new internet-focused business models. Example - Group buying and social commerce.

The evolution of e-commerce in India can be broadly divided into two phases based on the emergence of various sub-segments. Furthermore distinct developments define each of these phases.

### **Phase 1 1996 - 2005**

In 1995, India witnessed the launch of internet (via dial up) in 6 cities. The introduction of Internet in India marked the beginning of the first phase of e-commerce in the country. The economic liberalisation after the launch of the reforms in 1991 attracted MNCs and brought about the growth of the IT industry.

The implementation of liberalisation policy has led to the demise of the license regime, high taxes and import restrictions, as well as facilitates the growth of SMEs. The IT industry and SMEs were the early adopters of internet. This led to the emergence of B2B and matrimonial portals in 1996. In 1997, the job portals were launched for the job searches.

**B2B Directory:** India's first online B2B directory was launched in 1996. The liberalization of the country's international trade policies was the key factor that accelerated the growth of B2B online portals. It enabled buyers and sellers to easily connect with their global counterparts.

**Online Matrimonial:** In 1996, the first online matrimonial portal was launched in India. A concept unique to India, online matrimonial portal transformed the perception about matchmaking process from “marriages are made in heaven” to “marriages are made in cyber space.” Such portals have now evolved to cater to various segments of the population such as NRIs, widows or Widowers, divorcees and other special groups.

**Online Recruitment:** India's online recruitment industry took shape in 1997. The growth of service sector, following the launch of economic reforms in 1991, resulted in the creation of additional jobs. In this background, internet proved to be an efficient medium that allowed employers and job seekers to connect. Prior to job portals weekly government magazines such as 'Employment News' and newspaper notifications were the primary means for employers and job seekers to interact.

Although online businesses had begun to develop in the late 1990s, the supporting ecosystem had not been put in place. The first phase of e-commerce in India was characterized by Low internet penetration, a small online shopping user base, low internet speed, low consumer acceptance of online shopping and inadequate Logistical infrastructure. Thereafter, the IT downturn in 2000 led to collapse of more than 1000 e-commerce business in India. This led to muted activities in the cyber space in India between 2000 and 2005.

### **Phase 2 (from 2006 till date)**

The entry of Low Cost Carrier (LCCs) in the Indian Aviation Sector in 2005 marked the beginning of the second wave of e-commerce in India. Travel emerged as the largest segment. People started relying on

the Internet to search for information and to book tickets. As a ripple effect, the success of the online travel segment made consumers comfortable through the medium, thus leading to the development of online retail.

**Online Travel:** The decision of LCCs to sell their ticket online and through third parties enabled the development of Online Travel Agents (OTAs). Prior to the entry of LCCs in 2005-06, air travel was considered a luxury meant only for the rich and for corporate travels. LCCs change the scenario by making travel affordable for a large number of people. Their own website partnered with OTAs to distribute the tickets online and, thus, contain costs. The Indian Railway had already implemented the e-ticket booking initiatives by the time LCCs commenced their online ticket booking schemes.

**Online Retail:** The growth of online retail was partly driven by changing urban consumer lifestyle and need for convenience of shopping at home. This segment developed in the second wave in 2007 with the launch of multiple online retail websites. New businesses were driven by entrepreneur who looked to differentiate themselves by enhancing consumer experience and establishing a strong market presence.

**Group Buying:** Starting in 2010, the group buying and the daily deals models became the sought after space for entrepreneurs in India, emulating the global trend. Group buying sites have seen a significant rise in the number of unique visitors and membership. This group has attracted investments from venture capital funds.

**Social Networking:** The social networking was actively used by organisation to reach out to customers. Social networking has gone on to become an integral part of people's lives. Initially used for staying connected with friends, social networking websites have now become a dominant force in any company's digital strategy. Termed as social commerce, it is the key avenue for E-Commerce players to reach out to target customers. Companies of started establishing their presence in the social media space for branding activities, connecting with customers for feedback and Advertising new products.

#### **1.1.4 MAIN ACTIVITIES OF E-COMMERCE**

- 1) **Registration:** In order to make a purchase, the user must register on the website by providing all necessary information for billing and shipping purposes. It also enables a firm to send updates and various offers to their customers. The information required for the registration process includes name, address, contact details, an alternative to the contact number, Email-ID and other relevant data of the customer. The system followed for the registration and shopping may vary from firm to firm. Further, all the data of customers is stored on a database of the e-commerce firm.

- 2) **Information Search:** After registration, users can surf for information about the product which they desire to purchase. They can compare different products before finalising what they wish to purchase. On some e-commerce websites, information search can be made first, and registration can be done at the time of purchasing a product.
- 3) **Electronic Data Interchange (EDI):** Electronic Data Interchange (EDI) is the computer-to-computer exchange of business documents in a standard electronic format between business partners. Many business documents can be exchanged using EDI, but the two most common are purchase orders and invoices.
- 4) **Negotiations:** E-Commerce facilitates negotiations between the buyer and the seller. A buyer can negotiate with two or more sellers through video-conferencing especially in case of B2B e-commerce. The buyer can negotiate for price, delivery schedule, quality, quantity and other terms and conditions.
- 5) **Placing order:** The buyer can place the order. On receipt of the order, the seller processes the order. The seller must undertake proper order management for timely delivery of product.

In case of B2C e-commerce, the customer adds the product in shopping cart. Shopping cart is a tool which, like online basket, allows users to select products they want to purchase and then add them in their cart. After all the products are selected, the user can have a look at the number and types of products purchased by her/ him and also add or delete products as per their requirements.

- 6) **Payment:** After selecting products for purchase, the next step is to select payment options. The variety of payment options offered are cash on delivery, debit/credit card, net banking, payment by apps, etc. Customers can select any mode of payment as per their convenience and suitability.
- 7) **Logistics:** After the payment processing is done, logistics function comes into the picture for delivery of the product. This involves order processing, packaging, transportation, tracking of product, etc. It ensures timely delivery of product to the customer at his/her doorstep. E-commerce firms need to make proper arrangement of logistic activities so that the right product is sent to customers on time. Delay in delivery of products can result in customer dissatisfaction.
- 8) **After-sales Service:** After timely delivery of products to customers, the firm undertakes after-sales service wherein it takes customer feedback about delivery, quality, services, overall experience, etc. The firms also make service calls in case of durable products. They solve the queries of customers and provide information about latest offers and other products via e-mail, calls and SMS. This allows the e-

commerce firms to maintain long-term relationship with customers and increase customer loyalty

### 1.1.5 FUNCTIONS OF E-COMMERCE

- 1) **E-Marketing:** E-Marketing (Electronic Marketing) is also known as Internet Marketing, Web Marketing, Digital Marketing, or Online Marketing. E-marketing is the process of marketing a product or service using the Internet. E-marketing not only includes marketing on the Internet, but also includes marketing done via e-mail and wireless media. It uses a range of technologies to help connect businesses to their customers. Internet marketing is associated with several business models i.e., B2C, B2B, C2C. Internet marketing is inexpensive when examine the ratio of cost to the reach of the target.
- 2) **E-Advertising:** It is also known as online advertising it is a form of promotion that uses internet and World Wide Web to deliver marketing messages to attracts customers. Example: Banner ads, Social network advertising, online classified advertising etc. The growth of these particular media attracts the attention of advertisers as a more productive source to bring in consumers.
- 3) **E-Banking:** It refers to any user with a personal computer and browser can get connected to his bank website to perform any of the banking functions. In internet banking system the bank has a centralized data base i.e., web-enabled. Best example for E-Banking is ATM. An ATM enables handling cash deposits, transfer, Balance enquiries, cash withdrawals, and pay bills.

#### **Services through E-Banking:**

- Bill Payment Service
  - Fund Transfer
  - Investing through Internet Banking
  - Shopping
- 4) **E-Learning:** E-Learning comprises all forms of electronically supported learning and teaching. E-Learning applications and processes include web-based learning, computer-based learning. Content is delivered via. The internet, intranet/extranet, audio, or video tape, satellite TV. E-Learning is naturally suited to distance and flexible learning, but can also be used conjunction with face-to-face teaching. E-Learning can also refer to the educational website such as those offering learning scenarios worst and interactive exercises for children. A learning management system (LMS) is software used for delivering, tracking, and managing training /education.
  - 5) **Mobile Commerce:** Mobile Commerce also known as M-Commerce is the ability to conduct, commerce as a mobile device, such as mobile phone. Banks and other financial institutions use mobile commerce to allow their customers to access account information and make

transactions, such as purchasing, withdrawals etc., Using a mobile browser or apps customers can shop online without having to be at their personal computer.

- 6) **Online Shopping:** Online shopping is the activity or action of buying products or services over the Internet. It means going online, landing on a seller's website, selecting something, and arranging for its delivery. The buyer either pays for the good or service online with a credit or debit card or upon delivery.
- 7) **Entertainment:** The conventional media that have been used for entertainment are Books/magazines, Radio, Television/films, Video games etc.

Online books /newspapers, online radio, online television, online films, and online games are common place in internet where we can entertain. Online social networking websites are one of the biggest sources of E-entertainment for today's tech-savvy generation.

#### 1.1.6 SCOPE OF E-COMMERCE

E-Commerce is a general concept covering any form of business transaction or information exchange executed using information and communication technologies ((ICT's). It includes electronic trading of goods, services and electronic material.

It takes place between companies, between companies and their customers or between companies and public administrations

- 1) **Electronic Markets:** An electronic market is the use of ICT where seller offers a range of good and services so that the buyer can compare the prices of the goods and services and make a purchase decision. e.g. Airline Booking System
- 2) **Electronic Data Interchange:** Electronic Data Interchange (EDI) is the computer-to-computer exchange of business documents in a standard electronic format between business partners. These are any of the documents that are typically exchanged between businesses. The most common documents exchanged via EDI are purchase orders, invoices, payment document and advance ship notices. There is no need for printed orders and invoices & delays & errors in paper handling. It is used by organizations that make a large number of regular transactions. Eg. The exchange of EDI documents is typically between two different companies, referred to as business partners or trading partners. For example, Company A may buy goods from Company B. Company A sends orders to Company B.

- 3) **Internet Commerce:** Internet Commerce is the use of the Internet for all phases of creating and completing business transaction. This application is both for Business to Business (B2B) & Business to Consumer (B2C) transactions.

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## 1.2 BENEFITS AND CHALLENGES OF E-COMMERCE

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### A) Benefits to E-Commerce Firms

1. **Global Reach:** With e-commerce, a company can reach out to the customers worldwide. Unlike physical stores where only a limited number of customers can be served, e-commerce allows firms to deliver products online to customers in any corner of the world.
2. **Small Investment:** E-commerce firms do not have to make investment to purchase land or rent or lease space for physical stores. E-commerce is operated online through websites. There are many domains which allow firms to create websites, which is less costly and far more convenient. The marketer has to only create a website to target their customers. Logistic functions can be outsourced by them. It reduces the need to make heavy investments and also provides quick return on investment (ROI) to marketers.
3. **Less Operating Costs:** In e-commerce business, there is no need to hire a large number of employees unlike physical stores. It reduces training cost, salaries etc. that have to be paid to employees. Due to opening an online store there is no need of payment of rent, utility bills and other miscellaneous expenses which can be incurred in physical stores. This results into less operating cost of e-commerce firms.
4. **Higher profit margin:** E-commerce offers benefit of global reach, so the marketer can reach to customers located all over the world. There is also large demand for the products from all over the world. There are no intermediaries like agents, wholesaler or retailer. Mostly the transactions are done directly between trader and customers. So the commission of intermediaries is eliminated. So all this contributes to higher profit margin.
5. **Reviews of Customers:** The customer can leave their reviews about their experience with product. It can give more values to e-commerce website and help customers to build more trust about the firm.

### B) Benefits to Customers

1. **Variety of goods:** E-commerce makes a variety of products easily available to customers. They can select products straightforwardly as per their budget and requirements. Details of all the products are available the websites, which makes it easy for customers to select the right product.



2. **Right Purchase Decision:** E-commerce applications and websites provide options to compare and select the best product. Customers can also read reviews and comments posted by other customers on the website before making a final purchase.
3. **24 x 7 services:** E-commerce is not limited to running on schedules as they function 24X7, unlike physical stores. Customers and clients can buy whatever they want anytime on websites, which they cannot in any physical store.
4. **Increased Competition:** Due to lack of entry barrier, less investment, etc. the number of e-commerce firms entering the business is increasing. It has resulted in increase in competition in the e-commerce industry. The competition may benefit customers in the sense that they get better quality products at discounted prices due to competition between the e-commerce firms.
5. **Convenient Shopping:** Due to busy schedule, many people are unable to go to physical stores for shopping. As a result, they prefer to shop from e-commerce websites now. Online shopping saves their time and also brings the products ordered at their doorstep which also saves their money and energy.
6. **Discounts and offers:** Every e-commerce company offers discounts as well as offers such as free gifts, extra quantity, warranty etc. on every purchase.

### 1.2.1 CHALLENGES OF E-COMMERCE

#### A) Challenges for E-Commerce Firms

- 1) **High rate of return of goods:** E-commerce in India has many first time buyers. This means that they have not yet made up their mind about what to expect from e-commerce websites. As a result, buyers sometimes fall prey to hard sell (Instant placing order for goods by watching advertisement or offers). But by the time the product is actually delivered, they regret and return the goods. Though consumer regret is a global problem, but it is all the more prevalent in a country like India. Returns are expensive for e-commerce companies, as reverse logistics (returning a product to the manufacturer or distributor) create challenges. This becomes all the more complex in cross border e-commerce.
- 2) **Cash on delivery is the preferred payment mode:** Low credit card access and low trust in online transactions has led to cash on delivery being the preferred payment choice in India. Unlike electronic payments, manual cash collection is painstaking (be careful), risky, and expensive.

Though considered good from buyer point of view but for e-commerce companies Cash on delivery (COD) mode of payment is regarded as a drawback. COD delays the payment to e-commerce company because buyer will pay when he or she will receive the product. It will then go to the courier companies which after 2-3 weeks give payment to the actual seller. In the meantime the e-commerce companies have to restock inventory.

- 3) **Payment gateways have a high failure rate:** Indian payment gateways have an unusually high failure rate by global standards. E-commerce companies using Indian payment gateways are losing out on business, as several customers do not attempt making payment again after a transaction fails.
- 4) **Problem of Internet Access:** E-commerce shopping requires Internet facility to work. Nowadays, availability of internet connection is not a problem in metro cities. However, internet connectivity is very poor in many villages. Hence, these villages can be targeted only if they get better internet connectivity.
- 5) **Technical Problems:** E-commerce functions through the Internet due to which technical problems such as slow speed of Internet can occur. Sometimes, transactions are denied due to slow internet connectivity. There may also be chances of double payment due to repetitive clicks by users on the payment button.
- 6) **Competition:** Due to a variety of benefits offered by e-commerce industry such as global reach, high profitability, zero initial costs, etc. many firms are encouraged to undertake e-commerce business. This has led to increase in competition among the e-commerce marketers. Competition is leading to decrease in profitability due to reasons such as aggressive pricing strategies, heavy discounts and offers, free delivery, high commissions to affiliates and vendors during sale period etc. These firms are losing billions to attracting customers.
- 7) **Poor logistic & supply chains:** Underdeveloped logistics is one of the main hurdles in the development of e-commerce in India. Multinational carriers like DHL and Fed-Ex do operate in India but generally third party services are hired for the delivery in smaller cities. Many a time last mile deliveries are made by bicycle. Some of the large funded firms like Flipkart have established their own logistics departments for the delivery of goods ordered online. But huge investment in logistics is required to be done.
- 8) **Other Challenges:**
  - The start-up costs of the e-commerce portal are very high. The setup of the hardware and the software, the training cost of employees, the constant maintenance and upkeep are all quite expensive.
  - Although it may seem like a sure thing, the e-commerce industry has a

high risk of failure. Many companies riding the dot-com wave of the 2000s have failed miserably. The high risk of failure remains even today.

- At times, e-commerce can feel impersonal. So it lacks the warmth of an interpersonal relationship which is important for many brands and products. This lack of a personal touch can be a disadvantage for many types of services and products like interior designing or the jewelry business.
- Sometimes address is not found or buyer does not like the product then it has to send back to the company for restocking.

## **B) Challenges for Customers**

- 1) **Security Issue:** E-commerce sites record crucial and sensitive details of customers such as name, phone number, address and bank details. Though many e-commerce firms try to make transactions over their websites secure through SSL (https) that encrypts the transferred information, still many cases of online password hacking has occurred. It has adversely affected the trust and confidence of customers about e-commerce shopping.
- 2) **Inability to See and Feel Products before Purchase:** Indian customers prefer to see, touch, smell or taste products before making purchase decisions. However, e-commerce does not facilitate this arrangement due to which its advantages are missing in this shopping option. Customers also have the impression that the products shown in pictures on website can be different from what they actually turn out to be after delivery. However, these days, many firms are adding real images and videos of models using these products on their websites, and also adding all possible information about products such as size, quantity, colours etc. for the convenience of customers.
- 3) **Uncertainty about Quality:** One of the biggest problems with buying things online is that customers may have no guarantee of a product's quality. Reviews provided by other customers are not always helpful. Return policy of e-commerce's firm is also not properly implemented, so customers face problems in returning products and getting refund or replacement for it.
- 4) **Delay in Delivery:** E-commerce firms can face the problem of shortage of manpower. This may result in delay in delivery of product to customers. In many cases, customers do not get delivery of products on promised date or time, which results in customer dissatisfaction.

### 1.2.2 E-COMMERCE BUSINESS STRATEGIES FOR MARKETING, SALES AND PROMOTIONS

- 1) **Feedback Forms:** It is important for an e-commerce company to find out what people think about their company than to solicit their opinion. By using customer feedback, an e-commerce can improve its site and provide better service to their customers. Using feedback forms also shows that e-commerce company is interested in what their customers have to say, and provides an opportunity to build relationships with them.
- 2) **Daily Give-Away/Coupons/Contests:** E-commerce companies that offer regular promotions such as a 'give-away', coupons and contests are in a solid position to capture a regular audience. The promotions act as the driver that attracts customers to visit initially. It also provides an opportunity to showcase new products and services, and deliver important news about e-company. For example, an e-commerce company offers discount coupons to customers which can be redeemed on next purchases. This encourages customers to purchase goods in future.
- 3) **Bookmarking:** A good way to encourage customers to visit an e-commerce company's site is to ask them to bookmark it. Through bookmarking, they have easy access to a site and do not have to remember your site's exact URL to visit. Bookmarking a site is particularly beneficial for web surfers who like to follow links. It enables them to go back and take a more in-depth look at what company has to offer when they need to.
- 4) **Surveys:** Surveys provide an effective avenue through which important customer data is gathered that will help an e-commerce company to improve its business and plan for the future. To encourage visitors to complete the survey, the company can provide an incentive such as an opportunity to win a prize.
- 5) **Awards/Testimonials:** Including awards and testimonials on e-commerce site will provide credibility to its business. It will also provide a foundation to build rapport and trust with customers, who will be more willing to visit a site they can trust.
- 6) **Online Chat:** Online chat mechanisms provide a forum where customers can come together and share their experiences with each other and e-commerce Company. This interactive tool allows companies direct access to customer opinions where they can gauge trends and determine their views.
- 7) **Product Tours:** Online tours provide an e-commerce company with an opportunity to showcase particular products and services, and highlight their key benefits. Product tour is a better way to show how the product works. Product tour makes complex product look simple and easy to use.

- 8) **Using Video:** E-commerce business benefits not only from the use of words, but the use of words, sound and images combined, making it a wonderful way for businesses to quickly and very inexpensively share information about their products, services and business activities. E-commerce companies can create their own channels and link those channels through their other online activities--web sites, blogs or social media activities.
- 9) **Relationship Building through social media:** Relationship building is a marketing strategy built on establishing a long-term and mutually beneficial relationship between businesses and customers. E-commerce through social media allows ongoing two-way communication. Google+, LinkedIn, Facebook, Twitter, YouTube and Pinterest are social media platforms that businesses use to build relationships and communities around their brands. Social media allows businesses of all sizes to address public relations and customer service issues quickly, announce time-limited offers and promotions, and give customers a chance to share their product-related stories and images.
- 10) **Make checkout process easy:** An e-commerce company should try to get everything on one page. If it has several pages, it should show a progress bar at the bottom of each page so that customers can visualize how much longer the checkout process will take. The more time a customer spends looking for the next button or the checkout button the quicker they can become frustrated with the site.
- 11) **Give customers helpful product descriptions:** E-commerce companies selling any type of clothing or accessory should provide a size guide. Not only will this help customers to select right product but it will cut back on returns of such goods. E-commerce Company should have a page dedicated to frequently asked questions.

It is desirable if company has descriptions for every single one of their products. These details tell customers what the product is made out of, the size, fit and fabric, how to clean it and even tells customers the height of the model in the photo. Not only will they be able to easily find your products, but it will also be easier for them to make a purchase decision.

- 12) **Retargeting:** Customers who have already shown an interest in website are more likely to make a later purchase.

Retargeting is a technique that tracks customers who have visited website. The e-commerce company can display ads to them while they're browsing the internet with the intention of getting them back on the website. When these visitors enter website again, they are far more likely to make a purchase.

**13) Email Marketing:** An e-commerce company can build an email list by collecting emails when they make a purchase. They can also collect emails through social media campaigns and on its website in exchange for coupons or discounts.

An e-commerce company can send different emails like:

- **Welcome Email:** This email is received by customer when they create account and login to the site.
- **Email Nurture series:** This is a sequence of emails that company sends to educate customers about the product and
- **Cart Abandonment email:** This is the email sent when visitors fill up the cart, then leave your store without checking out
- **Email Receipts:** These are emails sent to confirm customer's purchase; it's also a great time to send them further promotions.

**14) Social Media Marketing:** Using social media marketing for e-Commerce business has its benefits like user engagement and increasing sales. User engagement involves likes, shares, comments and general interaction on posts and this helps to create brand image in the mind of target audience. It's also crucial for word-of-mouth marketing since it's very easy to share information within and between platforms (like from Facebook to whatsapp and so on).

Nowadays, social media platforms have made it easier for e-Commerce businesses to create and maintain their presence. Instagram allows swipe-up links on stories and product stickers on posts. When it is clicked, take viewers directly to a product or catalog. Facebook has a 'dynamic ads' feature that allows owners to upload entire catalogs and promote relevant content to individual users

**15) Build a Mobile App:** There are several benefits to have an app for e-commerce business. Apps tend to load more quickly than websites so that users can shop more efficiently. If an e-commerce company has an app customers are one tap away from viewing products. The e-commerce company can also send push notifications through apps to notify customers when company is having a sale or when their favorite item is back in stock. Building an app is an excellent way to boost sales and drive growth.

E-commerce Company should design site with mobile visitors in mind from start to finish. The company should have a bigger add to cart button on all mobile product pages, making it easier for the visitor to add to cart without zooming in. It should also present images in a different format, making it faster for mobile visitors to load product photos and easier to zoom in.

**16) Search Engine Optimization (SEO):** Search Engine Optimization (SEO) aims to draw the greatest amount of traffic possible to a website by bringing it to the top of a search engine's (Google, Yahoo, and

Bing) results. SEO is used by businesses to maximize the visibility of websites and content to boost traffic and, therefore, business. Search engines are the most common vehicle in bringing organic (non-paid) traffic to a website, which makes SEO highly competitive: a successful strategy can bring a business a high level of exposure.

**17) Optimize website layout:** After launching or redesigning e-commerce site, it's important to test website's layout, language, and placement different elements. When customers visit to the website, they should feel easy and simple to check out products and information. They should feel naturally inclined to purchase products.

**18) Influencer Marketing:** Influencers are popular non-celebrity individuals with a large following on social media platforms ( like Instagram, YouTube and Facebook) or blogs and who can affect the purchasing decisions of their audience. E-commerce companies can make use of such influencers and gain their audience trust.

**19) Affiliate Marketing:** Affiliate marketers are the businesses promotes content on their website to their audience and receive some percentage of sales when leads the product. Affiliate marketing looks like display ads. With display advertising, E-commerce company creates ad that appear on other websites. When site visitors click on them, they're taken to a landing page where they can learn more about your product and convert to become a paying customer.

**20) Personalization strategy:** With personalization strategies, the company can target customers with tailored and dynamic offers, sales, discounts, personalized emails, even recommended products and also helps them find what they may need. The company can obtain these by observing and analyzing customer-specific site behavior, cart items and purchase history or demographic-specific history and data.

**21) Use of Virtual Reality Technologies:** Virtual reality (VR) is a simulated experience that can be similar to or completely different from the real world. Virtual Reality is often the best option for ecommerce businesses. Examples could include:

- Furniture stores lets customer upload pictures of their actual room along with it's dimensions and then scale the furniture so the customer can see how it would look.
- Apps allowing users to hold their phone over their wrist to see how a bracelet would look.
- Makeup retailers who let users upload pictures of themselves to see how the different products would look on them. Sephora currently uses this strategy.

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## 1.3 BUSINESS MODELS OF E-COMMERCE

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### 1.3.1 B2B (BUSINESS-TO-BUSINESS)

When a business sells goods and services to another business online, it is called B2B transaction.

In simple, one company will sell products or services to other companies. (i.e.,) wholesale distributors will sell products or services to retailers.

Normally this field includes the selling of goods that are not used by customers. For instance, businesses that manufacture products sold in Walmart stores are operating under a business to business e-commerce model because they are a business selling products to another business.

#### Examples:

- **Walmart:** Walmart India is based on the B2B process as it sells its products only to traders. Walmart India, a B2B website, landed on many states in India and any vendors can easily sell their products on Walmart's B2C marketplaces.
- **Alibaba:** Alibaba is a Chinese world-leading e-commerce, retail, internet and technology company. It has supplying partners worldwide. Those suppliers are business companies.
- **Amazon:** Besides B2C ecommerce, Amazon plays a major role in B2B ecommerce businesses as in the name of Amazon Business.
- **Indiamart:** IndiaMart connects buyers and sellers with their high-quality B2B products like Apparels, Industry Machinery, electrical & electronics, etc.,
- **Slack:** For communication, and sharing of files and documents, many B2B companies use slack.

### 1.3.2 CHARACTERISTICS OF BUSINESS TO BUSINESS (B2B):

- 1) **Custom pricing features:** With a B2C e-commerce website, pricing is usually simple as every customer gets the same price. B2B e-commerce websites, there might be different pricing for different customers. It could be because of the volume of business they do with them, the frequency of orders, or the type of products they buy.
- 2) **Custom Bulk Discount:** Bulk discounts are a common feature of B2B businesses. They are a way of encouraging higher order values and building customer loyalty. They can be based on the quantity or purchase amount.
- 3) **Minimum order quantities:** In addition to policies like discounts for buying in bulk, many B2B stores also operate a minimum order value for all or some of their products. Minimum order quantities are often



essential for managing margins and ensuring that B2B e-commerce company remain profitable.

- 4) **Flexible Payments:** Having flexible payment options is an advisable feature for any ecommerce store, but it is particularly important for B2B businesses. B2B E-commerce company can offer flexible payment option along with selected days credit facility.
- 5) **Omni-Channel Presence:** Scalable, responsive, and fully customized e-Commerce platform solutions including mobile app and website for B2B e-Commerce gives comfort and ease to customer at online store.
- 6) **More business opportunities:** A web store can help strengthen online presence, letting potential clients and resellers find B2B e-commerce Company through search engines.

This is especially effective the company chooses to make its catalog pages public. However, even if it decides to keep catalog private, company can use targeted marketing content (Customers to whom a company wants to direct its marketing efforts and o sell its products and services) in web store to grab the attention of new clients.

- 7) **Fewer customers:** In the B2B e-commerce, there are fewer number of customers. Although the market is small with fewer buyers and sellers, but their orders are big.
- 8) **Stability and Loyalty:** In B2B e-commerce, there is a very stable relationship between buyer and seller that goes for years. Before signing any contract, buyers and sellers both plan their budget, revenues, and rates. When both parties close the deal, then they rely on one another in terms of supplies and payments. So parties are loyal to one another.
- 9) **Lower cost:** In B2B e-commerce, both parties spend a lot of time planning and working on the details. In most cases, the work is done through automation (including order entry, client information provision and customer service) that eradicates the chances of errors and undue expenditure. Therefore, it leaves no room for mistakes and errors. As a result, everything works out as plan without costing any extra expenses. This especially true with ERP-integrated B2B e-commerce.
- 10) **Design easy order system:** B2B companies selling online need to put much effort into designing a website and ordering system that buyers find easy to use. This means presenting product and service information clearly, offering online demos or consultations and using order forms with appropriate options for quantities and any special customization needed.

**11) Reduces Distribution Costs:** B2B transactions reduce marketing and sales costs of the sellers. Eg. A seller need not to advertise heavily to attract customers. Also, the seller need not maintain a large number of sales force and support staff.

**12) Reduces Inventory Levels:** A seller need not maintain large inventory levels in anticipation of demand. The seller can maintain the level of inventory based on the orders received online. Therefore, the cost of maintaining inventory is less.

Also, the buyer need not keep a large amount of inventory. He can order for inventory as and when required. The seller can supply the inventory under the just-in-time model. Therefore the cost of maintaining inventory is also less for the buyer.

**13) Benefit of Negotiation:** B2B permits negotiation between buyer and seller relating to price quantity and other terms and conditions of sale. However, negotiation is not possible in case of B2C model. Negotiation benefits both the parties and therefore, there is higher conversion of sales as compared to B2C model.

**14) Lower Rejection Rate:** Under B2B model, there is lower rejection rate as compared to B2C model. B2B model permits negotiation between the buyer and the seller. Also the sales representatives of the seller meet the buyer with samples and also provide clarifications, whenever required. Therefore, the return of goods is lower in the case of B2B model, which in turn reduces the cost for the seller.

### **1.3.3 B2C (BUSINESS-TO-CONSUMER)**

When a business sells goods or services to an individual consumer online, it is called B2C transaction. Here, the consumer can view details of products online and make purchase decision as per her/ his requirements. E.g. individual buying clothes, shoes, kitchenware, etc. specifically from Amazon or Flipkart. These days, consumer awareness is increasing about B2C e-commerce, because of factors like rapid use of internet facility, computer literacy, revolution in technology, etc.

Further, the Indian market for e-commerce has grown at a fast pace in the past few years due to absence of major entry barriers and presence of few e-tailers (electronic retailers). Omni-Channel retailers such as Shoppers Stop, Reliance, Croma, etc. have also entered the e-commerce field to increase digital footprints.

### **1.3.4 CHARACTERISTICS OF BUSINESS TO CONSUMER (B2C)**

**1) Wide coverage:** B2C e-commerce enables business persons to extend their trade to a large number of consumers by providing them online Global access to their products. It can be said that B2C e-commerce shrunk the world, and the international boundaries do not play any role.

- 2) **Effective promotion:** Compared with the traditional products promotional methods (advertisements in newspapers, on the radio and on hoardings), products can be promoted and advertised in a more innovative and interactive manner with the use of multimedia and animation through B2C e-commerce. Using e-commerce, sellers can promote their products either on their own websites or on social networking sites such as Facebook Twitter and Gmail.
- 3) **Low promotional cost and quick post sales services:** B2C e-commerce benefits businessmen because of its low promotional costs. In addition, it also enables them to provide post-sale services through their registered call centre, which facilitates cheaper and provide faster resolution of complaints compared with traditional post sales services.
- 4) **Consumer friendly payment methods:** B2C e-commerce provides a wide range of payment options such as via debit card, credit card, cash on delivery and Equated Monthly Installments (EMI) schemes, which are consumer friendly. These methods save time and efforts and are also considered safe.
- 5) **Easy access:** Unlike the traditional modes of business, e-commerce provide accessibility to consume around the clock at any time during the day, throughout the year and in all seasons, customer can contact the registered call centre and support centres.
- 6) **Customised goods:** In view of the growing complexities and competition in today's world, custom-made goods have become the need of an hour. In this scenario, e-Commerce has emerged as a boon for businessman, as it allows them to manufacture products according to the individual tastes and preferences of their customers.
- 7) **High rate of return of goods:** B2C E-commerce in India has many first time buyers. This means that they have not yet made up their mind about what to expect from e-commerce websites. As a result, buyers sometimes fall prey to hard sell (Instant placing order for goods by watching advertisement or offers). But by the time the product is actually delivered, they regret and return the goods. Though consumer regret is a global problem, but it is all the more prevalent in a country like India. Returns are expensive for e-commerce companies, as reverse logistics (returning a product to the manufacturer or distributor) create challenges. This becomes all the more complex in cross border e-commerce.
- 8) **Competition:** Due to a variety of benefits offered by e-commerce industry such as global reach, high profitability, zero initial costs, etc. many firms are encouraged to undertake e-commerce business. This has led to increase in competition among the e-commerce marketers especially B2C e-commerce.

Competition is leading to decrease in profitability due to reasons such as aggressive pricing strategies, heavy discounts and offers, free delivery, high commissions to affiliates and vendors during sale period etc. These firms are losing billions to attracting customers.

- 9) **Lower volume per transaction:** Generally, there is lower volume and value per transaction under B2C as compared to B2B model. This is because, the B2C customers purchase goods or services for personal use or consumption, whereas, under B2B the buyers purchase in large quantities for business purpose.
- 10) **Global Reach:** With e-commerce, a company can reach out to the customers worldwide. Unlike physical stores where only a limited number of customers can be served, e-commerce allows firms to deliver products online to customers in any corner of the world.
- 11) **Small Investment:** E-commerce firms do not have to make investment to purchase land or rent or lease space for physical stores. E-commerce is operated online through websites. There are many domains which allow firms to create websites, which is less costly and far more convenient. The marketer has to only create a website to target their customers. Logistic functions can be outsourced by them. It reduces the need to make heavy investments and also provides quick return on investment (ROI) to marketers.
- 12) **Less Operating Costs:** In e-commerce business, there is no need to hire a large number of employees unlike physical stores. It reduces training cost, salaries etc. that have to be paid to employees. Due to opening an online store there is no need of payment of rent, utility bills and other miscellaneous expenses which can be incurred in physical stores. This results into less operating cost of e-commerce firms.
- 13) **Variety of goods:** B2C E-commerce makes a variety of products easily available to customers. They can select products straightforwardly as per their budget and requirements. Details of all the products are available the websites, which makes it easy for customers to select the right product.
- 14) **Discounts and offers:** B2C e-commerce company offers discounts as well as offers such as free gifts, extra quantity, warranty etc. on every purchase.
- 15) **B2C process:** B2C process involves following steps:
  - Registration
  - Information Search
  - Placing order
  - Payment
  - Logistics
  - After-sales Service

### 1.3.5 B2G (BUSINESS-TO-GOVERNMENT)

B2G e-commerce is one where a business sells its product or service to the Government. Here is a government website that opens bids for businesses with an online bidding system. If the business provides an exact product, within the delivery time frame, and under the previous price, then the website awards the contract automatically to the lowest bidder.

Advantages of B2G are that it's easy to start quoting and it's guaranteed that business will get paid in the end.

Disadvantages include low margin sales, intensive documentation and labels.

### 1.3.6 CHARACTERISTICS OF BUSINESS TO GOVERNMENT (B2G)

- 1) **Mainly involved bidding:** B2G models mostly involve bidding for government projects. B2G model enable businesses to bid on government projects or product which government agency or Public Sector Unit in purchase for their organisation. B2G activities are increasingly being conducted via the internet through real-time bidding.
- 2) **Transparency:** B2G model provides transparency in the government contracts with respect to purchases. The government department post tenders in the form of RFQ (Request for Quotation) or RFP (Request for Proposals). The suppliers respond to such proposal. Accordingly, the government department or agency selects the best possible quotation or proposal. Generally, there is less scope for underhand dealings on the part of supplier to get the contracts.
- 3) **Virtual workplace:** B2G website could also support the concept of a virtual work place where business organisations and Government agencies coordinate work on an ongoing project. Typical tasks accomplished on such platform include project progress tracking, project reviews and online meetings.
- 4) **Improved efficiency:** B2G model enables government departments to improve efficiency in procurement and completion of projects. With the help of B2G model, the government agency allocate the project to the most cost efficient supplier (local or International), thereby, reducing cost and delays in completion of the contracts.
- 5) **High value per transaction:** Under B2G model, the value per unit transactions very is high. This is because; the Government departments or agencies require huge purchases. Also, the Government projects are of large size. Therefore, the value per transaction or project is very high.

- 6) **Rules and regulations:** B2G contracts are subject to strict rules and regulations of the government authorities. Violation of rules and regulation would amount to termination of contracts by the government authorities. The business firms securing Government contracts must complete the project as per the rules and regulations.
- 7) **Absence of promotional tactic:** Under B2G contracts, there is absence of promotional tactics on the part of e-suppliers or sellers. The contract is awarded strictly as per the building norms or as per RFQ (Request for Quotation)
- 8) **International coverage:** B2G e-commerce get international coverage. The bidding on the Internet get international coverage. The global firms compete to get government projects or contracts. Therefore, the Government agencies can take advantage of the expertise of internationally reputed organisation in completing the projects.

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## 1.4 CONCEPTS OF OTHER MODELS OF E-COMMERCE

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- 1) **B2B (Business-to-Business):** When a business sells goods and services to another business online, it is called B2B transaction.

In simple, one company will sell products or services to other companies. (i.e.,) wholesale distributors will sell products or services to retailers.

Normally this field includes the selling of goods that are not used by customers. For instance, businesses that manufacture products sold in Walmart stores are operating under a business to business e-commerce model because they are a business selling products to another business.

- 2) **B2C (Business-to-Consumer):** When a business sells goods or services to an individual consumer online, it is called B2C transaction. Here, the consumer can view details of products online and make purchase decision as per her/ his requirements. E.g. individual buying clothes, shoes, kitchenware, etc. specifically from Amazon or Flipkart. These days, consumer awareness is increasing about B2C e-commerce, because of factors like rapid use of internet facility, computer literacy, revolution in technology, etc.

Further, the Indian market for e-commerce has grown at a fast pace in the past few years due to absence of major entry barriers and presence of few e-retailers (electronic retailers). Omni-Channel retailers such as Shoppers Stop, Reliance, Croma, etc. have also entered the e-commerce field to increase digital footprints.

- 3) **C2C (Consumer-to-Consumer):** When consumers sell their own products or services to other consumer, it is called C2C transactions.

Individuals may have new or used products that they sell on eBay to another individual. eBay is a great example of C2C e-commerce because consumers are interested in buying a used product for a cheaper price.

These websites are usually free of cost as they promote products and charge only nominal fees for doing it. Customers can upload images of their old furniture, electronic goods or other things along with description of products and their price. Other customers interested in buying that product can communicate with the seller and place the order.

- 5) **C2B (Consumer-to-Business):** Consumer-to-Business (C2B) is a business model where an end user or consumer makes a product or service that an organization uses to complete a business process or gain competitive advantage. The C2B methodology completely transposes (alters) the traditional Business-to-Consumer (B2C) model, where a business produces services and products for consumer consumption.

Example - To describe this business model we will use YouTube as an example. Popular YouTubers (vloggers) sell their ad spaces to advertisers (Businesses). The YouTuber (vlogger) is also paid to review the product or service through vlog, posts and videos.

- 6) **B2G (Business-to-Government):** B2G e-commerce is one where a business sells its product or service to the Government. Here is a government website that opens bids for businesses with an online bidding system. If the business provides an exact product, within the delivery time frame, and under the previous price, then the website awards the contract automatically to the lowest bidder.

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## 1.5 BUSINESS TO CONSUMER E-COMMERCE PROCESS

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- 1) **Registration:** In order to make a purchase, the user must register on the website by providing all necessary information for billing and shipping purposes. It also enables a firm to send updates and various offers to their customers. The information required for the registration process includes name, address, contact details, an alternative to the contact number, Email-ID and other relevant data of the customer. The system followed for the registration and shopping may vary from firm to firm. Further, all the data of customers is stored on a database of the e-commerce firm.
- 2) **Information Search:** After registration, users can surf for information about the product which they desire to purchase. They can compare different products before finalising what they wish to purchase. On

some e-commerce websites, information search can be made first, and registration can be done at the time of purchasing a product.

- 3) **Placing order:** The customer adds the product in shopping cart. Shopping cart is a tool which, like online basket, allows users to select products they want to purchase and then add them in their cart. After all the products are selected, the user can have a look at the number and types of products purchased by her/ him and also add or delete products as per their requirements.

After finalizing goods to be purchase, the buyer can place the order. On receipt of the order, the seller processes the order. The seller must undertake proper order management for timely delivery of product.

- 4) **Payment:** After selecting products for purchase, the next step is to select payment options. The variety of payment options offered are cash on delivery, debit/credit card, net banking, payment by apps, etc. Customers can select any mode of payment as per their convenience and suitability.
- 5) **Logistics:** After the payment processing is done, logistics function comes into the picture for delivery of the product. This involves order processing, packaging, transportation, tracking of product, etc. It ensures timely delivery of product to the customer at his/her doorstep. E-commerce firms need to make proper arrangement of logistic activities so that the right product is sent to customers on time. Delay in delivery of products can result in customer dissatisfaction.
- 6) **After-sales Service:** After timely delivery of products to customers, the firm undertakes after-sales service wherein it takes customer feedback about delivery, quality, services, overall experience, etc. The firms also make service calls in case of durable products. They solve the queries of customers and provide information about latest offers and other products via e-mail, calls and SMS. This allows the e-commerce firms to maintain long-term relationship with customers and increase customer loyalty

### 1.5.1 NEED AND IMPORTANCE OF BUSINESS TO BUSINESS E-COMMERCE

Answer same as “**Characteristics of Business to Business (B2B)**”  
(Refer point no. 6 to 14)

### 1.5.2 ALTERNATIVE MODELS OF B2B E-COMMERCE

- 1) **Customer-Centric Model:** In this model the company prefers to establish a long term profitable relationship with the customers even after the sale. The value of the customer remains the same; it doesn't change after the transaction. When customers are the main focus of the business, then they would have a great influence over the branding and other operations of the company.



Amazon and Flipkart are the two major examples of e-commerce businesses, and they follow the customer-centric model. It took them years to develop reliable and trustworthy relations with their customers, and they are also loyal to their brand.

- 2) **Buyer Centric Model:** In this model, there are few buyers and many suppliers. The buyer has his/her own online marketplace.

This model is mainly used among the big corporate companies as they have a higher rate of purchases. Here the buyer sets a portal where the sellers quote their price. The sellers approach the buyer with different quotations. It is the buyer's call to choose the most suited company regarding its specifications and budget.

Walmart is the best example of the buyer-centric model because it has a shopping mall across the world. Every branch of Walmart has different and multiple suppliers. However, different suppliers approach the company and bid, and the best bidder becomes the supplier of the company.

- 3) **Supplier centric Model:** In this type of model, there are many buyers and few suppliers. The supplier provides a common marketplace. This market is used by both individual customers as well as businesses. For the success of this model, goodwill in the market and a group of loyal customers is very important.

A successful example of this business model is Cisco. Cisco owns an online marketplace which goes by the name of Cisco Connection Online. In 1997 Cisco sold US\$1 billion worth of network products such as routers and switches to business customers.

- 4) **Intermediary Centric Model:** In this type of model, there are many buyers and many suppliers. This model provides a common platform for both the sellers and buyers to interact and transact with one another. This common platform is formed by the intermediaries. In return, the intermediaries get their fair share as commission from the parties that are involved.

Customers can't check out all the products in the digital market. But this intermediary provided platform is a great place to check out all the products.

For instance, eBay and OLX provides a platform where seller can connect over with potential buyers for product or service. They agree to the terms of the commission that these third-party vendors would charge. For every transaction made or sale happened, the intermediate earns a certain sum of money.

- 5) **Managed B2B Model:** This model is a platform where the company outsources its entire B2B process requirements to an outside service

provider and benefits by lowering the resource needs. This also cuts down the additional costs and complications of the process. The model works on a system that lets the Service Provider receive the business documents through a direct medium of your ERP system.

The service provider would perform activities like translation, mapping, tech support, document tracking, and data center operations.

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## 1.6 E-COMMERCE SALES PRODUCT LIFE CYCLE (ESLC) MODEL

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Every business including e-commerce goes through different stages of life cycle similar to human life cycle. Each stage poses a different challenge and therefore, there is need to adopt different approach or strategy to face that challenge.

The different phases of e-commerce sales life cycle (ESLC) are explained as follows:

- 1) **Seed (Development) Stage:** At this stage entrepreneur generates idea to set-up e-commerce business. This stage involves the birth of new business. So there is **no sales taking place**. The e-commerce marketer needs to design an attractive website and complete formalities for starting the e-commerce business.

At this stage e-commerce marketer may face challenge of market acceptance. Therefore, e-commerce marketer needs to focus on niche market (small market with one product category).

The marketer needs focus on business opportunity which matches with the skills, experience and passion of the entrepreneur.

- 2) **Start-up (Introductory) Stage:** At this stage the e-commerce business begins to operate. **Sales starts taking place at slow pace**.

At this stage the e-marketer may face challenge of cash flow crisis because of the set-up costs and unexpected expenses. Generally, at this stage, the firm may have break-even (no profit and no loss)

The marketer needs to focus on establishing a customer base and market presence.

- 3) **Growth Stage:** At this stage there may be a **sharp increase in sales**. The e-marketer may start to gain profits. The e-marketer may cater to a larger market area and sell new product categories.

At this stage, e-marketer may require more funds and human resources to support the increased sales volume. Therefore, marketer needs to raise finance from right source as well as train human resources to handle sales activities.

The marketer needs to focus on maintaining and enhancing customer relations. They should undertake promotion activities to gain competitive advantage. Customer feedback and review must be monitored effectively.

- 4) Establishment (Maturity) Stage:** This is the highest level of sales growth and there is no further increase in the sales. In other words, **sales growth is stable** at this stage.

At this stage, e-marketer may face the challenge of changing customer taste which may adversely affect the sales of the firm.

The marketer needs to focus on maintaining and enhancing customer loyalty.

- 5) Decline Stage:** At this stage **sale starts declining**. The profit also starts falling.

At this stage, e-marketer may face the challenge of changing business environment such as competition, economic condition, customer preferences etc.

The marketer needs to search new business opportunities and they should cut down the costs.

- 6) Exit Stage:** When efforts to revitalize the sales and profit fail, the e-commerce marketer may sell business to third party or close down the business.

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## 1.7 SUMMARY

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In this unit you studied 'concept of e-commerce' in detail. E-Commerce refers to buying and selling of goods and services over the internet.

It involves technology-enabled transactions. It enables seller to expand his business and approach his prospect worldwide. It enables buyer to select the product of his/her choice from the wide variety available depending on his/her budget. E-Commerce may also have some limitations in terms of speed and availability of internet and also attitude of Indian people towards is yet to be completely positive.

E-commerce is classified as B2B, B2C, C2B, C2C and B2G models. E-commerce Sales Product Life Cycle (ESLC) Model includes 6 stages such as Seed (Development) stage, Start-up stage, Growth Stage, Established (Maturity Stage), Decline Stage and Exit Stage.

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## 1.8 EXERCISE

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### FILL IN THE BLANKS

- 1) \_\_\_\_\_ refers to the buying and selling of goods or services using the internet, and the transfer of money and data to execute these transactions. (**E-Commerce**, E-mail, Establishment)
- 2) In E-commerce, \_\_\_\_\_ sector is leading. (Gold, Vehicles, **Electronics**)
- 3) \_\_\_\_\_ became the first service to offer electronic mail capabilities and technical support to personal computer users. (Hathway, **CompuServe**, Jio)
- 4) During the 1990s, \_\_\_\_\_ became the primary web browser on the Windows platform, before the rise of modern giants like Google. (Mozilla Firefox, **Netscape Navigator**, Apple Safari)
- 5) \_\_\_\_\_ emerged as a successful online auction website, debuting in 1995. (**eBay**, Jabong, Myntra)
- 6) In 1998, \_\_\_\_\_ launched a global e-Commerce company that offered payment processing for online vendors and other commercial users. (**PayPal**, Amazon Pay, Beacon Payment)
- 7) \_\_\_\_\_ was introduced as a way for e-commerce businesses to advertise to people using Google search. (Hoardings, **Google Adwords**, Point of Purchase)
- 8) E-commerce offers \_\_\_\_\_ benefit to the firm. (**Less Operating Cost**, Limited area coverage, No competition)
- 9) E-commerce firm faces \_\_\_\_\_ challenge. (No return of goods, strong internet connectivity in rural areas, **Payment gateways have a high failure rate**)
- 10) \_\_\_\_\_ is one of the e-commerce business strategies. (**Search Engine Optimization**, Trade Fair and Exhibitions, Window Shopping)
- 11) \_\_\_\_\_ is an example of B2B e-commerce model. (Olx, first cry.com, **Walmart**)
- 12) \_\_\_\_\_ is one of the characteristics of B2C e-commerce model. (Fewer Customers, Bulk Discounts, **Lower volume of purchase**)
- 13) B2G stands for \_\_\_\_\_ (**Business to Government**, Business to Group, Business to Gate)

**TRUE OR FALSE**

- 1) Jeff Bezos founded Amazon in 1994. **TRUE**
- 2) In 2017, Stripe entered into the e-Commerce with shoppable posts. **FALSE**
- 3) E-commerce provides variety of goods the customers. **TRUE**
- 4) In India, E-commerce does not face challenge of return of goods by customers. **FALSE**
- 5) Influencer Marketing refers to e-commerce marketer uses influencers (who are non-celebrity individuals with a large following on social media platforms) to influence purchase decision of their audience. **TRUE**
- 6) When a business sells goods and services to final user of the product online, it is called B2B transaction. **FALSE**
- 7) B2B permits negotiation between buyer and seller relating to price quantity and other terms and conditions of sale. **TRUE**
- 8) B2G models mostly involve bidding for government projects. **TRUE**
- 9) OLX is an example of B2G e-commerce model. **FALSE**
- 10) At growth stage of E-commerce sales product life cycle (ESLC) model, the sales always starts declining. **FALSE**

**MATCH THE PAIRS**

<b>Group - A</b>	<b>Group – B</b>
1) Amazon Prime	a) Sponsored Stories
2) Facebook Advertising	b) B2C E-commerce company
3) E-Learning	c) Customers get free two-day shipping for a flat annual fee
4) Affiliate Marketing	d) Learning Management System (LMS)
5) Flipkart	e) E-Commerce Business Strategy

**(1-c, 2-a, 3-d, 4-e, 5-b)**

**ANSWER IN BRIEF**

- 1) Write a note on History/Evolution of E-Commerce.
- 2) Explain roadmap of e-commerce in India.
- 3) What are the main activities involved in e-commerce.
- 4) Discuss different functions of E-commerce
- 5) Describe scope of e-commerce.
- 6) Explain the benefits of e-commerce.

- 7) Highlight the challenges faced by e-commerce.
- 8) Write a note on 'E-commerce business strategies for Marketing, Sales and Promotions'
- 9) Discuss the characteristics of B2B model of e-commerce.
- 10) Write the characteristics of B2C model of e-commerce.
- 11) Bring out the characteristics of B2G model of e-commerce.
- 12) Write note on other models of e-commerce
- 13) Elaborate process involved in B2C e-commerce.
- 14) Describe need and importance of B2B e-commerce.
- 15) What are the alternative models of B2B E-commerce
- 16) Write a short note on E-Commerce Sales Product Life Cycle (ESLC) Model.



## WORLD WIDE WEB AND E-ENTERPRISE

### Unit Structure

- 2.0 Objective
- 2.1 World Wide Web (WWW)
- 2.2 Electronic Data Interchange (EDI)
- 2.3 Applications of E-Commerce and E-Enterprise
- 2.4 Managing The E- Enterprise
- 2.5 E-Organisation
- 2.6 Summary
- 2.7 Exercise

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### 2.0 OBJECTIVE

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After studying this unit the student will be able to -

- Understand the concept world wide web
- Know about the electronic data interchange
- Find out the application of E- Commerce and E- Enterprise
- Understand the managing the E- Enterprise
- Know the E- Organisation

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### 2.1 CONCEPT OF WORLD WIDE WEB

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**World Wide Web** was created by **Timothy Berners Lee** in 1989 at **CERN** in **Geneva**. World wide web came into existence as a proposal by him, to allow researchers to work together effectively and efficiently at CERN. Eventually it became World Wide Web.

W3 is an information space where documents and other web resources are identified by URIs, interlinked by hypertext links, and can be accessed via the internet. It has become known simply as the Web. Hypertext documents are commonly called web pages, which are primarily text documents formatted and annotated with the Hypertext Markup Language (HTML).

Webpages may contain links to images, video and software components that are rendered to users of a web browser application. It is to be noted that all internet servers are part of the World Wide Web.

The World Wide Web has been central to the development of the **Information Age** and is the primary tool which billions of people use to interact on the internet. The terms **Internet** and **World Wide Web** are often used without much distinction. The two are not the same. The internet is a global system of interconnected computer networks. In contrast, the World Wide Web is a global collection of documents and other resources linked by **Hyperlinks and URLs**.

A particular collection of web pages that belong to a specific URL is called a website, e.g.,

www.facebook.com, www.google.com, www.gmail.com etc. In the early 1990s, using a browser to view web pages and to move from one page to another through hyperlinks came to be known as “web browsing, ‘or’ web surfing.”

The World Wide Web has evolved from simple file sharing initiative to become a place where people go daily to share information, transact business, conduct financial transactions and a host of other activities.

From modest beginnings in the late 1980's the World Wide Web has continued to evolve. Early uses of the web were from companies that used the net as a place to have an electronic version of their business offerings. These electronic brochures were handy since you now could have access to information without having to physically go to the business.

Over the years, the web started to have more practical uses. Business started to use it as a place where they could interact with potential customers and eventually conduct sales through the web. Consumers started to enjoy the convenience of shopping online as opposed to going to retail locations. With the added convenience and not having to have a physical storefront, e-commerce companies thrived because they offer goods and services at lower price. Therefore, e-commerce is very much suitable to the large number of customers relate to time consumption is possible and variety of goods and services are easily available under one roof.

A few years back, social media and networking has become popular. Sites continue to come on the scene where people can interact with each other either for personal or business purposes. Social media sites such as Facebook, Twitter, LinkedIn, and others have enjoyed tremendous popularity.

### **2.1.2 REASONS FOR BUILDING OWN WEBSITE**

Now a days, running a business without a website is highly impossible. It is almost a necessity to develop and manage own website for business growth, expansion, modernization, development. For a



business organisation, there are no. of reasons to build one's own website.

**1. A website Instantly Showcases Work or Talent:** - Any type of creativity can be displayed on a website. Your online portfolio can include everything in one place, where it is your writing, artwork, photograph, clothing, or any product. As an artist, there are many perks to a website, and you don't have to be an internet expert to get started.

**2. Your Employment Potential May Increase:** - Prospective employers often assess candidate by what is on their website. The quality of your content and portfolio makes an impression that can get you hired. Whether you are looking for work or would like to someday switch jobs, think ahead, because building your own website may lead to opportunities you never expected.

**3. You Can Be an Instant Entrepreneur:** - With the help of a Website, you can effectively run a small business. Using your, website, you can also:

- Promote products and services to millions of people worldwide.
- Impress prospects and clients with your knowledge.
- Compete with large businesses in your market.
- Collect profits from the services you provide.
- Communicate with customers, gauge their satisfaction, and help meet their needs.

**4. Knowledge Can Be Expanded:** - Content is still an important aspect of any website. Adding great content means you may write about unfamiliar topics, which is effective for learning.

**5. Reflects Creativity:** - A website can reflect creativity of the personnel of the firm. An innovatively designed website may make people to appreciate the creativity and imagination of the website designer. Advertising agencies, consultants, and such other service providers must design their websites in a creative manner to create a good impression on the viewers or audience.

**6. Promote Your Blog:** - A website is the perfect medium for integrating a blog. If the template supports frequent updates, blog entries can be added directly. Having your own blog will also, improve writing skills, have better listings on Google, help other people with your knowledge, serve as a self-promotional tool, enable communication with friends , family , and colleagues , help potential clients learn about business , get your voice heard, which can influence change.

**7. Corporate Image:** - A business firm having its own website can enhance its image in the minds of various stakeholders such as shareholders, customers, employees, suppliers, dealers, and others. For

example, a company can provide information on its financial performance on the website, and its plans, which may be useful to the shareholders. Also, when a company provides instant information in response to a query from the customers may enable a firm to develop a good image in the minds of customer.

**8. Convenience to Customers:** - A Website provides convenience to the customers for interacting with the firm also for transacting business. For example, in the case of air-travel or hotel booking, a customer can directly book the air tickets or hotel room on the company's Website or through an agent online. The customers can save lot of time, effort and even money in transacting business with the firm. A website may enable a firm to generate customer loyalty.

A website also provides accessibility of information to the customers at any time. An online site can be visited at any time of the day or night or even on a holiday. People may prefer to visit the website for information rather than going to the physical premises of the business firm for information.

**9. Tie-ups:** - A website may enable a firm to get suitable tie-ups from local or international firms. Based on website information, a firm seeking a tie-up approach the website owner for a tie-up. It is up to the website owner to accept or reject such a proposal from the other firm. Nowadays, in this competitive world, it may make sense to enter a tie-up with another firm to remain competitive and for growth and expansion.

**10. Competitive advantage:** - A company may provide relevant information about its products on the website with reference to price, features, after sale service, warranty, and other relevant information. The prospective customer compares this information with that of the competitors and therefore, making a proper choice. Thus, a website which provides relevant information enables a firm to face competition in the market

### **2.1.3 BENEFITS OF WEBSITE**

In this digital age, a business firm cannot do without a website. A business firm needs to develop, maintain, and manage one's own website, as there are several benefits or advantages.

**1. Online Presence 24/7:** - Having a website means customers are always able to find business firm anytime, anywhere. Even outside of business hours, the website continues to find and secure new customers. It offers the user convenience as they can access the information they need in the comfort of their own home, with no added pressure to buy. Plus, as most companies nowadays have their own website.

**2. Information Exchange:** - A website provides a quick and easy way of communicating information between buyers and sellers. A business firm can list opening hours, contact information, show images of location or products, and use contact forms to facilitate enquires from potential customers or feedback from existing ones. Business firm can even upload promotional videos to really engage the customers and sell the business in an effective and most efficient way. This is also a good way to promote social media channels and build up a community with the customer.

**3. Credibility:** - In today's modern world, there is an expectation for any reputable company to have online presence. Potential customers would likely be distrusting of any business that didn't have a telephone number or a physical address, and the same can be said for not having a website and email address. Easy to use website makes customers feel comfortable using the services, as customer will assume, they can expect the same positive experience in all areas of business firm.

**4. Market Expansion:** - Business firm's site is accessible to anyone all over the world, e.g. (Myntra, Amazon, Snapdeal, Shop clues, eBay), the ability to break through geographical barriers has never been easier. Anyone, from any country, will be able to find the company and as such, is now a potential customer.

**5. Advertising:** - Tools like Google AdWords or advertising on Facebook give the power to reach customers with much more accuracy and reliability than with traditional offline advertising methods. SEO and online advertising are a great way to help build up awareness, if it correctly done traffic to business website can see an increase. Be the first company that a potential new customer sees when searching for a specific product or service online and use website's contact page or e-commerce features to make purchasing a product or finding a retail outlet easier than ever before.

**6. Organisational Objectives:** - With the help of website, a business firm can provide convenience to the customers, and therefore, the firm gets a greater number of customers, which in turn helps the firm to achieve its organisational objectives such as:

- Increase in sales.
- Increase in market share.
- Increase in profits.
- Growth and expansion of business, etc.

**7. Benefits to Online Sellers:** - There are several benefits of a website to online sellers, which are as follows:

- Global reach
- Audience Sizing
- Lower Investment
- Lower Risks, etc.

**8. Customer Reviews:** - Website can provide a good learning experience to the website owner. For example, a business firm may request its customers to write a review of its products 'or service performance. The product reviews can a good learning experience to the business firms, thereby, making product or service modification to satisfy the customers.

**9. Tie-ups:** - A website may provide an opportunity to the business firm for a tie-up with another firm. The tie-up may be in respect of R & D, logistic, after-sale-service, etc. The website information may generate a proposal to the business firm for a possible tie-up. The business firm may either accepts or reject the same. If business firm accepts the proposal for tie-up, it may enable the firm to grow and expand the business.

**10.Links:** - A website may get the business firm to get links to other websites. Links are especially vital to viral marketing. When several sites are linked to the website of the firm, the word about the company gets spread quickly throughout the globe. Therefore, it is advisable to develop a website with good content. Others may recognise this vital content, and therefore, they may link their website to the website of the business firm.

**11. Cost Reduction:** - Website can help to reduce certain costs. For example, website enables a business firm to feature an electronic version of product catalogue, with no limit on size. Because website space is significantly less costly than a printed catalogue, one can even provide additional product photos and descriptive text. Errors and typos can be quickly corrected without ordering a full reprint of the catalogue, and products can be added or removed as needed.

**12. Growth opportunity:** - Websites, in general, are great ways to in providing a place that potential investors can be referred to. It shows what the company is about, what it has achieved and what it can achieve in the future.

**NOTE TO STUDENTS:** - From a business point of view- The reasons for building own website are to attain benefits or advantages of website. Therefore, the two topics – Reason to build own website and benefits of website are more or less one and the same.

#### **2.1.4 REGISTERING A DOMAIN NAME**

Domain name is used to identify IP (Internet Protocol) address. Domain name is used in URL to identify webpage. Domain name provides an easy way to remember internet address which is translated into its numeric address (IP address) by the domain name system (DNS).

It is the unique address of a computer on the internet, which is made up of three parts:

- 1) Name of the entity,
- 2) Type of the entity
- 3) Entity's geographical location.

For example: The domain name of Department of Electronics and information Technology, Government of India: [www.deity.gov.in](http://www.deity.gov.in)

## PROCEDURE FOR REGISTRATION OF A DOMAIN NAME

1. STEP 1: - Use the search function to verify that the Domain Name(s) you did like is / are available.
2. STEP 2: - Select the Domain Name(s) you want to Register.
3. STEP 3: - Setup your Account Control Panel by entering a Username and Password.
4. STEP 4: - Select the number of years you want to register.
5. STEP 5: - Enter information to register your ownership of the domain name(s); click on “continue”.
6. STEP 6: - Review your contact information. If the same information is to be used for the technical, Administrative and Billing Contacts, nothing further needs to be done. However, if there is different person to be listed as the technical, administrative and or Billing Contacts, click on that title to enter their information. If these are not changed, the registrant (owner) will be listed as all contacts. Click on “continue”.

**1. Domain Name:** - The domain name or the web site name is the most important step for the website. It should be easy and simple and should be easy to type. The domain name ([www.deity](http://www.deity)) along with the extension (. gov.in) creates the URL. So, it is better that domain name can be easily spelled by anyone and also can be easily typed in the search engine browser.

**2. Identify Registrar:** - The registrar must be accredited by ICANN. The internet corporation for Assigned Names and Numbers (ICANN) is a non-profit organization that is responsible for coordinating the maintenance and procedures of several databases related to the namespaces of the internet, ensuring the network's stable and secure operation. There are various domain registrars in India such as

- Big Rock
- GoDaddy
- Crazy Domains
- I page
- Zentlive
- Hosting Raja, etc.

Some registrars do not charge for registration and they also do not charge for monthly maintenance fee. There are others who charge for registration about Rs.200 to Rs.600. They also charge monthly maintenance fees which may range from Rs.69. Some charge different rate for .in domain,.com domain, and .net domain.

3. Search for Domain Name on Registrar's Website: -Once the domain name registrar is short listed, the registrant needs to do a search for the domain name on the registrar's website.

4. Submission of information to Registrar: - The registrant needs to submit the following information to the registrar: -

- The desired domain name
- The name and contact information (including email address, physical address and contact phone number) for the domain registrant, administrative and billing contacts.
- The desired domain registration term/period.

5. Verification by the Registrar: - The domain name registrar verifies the information submitted by the registrant. After verification, the registrar will then initiate the domain name registration process. The registrar sends the domain name request to the registry. The registrars are responsible for processing the registration of the domain name, whereas, a registry operator, sometimes called a **network information center (NIC)** maintains all administrative data of the domain and generates a zone file which contains the addresses of the name servers for each domain.

6. Submit an Authorization Letter: - In the case of.in. domain name registration, the registrant must submit an authorization letter at the earliest but not later than 30 days of completing the online registration. The authorization letter must be sent to the GOV.IN Domain Registrar, New Delhi. The authorization letter must be submitted to the following address:

To,  
GOV.IN Domain Registrar,  
National Informatics Centre (NIC),  
Ministry of Electronics and Information Technology  
A-Block, CGO Complex,  
Lodhi Road,  
New Delhi: - 110003  
Fax: +91-11-24368854

7. Registration of Domain Name: - The registry files the contact information for the WHOS. The registry also adds the domain zone files of the registrant to the master servers. These master servers tell other servers on the internet where the registrant's website is stored. The domain name is registered and ready-to-use when all information has been updated.

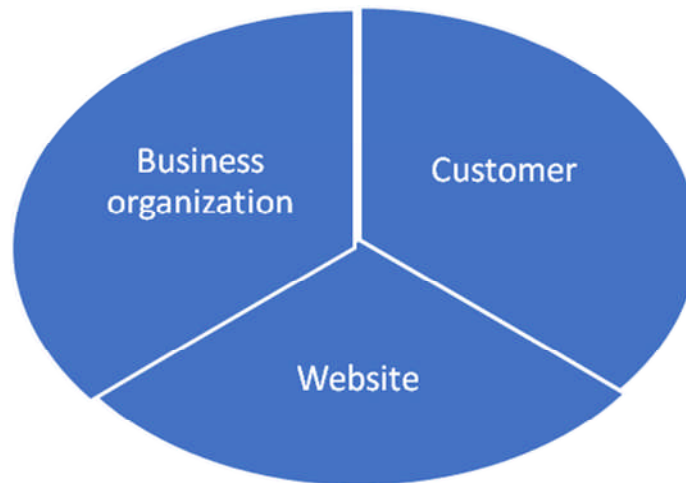
8. Payment to the registrar: - After registration, the registrant makes the payment to the registrar. Digital payment is made either with debit/credit card or any other digital mode of payment. The registrant is also required to make payment of monthly fees to the registrar. As per

the present policy, there is no fee for the domain name registration under **GOV.IN**.

NOTE: -Significance/Importance of Domain Name Registration- Refers to benefits of website.

### **2.1.5 ROLE OF WEBSITE IN B2C E-COMMERCE**

B2C e-commerce cannot operate without a website. The website is a must for any business firm that sells online to the customers. The website plays an important role to the online buyers as well as to the online sellers.



In the B2C model, a consumer goes to the website, select a catalogue, orders the catalogue, and an Email is sent to the business organization. After receiving the order, goods are dispatched to the customers. Following are the key features of the B2C model-

- Heavy advertisement required to attract the customers
- High investment in terms of hardware/software.
- Support or good customer care service.

#### **Consumer Shopping Procedure**

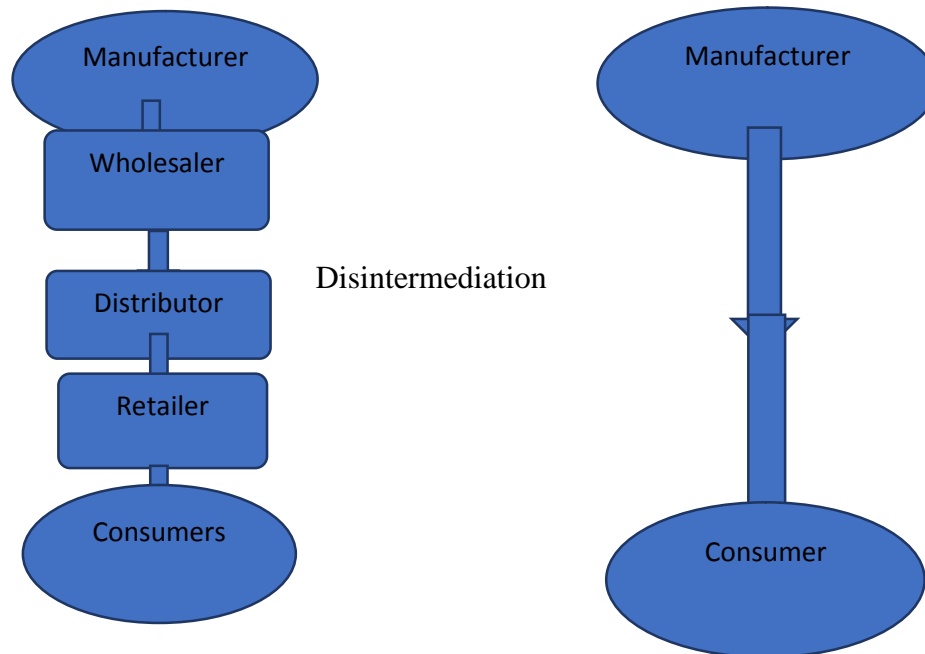
Following are the steps used in B2C e-commerce-

A Consumer –

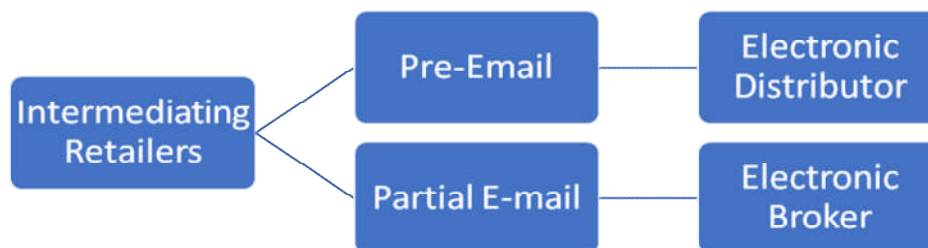
- Determines the requirement
- Searches available items on the website meeting the requirement.
- Compares similar items for price, delivery date or any other terms.
- Places the order.
- Pays the bill.
- Receives the delivered item and review/inspect them.
- Consults the vendor to get after service support or returns the product if not satisfied with the delivered product.

### **Disintermediation and Re-intermediation:**

In traditional Commerce, there are intermediating agents like wholesalers, distributors and retailers between the manufacturer and the consumer. In B2C websites, a manufacturer can sell its products directly to potential consumers. This process of removal of business layers responsible for intermediary functions is called disintermediation.



Nowadays, new electronic intermediary breeds such as e-mail and product selection agents are emerging. This process of shifting of business layers responsible for intermediary functions from traditional to electronic medium is called re-intermediation.



### **PUSH AND PULL APPROACHES**

Promotional strategy is to get our product or service to market can be roughly divided into two separate camps.

1. **PUSH STRATEGY:** - A push promotional strategy involves taking the product directly to the customer via whatever means, ensuring the customer is aware of the brand at the point of purchase.



### **“Taking the product to the customer”.**

Examples of Push Approach: -

- Trade show promotions to encourage retailer demand
- Direct selling to customers in showrooms or face to face
- Negotiation with retailers to stock the product
- Efficiency supply chain allowing retailers an efficient supply
- Packaging design to encourage purchase
- Points of sale displays.

2. PULL STRATEGY: - A pull strategy involves motivating customers to seek out the brand in an active process.

### **“Getting the customer to come to you.”**

Example of Pull Approach: -

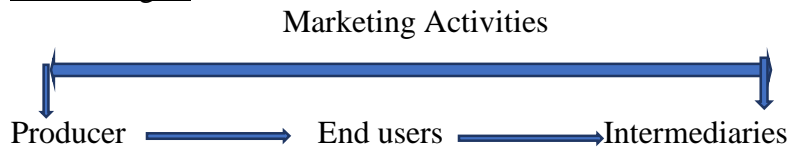
- Advertising and mass media promotion
- Word of mouth referrals
- Customer relationship management
- Sales Promotions and discounts

### Pull and Push Promotional Strategies

Push strategies: -

Producer → Intermediaries → End User.

Pull strategies: -



### **PUSH STRATEGY/ APPROACH: -**

- The term ‘push strategy’ describe the work a manufacturer of a product needs to perform to get the product to the customer.
- This may involve setting up distribution channels and persuading middle men and retailers to stock your product.
- The push techniques can work particularly well for lower value items such as fast-moving consumer goods (FMCG). When customers are standing at the shelf ready to drop an item into their baskets and are ready to make their decisions on the spot.
- This term now broadly encompasses most direct promotional techniques such as encouraging retailers to stock your product, designing point of sale materials or even selling face to face.
- New businesses often adopt a push strategy for their products in order to generate exposure and a retail channel. Once the brand has been established, this can be integrated with a pull strategy.

### **PULL STRATEGY / APPROACH: -**

- ‘Pull strategy’ refers to the customer actively seeking out your product and retailers placing orders for stock due to direct consumer demand.
- A pull strategy requires a highly visible brand which can be developed through mass media advertising or similar facts. If customers want a product, the retailers will stock it-supply and demand in its present form, and this is the basis of a pull strategy. Create the demand and the supply channels will almost look after themselves.
- A successful strategy will usually have elements of both the push and pull promotion methods. If we want to starting a new business and intend to sell a product through retailers, we will almost certainly need to persuade outlets to purchase and stock our product.
- We will also need to raise brand awareness and start building valuable word of mouth referrals. If we have designed a product around the customer and have considered all elements of the marketing mix, both of these aspects should be achievable.

### **2.1.6 PRINCIPLES OF WEBSITE DESIGN: -**

Usability and the utility determine the success or failure of a website. Content is more important than the design which supports it.

While the look and feel of the website is important, most visitors are more concerned to find certain information which they consider important. Therefore, the website must be user-centric.

The following are some of the guidelines or Principles of website designing.

**1. Simple is the Best: -** The Over-Designed website may not work. Putting too many elements on the page may lead to distracting visitors from the main purpose of the website. Simplicity always works in an effective web page design. Clean and fresh design of website not only makes the website appealing but also help the user to navigate from one page to another seamlessly. Loading a website having design features that do not serve the purpose may be frustrating. Keep website design as simple as possible so that the visitors can feel it easy-to-use and can find their ways easily.

**2. Consistency: -** Consistency in website design matter a lot. Give attention to match design elements throughout each of the pages. It can be understood that your fonts, sizes, headings, sub-headings, and button styles must be the same throughout the website. Plan everything in advance. Finalize the fonts and the right colours for your texts, buttons, etc, and stick to them throughout the development. CSS (Cascading Style

Sheet) would come in handy to keep the complete information about design styles and elements.

**3. Typography:** - Text is the more important element of website design. There certain factors need to be considered while designing website:

- **Font selection:** - Different types of fonts say different things about a design. Some look modern such as Times Roman or Georgia, some look retro such as Monotype Corsiva or MS Mincho. At times, Italic and Bold Variations of the font may be used. Make sure you are using the right font for your website.
- **Font Sizes:** - Make sure Your text sizes are consistent, large enough to be read. The font size should not be less than 12 size for easy reading. Larger font sizes (18 font size or so) may be used for headings, and for copy text (12 to 14 font size will do). A common recommendation is to use a maximum of three different typefaces in a maximum of three different sizes.
- **Spacing:** - Spacing between lines and away from other objects is important to consider. Blank or white space is required between elements.
- **Line Length:** - Generally, your lines of text shouldn't be too long. The longer they are, the difficult they are to read. Small columns of text are much better.
- **Colour:** - There is a need to have proper colour contrast. The colours that you use on the website must match with the type of your product, and also the colour which your target audience may like. Educated and upper income group audience may prefer lighter shades of blue, green and so on.
- **Paragraphing:** - Preferably justify the text to have a balanced look. At times, one may adopt only left-aligned justification.

**4. Mobile Compatibility:** - Keeping in mind the ever-growing usage of smart phones, tablets, and phablets, web design must be effective for various screens. If your website design doesn't support all screen sizes, the chance is that you will lose the battle to your competitors. There are a number of web design studios or service points from where you can turn your desktop design into a responsive and adaptive one for all screen sizes.

**5. Colour Palette and Imagery:** - A perfect colour combination attracts users while a poor combination can lead to distraction. This necessitates you to pick a perfect colour palette for your website which can create a pleasing atmosphere, thus leaving a good impact on visitors. Enhance user's experience by selecting a complementary colour palette to give a balanced-look to your website design. Remember to use white spaces as they avoid your website from visual clutter and mess. Also, avoid using too many colours. 3 or 4 tones for the whole website are

ample to give an appealing and colour design. The same is the case with images. Don't use multiple vibrant images.

**6. Easy Loading:** - No one likes the website that takes too much time to load. So, take care of it by optimizing image sizes, combining code into a central CSS or JavaScript file as it reduces HTTP requests. Also, compress HTML, JavaScript, and CSS for enhanced loading speed.

**7. Easy Navigation:** - Study shows that visitors stay more time on the websites having easy navigation. For effective navigation, you may consider creating a logical page hierarchy, using bread crumbs, and designing clickable buttons. You should follow the “**three-click-rule**”

So that visitors can get the required information within three clicks.

**8. Communication:** - The ultimate purpose of the visitors is to get information, and if your website is able to communicate your visitors efficiently, most probably they would spend more time on your website. Tricks that may work to establish effortless communication with the visitors are- organizing information by making good use of headlines and sub-headlines, cutting the waffle, and using bullet points, rather than long complicated sentences.

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## **2.2 CONCEPT OF ELECTRONIC DATA INTERCHANGE (EDI)**

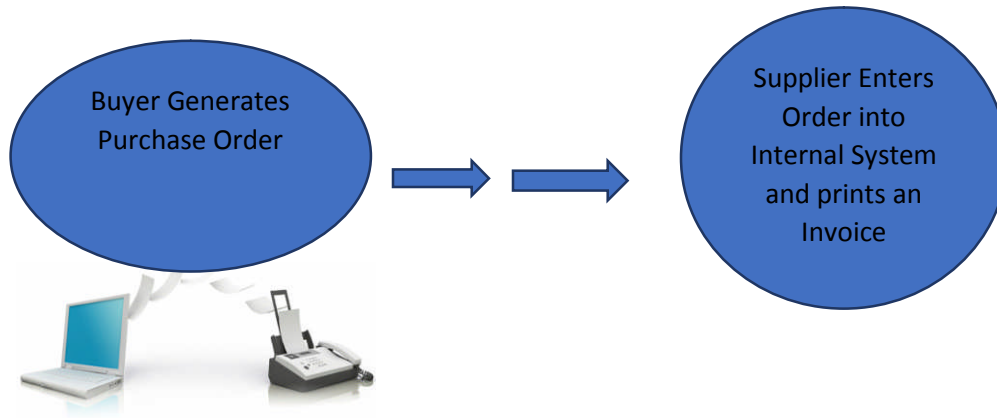
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Electronic Data Interchange (EDI) is the computer-to-computer exchange of business documents in a standard electronic format between business partners.

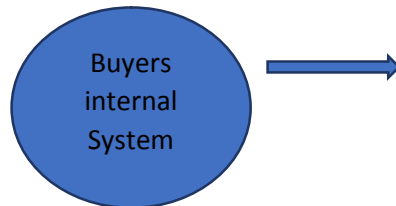
By moving from a paper-based exchange of business document to one that is electronic, businesses enjoy major benefits such as reduced cost, increased processing speed, reduced errors and improved relationship with business partners.

### **Computer-to-Computer: -**

Computer-to-computer EDI replaces postal mail, fax and email. While email is also an electronic approach, the documents exchanged via email must still be handled by people rather than computers. Having people involved slows down the processing of the documents also introduce errors. Instead, EDI documents can flow straight through to the appropriate application on the receiver's computer and processing can begin immediately. A typical manual process looks like this, with lots of paper and people involvement:



The EDI process looks like this – no paper, no people involved:



#### **Business Documents: -**

These are any of the documents that are typically exchanged between businesses. The most common documents exchanged via EDI are purchase orders, invoices and advance ship notices. But there are many, many others such as bill of lading, customs documents, inventory documents, shipping status documents and payment documents.

#### **Standard Format: -**

Because EDI documents must be processed by computers rather than humans, a standard format must be used so that the computer will be able to read and understand the documents. A standard format describes what each piece of information is and in what format. Without a standard format, each company would send documents using its company-specific format and, much as an English-speaking person probably doesn't understand Japanese, the receiver's computer system doesn't understand the company-specific format of the sender's format.

#### **There are several EDI standards in use Today,**

- Including ANSI, EDIFACT, TRADACOMS and ebXML .and for each standard there are many different versions. E.g. ANSI 5010 or EDIFACT version D12, Release A. When two businesses decide to exchange EDI documents, they must agree on the specific EDI standard and version.
- Businesses typically use an EDI translator-either as in-house software or via an EDI service provider to translate the EDI format so the data can be used by their internal applications and thus enable straight through processing documents.

**Business Partners: -**

The exchange of EDI document is typically between two different Companies, referred to as business partners or trading partners. For example, Company A may buy goods from Company B. Company A sends orders to Company B and Company B sends invoices to Company A. Company A and Company B are business partners

**2.2.1 PROS AND CONS OF EDI (ADVANTAGES AND DISADVANTAGE OF EDI)**

It is quite easy to see how the technology we use today has vastly improved the processes of many industries. For one, Technology improves the workforce by introducing something known as Electronic Data Interchange, or EDI. According to the national Institute of Standards and Technology, EDI is “the computer-to-computer interchange of strictly formatted messages that represent documents other than monetary instruments.”

The NIST states that EDI could also refer to “a sequence of messages between two parties, either of whom may serve as originator or recipient. The formatted data representing the documents may be transmitted from originator to recipient via telecommunications or physically transported on electronic storage media.”

This **Fence core** process, then, involves using machines to perform what would have traditionally been a human task.

**EDI ADVANTAGES**

It should not come as much of a surprise that there are many advantages to using EDI in your business.

- Cost effective: - Cutting paper waste and all paper processing quickly reduce paper costs.
- Efficiency: - cloud-computing and machine learning eliminates computational repetition, redundancies, and errors that would be more common among humans.

- **Speed:** - The electronic transfer of data ensures more consistency and accuracy without sacrificing pace.
- **Accuracy:** - By using cloud computing technology, you are able to transfer documents faster than would have otherwise been possible.
- **Service:** - Faster processing means better customer service, over all, in turn, helping you to expand your customer base.

#### **EDI DISADVANTAGES: -**

As with all things, wherever there are advantages there might also be disadvantages. So, with that, here are some ways that EDI might not serve your business; which means you should consider a different way to network and incorporate information technology.

- EDI uses multiple standards which can often limit have too many rigorous standards bodies with too many document formats which can malfunction in the face of cross-compatibility issues, which you will definitely encounter as you continue to apply more standards.
- EDI has a higher price point, which can be a little pricey for new business owners.
- Large Companies might actually find that EDI can limit the types of partnership you can develop with.

#### **2.2.2 RELATED NEW TECHNOLOGIES USE IN E-COMMERCE**

Most people are now familiar with the term e-commerce because of the emerging online retail stores like eBay, Flipkart, Amazon, and many more. E-commerce stands for electronic commerce which involves the commercial transaction across the internet. A vendor can sell his or her product by displaying the pictures and the consumers can buy through online payment. This is the basic definition but with time the technology needs to evolve so as to maintain the consumer's interest as well as to exist in the competitive world. Following are the latest e-commerce technologies that will be used in future and some of them has started as well currently only at limited geographical location.

##### **1. Storefront Digitizing: -**

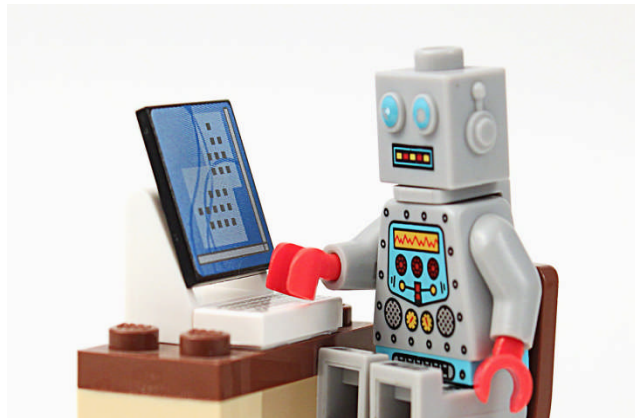
Now to maintain people's interest something very innovative could be adopted. In order to make an impact even more to customers, firms like eBay, Walmart, Delta Airlines, have all started the Storefront Digitizing. They use the memory mirror technology.

It is nothing but a virtual mirror where a customer sees him/herself and visualize how they would look by a particular outfit. They don't have to literally wear it. The mirror is able to store their information, their likes and dislikes, and accordingly can interact with them later if a particular item arrives, say of particular size and colour. This technology is going to offer reduction in return to a greater extent.



## 2. **Chatbot:** -

While Chatbots were in existence since 1966 but the technology has evolved to much smarter and better. In terms of processing speeds and giving response to contextual awareness, all credits go to machine learning and big data technology. This enables human interaction only when extremely necessary. The bot acts more like a friend than someone who is into this business talking very formally. The navigational experience is less text-based but more conversion-based in order to find any information.



## 3. **Beacon Technology:** -

This technology is a kind of application which enables different devices connect with each other via Bluetooth Low Energy—that acts some as the classic Bluetooth but extends do not more than 50 meters, and doesn't need high battery power either. What the Beacon technology do is sending the current deals and offers, or anything related to product's promotion, right at the moment the consumer enters the 'zone '. But before that, the device needs to be connected with each other, that we call 'beacons' post connectivity. This technology originally belonged to Nokia in 2006 but now marketed by Bluetooth Special Interest Group. The Apple's iBeacon is capable to connect with iPhone as well as Android Phones.

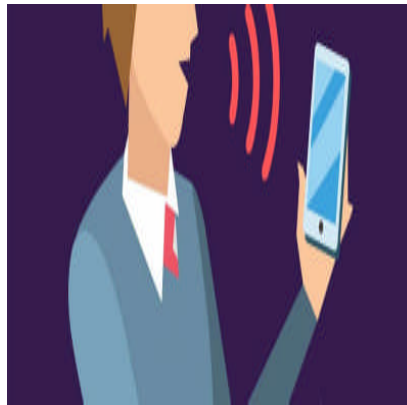


#### **4. Direct Social Media Purchase: -**

Social media websites like Facebook, Pinterest, Instagram and Twitter are already into this move and successfully covering the sales over 60 percent. The customers can now click the 'Buy now' button directly from the site's page and proceed for online payment.

#### **5. Voice Assistants: -**

It is a voice-activated, convenient and efficient technology which is based on the IoT (Internet of Things.). It listens to the user's voice commands and is capable to perform tasks like purchases, searches, help, etc. It can turn off the light while performing the commanded tasks together, so that the energy could be saved. The prime examples are Amazon's Echo Alex and China's WeChat. WeChat can buy movie tickets, book a taxi, takeout an order, and so on.



#### **6. Self-Check Out Technology :-**

In December 2016, Amazon introduced a new self-checkout technology. If it works as advertised – could totally transform the retail sector. Called “ Amazon Go “, the technology literally allows people to walk into a store, select items they want to Purchase, and walk out. There's no checkout process at all.

Amazon is opening 1,800-square-foot convenience store in Seattle(USA) to test out the technology. It's being beta tested now, and amazon says it will be open to the general public early 2017. If its successful, we can assume the technology will find its way into other retailers. Self-check-out technology operates like the shopping-cart approach of Amazon's website. Customers supply their payment information before they set foot in the store. Then there is a series of cameras and sensors that literally follow the customer's every step as he/she walks around the store. If he/she takes an item off a shelf, Amazon's software find out what the item is and immediately adds it to the customer's bill. If he/she puts the item back, the Amazon's software deletes the charge.

When the customer is ready to leave the store, there is no need for a checkout process. Amazon already knows the value of what the

customer has selected and has his/her payment information, so it can make the appropriate charge automatically through e-wallets or registered debit/credit cards.

#### **7. Drive-in Grocery Store :-**

It is a typical convenience store started in USA in November 2016. The store functions around a drive-in concept, which features a large tiled awning. Customer who come at such stores will not browse the aisles. The customer will order their goods online in advance, and then stay in their car while their groceries are brought out to them. This is a combination of online ordering coupled with drive-in delivery of goods. Customer can save a lot of time in this type of shopping.

#### **8. Drone Technology for delivery :-**

Drone Technology can now be used for delivery of packages to customers at their doorstep within a short time of ordering. The growing popularity and availability of drone delivery is expected to be one of the most innovative technologies in the retail industry over the next decade.

On December 1, 2013, Amazon.com CEO Jeff Bezos revealed plans for Amazon Prime Air. Amazon Prime Air to use Miniature Unmanned Air Vehicle (Miniature UAV), otherwise known as drone technology to autonomously fly individual packages to customer's doorsteps within 30 minutes of ordering.

To qualify for 30 minute delivery, the order must be less than 5 pounds (2.26kg), must be small enough to fit in to the cargo box that the craft will carry, and must have a delivery location within a 10-mile radius of a participating Amazon order fulfillment center. 86% of packages sold by Amazon fit the weight qualification of the program,

On December 7, 2016, Amazon successfully delivered a Prime Air Parcel to an actual customer in the Cambridge area of England, U.K. They have also built a Prime Air fulfillment center in the Cambridge area which will soon be opened to several customers in the future.



#### **9. Augmented Reality Technology :-**

Retailers have implemented the use of augmented reality to increase online sales. In-home augmented or virtual reality technology

comes in the form of headsets or goggles that create an interactive, 3-D shopping experience for the user. It provides retailers an in-home extension of their physical stores and can potentially increase sales with simplistic user experience and built-in up-selling features.

Goggles technologies or virtual reality headsets are growing in popularity due to their multi-use properties in terms of retail marketing.

With goggles, shoppers can look into their mirror at home and transform it into an interactive dressing room. The goggles can then help the shopper choose correct clothing sizes with a virtual view of how the garments will fit as well as suggest matching accessories. By utilizing this technology to accurately choose garment sizes, the percentage of online return shipments may also decrease.



## **10. Advanced Real Time Analytics :-**

Generally, analytics were used at the end of the month, where the company management would try to find out what aspects of the site were affecting business.

However, since 2016, there is growing focus on advanced real time analytics, so as to find out how customers react while on the site, an online company may make improvements in the site so as to obtain favourable customer buying decisions on the spot.

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## **2.3 APPLICATION OF E-COMMERCE AND E-ENTERPRISE**

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### **2.3.1 CONCEPT OF E-ENTERPRISE**

The internet revolutionized every facet of modern living, from entertainment to communication. Similarly, e-business enterprise changed the way companies operate and interact with consumers and clients.

An e-business is a company operating via the internet. This business can have off-line counterparts, or be a stand-alone enterprise consisting entirely of Internet operations.

E-business enterprise can fill a number of roles, from the buying and selling of goods to providing various services. In addition, e-business enterprise can also provide customers service and support for real-world firms, and collaborate with business partners.

### **2.3.2 APPLICATION OF E-COMMERCE AND E-ENTERPRISE**

E-commerce is a transaction of buying or selling online. Electronic commerce draws on technology such as mobile commerce, electronic funds transfer, supply chain management, internet marketing, online transaction processing, electronic data interchange (EDI), inventory management systems, and automated data collection systems. Modern electronic commerce typically uses the World Wide Web for at least one part of the transaction's life cycle although it may also use other technologies such as e-mail.

The application of E-commerce are used in various business areas such as retail and wholesale and manufacturing. The most common E-commerce applications are as follows :

- 1. Online marketing and purchasing :-** Data collection about customer behaviour, preferences, needs and buying patterns is possible through Web and E-commerce. This helps marketing activities such as price fixation, negotiation, product feature enhancement and relationship with the customer.
- 2. Retail and Wholesale :-** E-Commerce has a number of applications in retail and wholesale. E-retailing or on-line retailing is the selling of goods from Business-to-Consumer through electronic catalog and shopping cart model. Cybermall is a single Website that offers different products and services at one Internet location. It attracts the customer and the seller into one virtual space through a Web browser.
- 3. Finance :-** Financial companies are using E-commerce to a large extent. Customer can check the balances of their savings and loan account, transfer money to their other account and pay their bill through on-line banking or E-banking. Another application of E-commerce is on-line stock trading. Many Websites provide access to news, charts, information about company profile and analyst rating on the stocks.
- 4. Manufacturing :-** E-commerce is also used in the supply chain operation of a company. Some companies form an electronic exchange by providing together buy and sell goods, trade market information and run back office information such as inventory control. This speeds up the flow of raw material and finished goods among the members of the business community. Various issues related to the strategic and competitive issues limit the implementation of the business models. Companies may not trust their competitors and may fear that they will lose trade secrets if they participate in mass electronic exchanges.

**5. Auctions :-** Customer-to-Customer E-commerce is direct selling of goods and services among customers. It also includes electronic auctions that involve bidding. Bidding is a special type of auction that allows prospective buyers to bid for an item. For example, Airline companies give the customer an opportunity to quote the price for a seat on a specific route on the specified date and time.

**6. E-banking :-** Online banking or E-banking is an electronic payment system that enables customer of a financial institution to conduct financial transactions on a website operated by the institution, online banking is also referred as internet banking, e-banking, virtual banking and by other terms.



**7. Online Publishing :-** Electronic publishing (also referred to as e-publishing or digital publishing) includes the digital publication of e-books, digital magazines, and the development of digital libraries and catalogs.

**8. Online Booking( ticket,seat etc ):-** An Internet Bookin (IBE) is an application which helps the travel and tourism industry support reservation through the internet. It helps consumers to book flights, hotels, holiday packages, insurance and other services online. This is a much needed application for the aviation industry as it has become one of the fastest growing sales channels.



**9. Distribution :-** E-commerce has grown in importance as companies have adopted pure-click and brick-and-click distribution channel systems. The pure-click and brick-and-click channel system adopted by companies are stated as follows :-

- Pure-click companies launch a website without any previous existence as a firm.
- Brick-and-click companies are existing ones that have later added an online site for e-commerce.
- Click-to-brick are online retailers that later open physical locations to supplement their online efforts.

Nowadays, modern technologies are used for delivery of e-commerce products such as drone technology, droid technology.

**10. Inventory Management :-** E-business facilitates inventory management. Should inventory reach a specific threshold, a company's inventory management system can be programmed to tell managers to recorder that product. This helps companies avoid running out of products or blocking too much capital in inventory.

For instance, Inventory management software is a computer-based system for tracking inventory levels, orders, sales and deliveries. It can also be used in the manufacturing industry to work order, bill of materials and other production-related documents.

Companies use inventory management software to avoid product overstock and outages. It is a tool for organizing inventory data that before was generally stored in hard-copy form or in spreadsheets.

**11. Electronic Data Interchange :-** Electronic data Interchange (EDI) is the computer-to-computer exchange of business documents between companies. EDI replaces the fixing and mailing of paper documents. EDI documents use specific computer record formats that are based on widely accepted standards.

EDI is the electronic data interchange using a standard format, a process with allows one company to send information to another company electronically rather than with paper.

Many documents can be exchanged using EDI, such as purchase orders, invoices, and shipping documents. For instance, EDI is widely used by large online retailers when trading with their suppliers, and also by automobiles companies when trading with suppliers for bulk supply of parts.

**12. E-Research and E-Commerce :-** Electronic Commerce Research and Application aims to create and disseminate enduring knowledge for the fast-changing **e-commerce** environment.

An online seller may also obtain product feedback and product reviews from customers, which would enable the e-seller to improve the product offerings in terms of product design, pricing, promotion, and distribution strategies.

### **2.3.3 APPLICATIONS TO E-CRM**

The concept of relationship marketing(RM)was established by marketing professor Leonard Berry in 1983. Later this concept was developed into CRM. Philip Kotler states that CRM refers to managing detailed information about individual customers and all customer touch points to maximise customer loyalty.

The **eCRM or electronic customer relationship management** encompasses all the CRM functions with the use of the net environment i.e, intranet,extranet and internet. Electronic CRM concerns all forms of managing relationship with customers making use of information technology(IT).

eCRM is enterprises using IT to integrate internal organization resources and external “marketing”strategies to understand and fulfill the customer’s needs. Comparing with traditional CRM, the integrated information for eCRM intra-organizational collaboration can be more efficient to communicate with customers.

eCRM can be defined as activities to manage customer relationships by using the internet,web browsers or other electronic touch points.The challenge hereby is to offer communication and information on the right topic, in the right amount,and at the right time that fits the customer’s specific needs.

As the internet is becoming more and more important in business life, many companies consider it as an opportunity to reduce customer-service costs and improve customer relationships. ECRM is being adopted by companies because it increases customer loyalty and customer retention by improving customer satisfaction.

E-loyalty results in long-term profits for online retailers because they incur less costs of recurring new customers, plus they have an increase in customer retention. Together with the creation of sales force automation(SFA), where electronic methods were used to gather data and analyze customer information, the trend of the upcoming internet can be seen as the foundation of what we know as eCRM today.

The main difference between CRM and e-CRM is that the first does not acknowledge the use of technology the use of technology, where the latter uses information (IT) in implementing relationship management strategies.

### **E-COMMERCE APPLICATIONS TO CRM**

Electronic customer relationships management(E-CRM) is the application of the Internet-based technologies such as emails, websites, chat rooms, forums and other channels to achieve CRM objectives. It is well-structured and coordinated process of CRM that automates the processes in marketing,sales and customer service.

An effective E-CRM increases the efficiency of the processes as well as improves the interactions with customers and enables businesses to customize products and services that meet the customer's individual needs.

**1. Sales Force Automation :-** Sales Force Automation (SFA) solutions are aimed to streamline sales process phases, minimizing manual data entry and administration time for the sales representatives-leading to more number of potential customers being attended in shorter time spans.

The SFA solutions are centered on a robust and easy to use Sales Contact Management and Tracking System(SCMTS)for tracking and managing every stage in the sales process for each potential customer, from first call to final disposition.

Additional management functionalities like Opportunity Management, sales Area Management, Pipeline Management, Quote Generator, and Product Knowledgebase Management are also handled.

**2. Marketing Automation Solutions :-** Marketing Automation Solutions are aimed to help the organization's marketing policy makers to identify and target the right segment of customers and generate prospective leads for the sales force.

The functional modules are built to provide easy-to-use interfaces for managing and measuring multi-channel marketing campaigns, including email, search, social media, and direct mail.

The impact measuring metrics monitored include clicks, responses, leads, deals and revenue. The system also includes tools for creating internal marketing resources and knowledgebase sharing, managing customer lists and trend prediction tools.

**3. Customer Service and Support (CSS) Systems :-** The CSS systems are aimed towards improving customer's experience. These systems also maintain a logical and collaborative environment to provide 24\*7 customer service and technical support at a low cost.

The functional modules of these solutions encompass **ticket based support**(a computer software package that manages and maintains lists of issues, as needed by an organization)system, live chats, knowledgebase management, email response management and media-rich help workshops.

The customer service and support applications include customer care,incident,defect and order tracking,field service,problem and solution database,repair scheduling and dispatching, service agreements and contracts, and service request management.



**4. Integrated Solutions :-** These systems combine the power of all the above three mentioned systems and provide an integrated CRM solutions. An elaborate user and roles management system facilitates inter-department and intra-department collaboration in this integrated environment. This along with document and resource sharing, workflow automation and performance analysis tools helps all the personnel involved in customer centric activities work in an integrated collaborative environment and reduce time overheads at lower costs.

**5. Sales Applications :-** Common applications include calendar and scheduling contact and account managements, compensation, opportunity and pipeline management, pricing, territory assignment and management, and expense reporting.

**6. Field Service Automation :-** With field service automation software, organizations can eliminate redundancy, digitize the collection and utilization of task-related information, and help dispatchers assign and schedule appointments quickly. With **field service** software, organizations can achieve. Shorter resolutions times . Lower cost operations.

**7. Personalised Web Pages :-** PWP can record customer purchases and preferences. Typical personalized Web pages include those for bank accounts, stock portfolio accounts, credit card accounts. On such sites, users can see their balances, records of all current and historical transactions. American Airlines is an example of one company that uses personalized Web sites to help increase its profits. American Airlines(aa.com) began offering personalized Web sites as far back as 1998. At the time, it was one of the most innovative sites, generating PWP for more than 1 million registered, travel planning customers.

**8. Web Self Service :-** Web Self-service is a type of electronic support (e-support) that allows customers and employees to access information and perform routine tasks over the internet, without requiring any interaction with a representative of an enterprise. Web self service is widely used in customer relationship management (CRM) and employee relationship management (ERM). For employees and customers, self service offers 24 hrs-a-day support, and immediate access to information without having to wait for an email response or a returned telephone call. The success of Web self-service depends upon the quality and quantity of information available and the ease with which it can be accessed. Deploying Web self-service applications benefits a company in a variety of ways. The most prominent motivation is the lower cost, as compared with telephone or email delivered by a company representative.

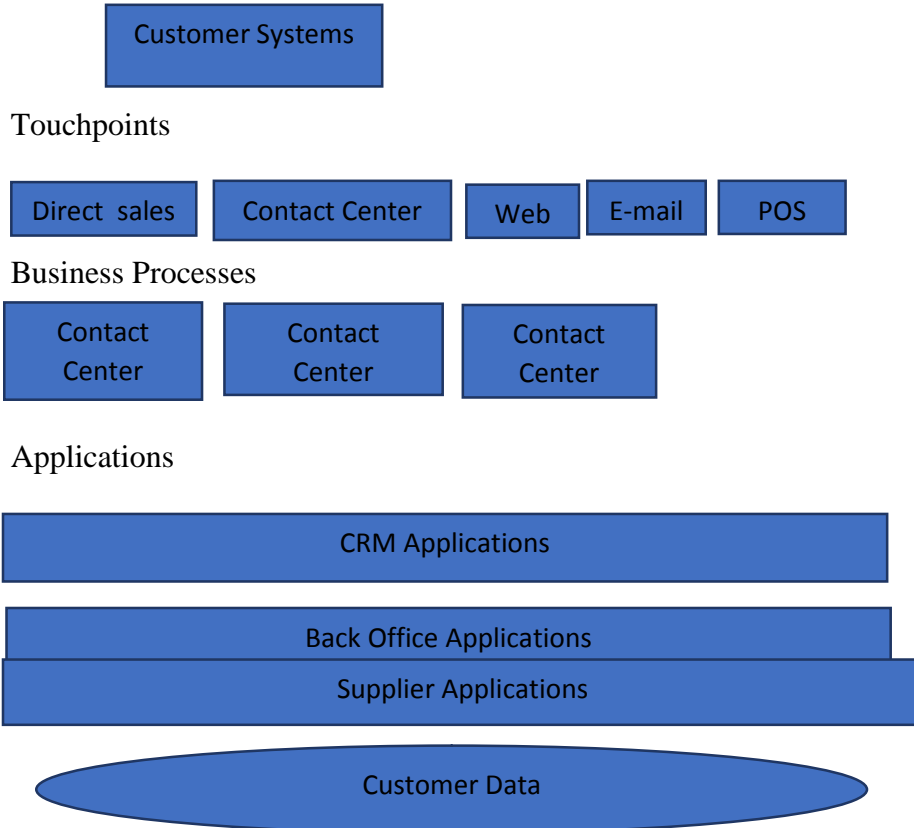
### 2.3.4 TYPES OF E-CRM

Patricia Seybold Group classified E-CRM into four groups:

1. Customer-Facing Applications :- The key, customer-facing CRM applications are contact center, sales force automation , and field service. We call these” customer facing “ because your sales, field service and contact center representatives actually interact with your customers. Customer-facing CRM applications support those staff members.

Customer-facing applications have been around for many years. You probably had sales force and field service automation applications before you even thought about CRM, maybe you even built them before commercial products were available. Those products that do implement these applications also predate CRM, but have now been repositioned to take advantage of the CRM trend. For Example, many of the products that implement teleservice were developed as help desk products, dating back to the late 1980's. SFA application, originally known as contact management applications, have been around even longer.

Because the implementation of these applications predates CRM, they may need to be upgraded to reflect a customer focus. These upgrades should give them that single and consistent view of your customers and your company and integrate them with the business processes that support their marketing, sales and service functions.



2. Customer-Touching Applications :- The Key customer-touching CRM applications are campaign management, ecommerce, and self-service customer support. We say “ customer touching “ because your customers interact directly with the applications rather than through a company representative. Customer-touching applications are relatively new-certainly much newer than customer-facing applications. Most date from the mid to late 1990's. It not inconceivable that your company has not implemented any or all of these applications. Campaign management was the first attempt to automate the marketing business process,allowing companies to deliver offers to more markets more cost efficiently.

a) Personalized Web Pages (PWP):- With the help of PWP,companies can efficiently deliver customized information, such as product information and warranty information,when the customer logs on to the personalized page. Not only can a customer pull information from the vendor's site, but the vendor can also push information to the customer.

PWP can record customer purchases and preferences. Typical personalized Web pages include those for bank accounts,stock portfolio accounts,credit card accounts and so on. On such sites users can see their balances,records of all current and historical transactions.

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b) Web Self-Service (WSS):- The Web environment provides an opportunity for customers to serve themselves. WSS provides tools for users to execute activities previously done by corporate customer service cell.

Most frequently used WSS systems are the package tracking systems provided by FedEx and UPS. In the past, if FedEx or UPS customers wanted to know the whereabouts of a package, that had to call a representative, give the information about their shipment and wait for an answer. Today,customers go to fedex.com or ups.com,insert their tracking numbers,and view the status of their packages. The benefits of web self-service for customers are quick response time, consistent and sometimes more accurate replies or data, the possibility of getting more details, and more satisfaction. The benefits for organizations are lower expenses of providing service, the ability to scale service without adding more staff, strengthening business partnerships, and improved quality of service. It is not easy to implement large-scale self-service systems. They require a complex blend of work processes and technology. Also, only well-defined and repeatable procedures are well-suited for such systems.

Of the various self-service tools available, three are of special interest: Self-tracking, FAQs, and self-configuration.

- Self-tracking systems :- like that of FedEx, where customers can find the status of an order or service in almost real time. Most large delivery services provide such services as to direct marketers such as Dell, Amazon.com, and staples. Some auto manufacturers (such as Ford )allow customers to track the progress of the production of a customized car. Some employers,universities, and public agencies enable job applicants to track the status of their job applications.
  - FAQ ( Frequently Asked Questions ):- Most Web sites provide a FAQs page. A FAQs page lists questions that are frequently asked by customers along with the answers to those questions. FAQ page enable customers to easily find answers to their questions, thereby, saving time and effort for both the Web site owner and the customer. The FAQ's page also provides an opportunity to easily ask a question not on the FAQ's page.
  - Self-Configuration and Customization :- Customers can be satisfied by providing customised products. This is especially true for complex products with many options.This is why many build-to-order vendors, from Dell to Mattel, provide customers with tools to self-configure products or services.
3. Customer Centric Intelligence Applications (CCIA):- CCIA are synonymous with CRM analytic techniques and business intelligence such as data mining and online analytic processing. CCIA analyze the results of operational processing and use the results of the analysis to improve CRM applications. Reporting, data warehousing, and data mining are the main elements of CCIA.

Analytics Tools the main tools used in CRM analytics include reporting, online analytical processing (OLAP), data mining, and Web analytics. The following discussion covers the first three tools:

- a) Reporting :- Reports can range from simple lists or charts of data and information to more complex analyses of CRM performance metrics.

Reports come in one or two forms:

- Standardized reports :- are generated from predefined templates and provide little in the way of customization outside of reformatting.
  - Query-based reports :-provide the end users with a set of tools for a constructing the query against which the report is run.
- b) Data Warehousing :- Medium and large corporations often organize and store data in a central repository called a data warehouse. A data warehouse has a specialized structure that makes it easy to view and analyze measures from a variety of dimensional perspectives ( Such as comparing sales data for different products sold at different stores at different times ).

The technologies used to view and analyze the data in a data warehouse are called online Analytical Processing (OLAP). OLAP tools enable the end user to “slice and dice” the measures by various dimensions (such as products, locations, customers, and time) and “drill down” to more detailed information and “drill up” into aggregated or summary information.

c) Data Mining :- Data mining is another analytic activity that involves sifting through an immense amount of data to discover hidden patterns. The process of discovery can involve:

- Classification:- assigning cases into predetermined categories based on a predictable attributes.
- Clustering :- identifying natural groupings of cases based on a set of attributes.
- Association :- Searching for relationships between variables.
- Regression :- Determining a statistical function that models the data.

Miscrosoft is one of a number of companies that provides data mining capabilities. It has identified a number of arens where data mining and other sophisticated analytical procedures are applied to customer data:

- Market Basket Analysis :- Discover which items tend to be bought together to create recommendations on-the-fly and to determine how product placement can directly contribute to your bottom line.
- Churn Analysis :- Anticipate customers who may be considering canceling their service and identify benefits that will keep them from leaving.
- Market Analysis :- Define market segments by automatically grouping similar customers together. Use these segments to seek profitable customers.
- Forecasting :- Predict sales and inventory amounts and learn how they are interrelated to foresee bottlenecks and improve performance.
- Data Exploration :- Analyze profitability across customer, or compare customers who prefer different brands of the same product to discover new opportunities.
- Unsurprised Learning :- Identify previously unknown relationships between various elements of your business to better inform your decisions.
- Website Analysis :- Understand how people use your Web site & group similar usage patterns to offer a better experience.
- Campaign Analysis :- Spend marketing dollars more effectively by trageting the customers most likely to respond to a promotion.

- Text Analysis :- Analyze feedback to find common themes and trends that concern your customers or employees , informing decisions with unstructured input.

CRM analytics lead not only to better and more productive customer relations in terms of sales and service but also to improvement in promotion planning and analysis, marketing strategies, and supply chain management and thus, lower costs and more competitive pricing.

#### 4. Online Networking Applications :-

Online networking refers to methods that provide the opportunity to build personal relationships with a wide range of people. Online networking and other applications support communications and collaboration among customers, business partners and company employees.

Representative online networking tools and methods include the following:

- a) Forums :- Available from internet portals, forums offer users the opportunity to participate in discussions as well as to lead forums on "niche" topics.
- b) Chat Rooms :- Found on a variety of Web sites , they offer one-to-one or many -to-many real-time conversations.
- c) Usenet Groups :- These are collections of online discussions grouped into communities. Usenet groups existed well before the advent of the Web.
- d) Blogs and Wikis :- Blogs and wikis are becoming a major online networking tool. Blogs enable companies to approach focused segments of customers. Many B2C and B2B sites sponsor blogs for their customers. By monitoring the discussion on a blog, companies can gain insight into factors such as customer satisfaction.
- e) E-mail Newsletters :- These newsletters usually offer the opportunity for readers to write in, particularly in "let us hear from you" sections. Because of the current bulk of e-mail advertising and marketing, customers may initially be distrustful of e-mail marketing. Therefore, newsletter articles, commentary, special offers, tips, quotes and other pieces of information e-mailed to people must be presented in a professional manner. Some e-mail newsletters are list-universe.com and new-list.com.
- f) Discussion Lists :- A discussion list is a distribution tool through which an e-mail is sent to one address and then is automatically forwarded to all the people who subscribe to the list.

The three main reasons a company may use such lists are:

- To learn more about customers in a particular industry.
- To market the company's products and services.

- To gather and share information with a community of individuals with similar interests.

### **2.3.5 FUNCTIONAL COMPONENTS OF E-CRM**

When enterprise integrate their customer information, there are three eCRM strategy components:

1. **Operational Component :-** This component encompasses various back-office processes such as order management and order processing. It also includes the automation of a variety of front-office customer-facing and customer-supporting processes such as selling, marketing, and customer service.

The following are the main elements of operational components:

- Customer interaction Center
- Sales Force Automation
- Field Service Automation
- Automated Response to E-mail
- Personalised Web Pages
- Web Self-service

Because of sharing information with customers, the business process should focus on customer needs. Therefore, customers must be provided with quick information relating to a firm's operations.

2. **Analytical Component :-** It is concerned with capturing , storing , extracting , processing , mining , and analyzing customer-related data to enhance both customer and company value. At the heart of this component are data warehouses , data marts , and various business intelligence and statistical technologies used to mine and analyze the data. It helps to maintain long term relationship with customers, which results in customer loyalty.

The main elements of this component are:

- Reporting
- Data Warehousing
- Data Mining

3. **Collaborative Component :-** Due to improved communication technology, different departments in company implement or work with business partners more efficiently by sharing information.

This component applies technology across organizational boundaries with a view to optimizing company, partner, and customer value. It is used to describe the strategic and tactical alignment of normally separate enterprises in the supply chain for the more profitable identification, attraction, retention, and development of customers.

Key to the collaborative component is a variety of customer interaction systems.

- Chat Rooms
- Blogs and Wikies
- Discussion Lists
- E-mails
- Internet Portals

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## **2.4 MANAGING THE E- ENTERPRISE**

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An-e-business of e-enterprise is a company operating via the Internet. This business can have off-line counterparts, or be a stand-alone enterprise entirely of Internet operations.

E-Business can fill a number of roles, from the buying and selling of goods to providing various services. In addition, e-business firms can also provide customer service and support for real-world firms, and collaborate with business partners.

### **2.4.1 FEATURES OF E-ENTERPRISE**

1. Flat Organisation Structure :- The nature of organisation structure in e-enterprise is flat. There are limited levels of management. There is limited number of workforce including managers, also the administration and management overheads are lower.
2. Global Reach:-E-enterprise permits global reach. Due to internet and web technology, traditional business organisation definition has undergone a change where scope of the enterprise now includes other company location, business partners, customers and vendors.
3. Information Driven :- Due to Internet and web, the e-enterprise is information driven rather than paper driven organisation. E-business enterprises are open twenty four hours, and being an public domain; managers, suppliers, customers and business partners can transact business anytime from anywhere.
4. Competitive Advantage :- Internet capabilities have given e-business enterprise a competitive advantage to increase the business value. It has opened new channels of business as buying and selling can be done on internet.

It enables to reach new markets across the world anywhere due to communication capabilities. It has empowered customers and suppliers through secured access to information to act, wherever necessary. The cost of business operation has come down significantly due to the elimination of paper-driven processes, faster communication and effective collaborative working.



The internet based transactions resulted in the reduction of administrative and management overheads, reduction in inventory, quicker delivery of products.

5. Absence of Command Control :- In e-enterprise, organisations are empowered by information and knowledge to perform various activities. In e-enterprise, people work in a network environment or in a virtual mode. The decision in e-enterprise are supported by information systems, application packages and decision-support systems.

6. Process driven :- E-business enterprise is more process driven, technology enabled and uses its own information and knowledge to perform activities. In E-business enterprise, most of the activities are electronic-based, use of digital technologies and work on databases, knowledge bases, directories and document repositories.

The business process are conducted through enterprise software like ERP(Enterprise Resource Planning), SCM(Supply chain management) and e-CRM supported by data warehouse, decision support and knowledge management systems.

7. E-business Solutions :- E-business enterprises are using Internet technology, network, and wireless technology for improving the business performance measured in terms of cost, efficiency, competitiveness and profitability.

E-enterprise are using e-business solutions to reach faraway locations to deliver product and services. The enterprise solutions like ERP, SCM and e-CRM run on Internet and Wide Area Network(WAN).

8. Transformation :- The paradigm shift to e-enterprise has brought four transformations, namely:

- Domestic business to global business.
- Industrial manufacturing economy to knowledge-based service economy.
- Enterprise resource management to Enterprise network management.
- Manual document driven business process to paperless automated, electronically transacted business process.

9. Trading of goods and services :- In E-enterprise, business is conducted electronically. Buying and selling is possible for a wide range of products such books, readymade garments, jewellery, electronic items, white goods and many such goods are bought and sold on internet. Also, a number of services such as banking, insurance, healthcare, education, tourism industry are being managed through internet.

10. Management Information Systems :- MIS for e-business is different compared to conventional MIS design of an organisation. The role of MIS in e-business organization is to deal with changes in global market and enterprises. MIS produce more knowledge-based products. Knowledge management system is normally recognised as a part of MIS. It is effectively used for strategic planning for survival and growth, increase in profits, productivity.
11. Challenges for E-enterprise:-
- The organisation structure should be lean and flat
  - Employees should allow to work from anywhere
  - Re-engineer the processes to cut down process cycle time
  - Make use of groupware technology on internet platform for faster response processing.
  - Enlarge the scope of organisation where customers, suppliers, and others become a part of the organisation with the help of e-technology.
  - Change the organisation behaviour to gain competitive advantage by using e-technology to communicate, coordinate and collaborate with customers, suppliers and business partners.

#### **2.4.2 DISTINGUISH BETWEEN CONVENTIONAL ENTERPRISE V/S E-ENTERPRISE**

Conventional Organisation	E-Enterprise
1) Meaning :- It is traditional form of organisational structure wherein business activities take place in a physical environment.	It is a modern form of organisational structure wherein business activities take place in a virtual environment.
2) Nature of Organisation Structure :- Tall organisational structure is followed in most of the conventional organisations.	Flat organisational structure is followed in most of the E-enterprise
3) Paper Work :- There is greater use of paper work in conventional business organisation.	In e-enterprise, there is more emphasis on electronic process, and there is limited use of paper work.
4) Technology :- There is limited use of modern technology.	There is greater use of internet, wireless and networking technologies.

5) Overheads :- There are high overheads, in the form of office rent, electricity, and maintenance charges, and also high staff overheads.	There are limited overheads, as the e-enterprise uses virtual premises and limited amount of physical premises.
6) Marketing Research :- There is less emphasis on marketing research and if conducted, it is mostly done offline.	There is greater emphasis on marketing research and it is mostly done online.
7) Business Process Systems :- Private business process systems for organisation's use. The customers, suppliers, and business partners are not allowed to use them.	Public business process systems for organisation's use, the customers, suppliers and business partners are allowed to use them.
8) Payment :- The payment is done through physical means such as cash, cheque, and to lesser extent credit cards.	The payment is done electronically with the help of credit cards, debit cards, and other forms of digital payment. COD is also allowed under B2C.
9) EDI :- There is less emphasis on EDI. Lot of Paper work is involved in placement of orders, invoices, and other related activities.	There is greater emphasis on electronic data interchange, which involves paperless trading.
10) Investments:- Higher investments are required to set up conventional organisations.	Lower investments are required to set up E-Enterprise.
11) Promotion :- Conventional organisations may place emphasis on traditional forms of promotions such as advertising, salesmanship, and sales promotion.	E-enterprise may make more use of promotions
12) Business Process :- Private Business system for self use. They are barred for usage to customers, vendors and business partners.	Public business process and systems for use by customers, vendors and business partners.

13) Price :- The price of goods and services may be higher due to high administrative and management expenditure and other overheads.	The price of goods and services may be lower due to lower administrative and management expenditure and other overheads.
14) Touch and Feel Expenditure :- This type of organisation enables customers the touch and feel experience in shopping	This type of organisation does not permit touch and feel experience in shopping.
15) Return of goods :- The return of goods is easier for customers.	Customers may find it difficulty in return of goods .

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## 2.5 E- ORGANISATION

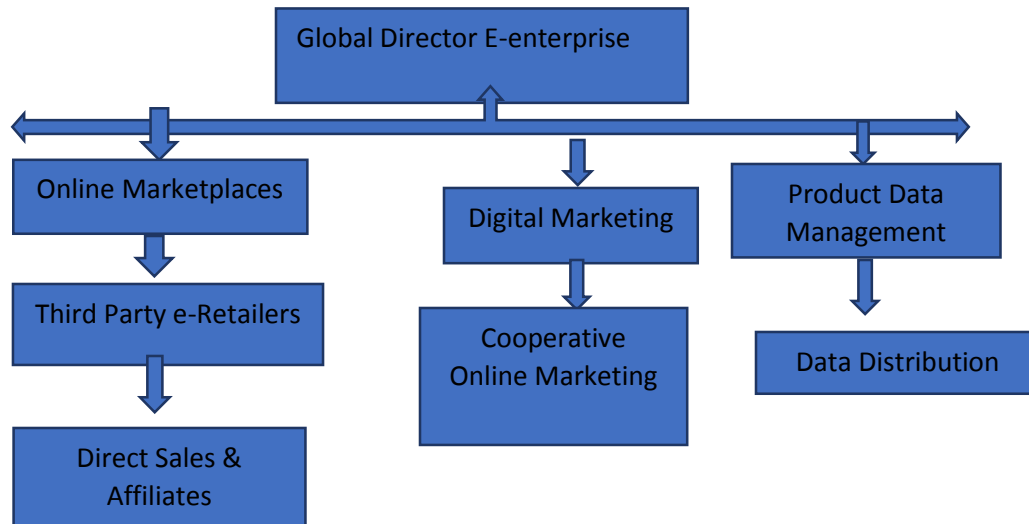
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An E-commerce organisation is the organisational structure with which a company operates its online business. The basic parameters and requirements for this organisation are usually defined within the framework of an e-commerce distribution strategy or the individual channels strategies. Regardless of which of the three e-commerce pillars i.e online marketplaces, third party e-retailers, direct sales + affiliate. Are actively being pursued by a company, certain basic rules exist for ensuring high performance. According to our experience, the most important of these is that a global, dedicated e-commerce organisational unit is set up for the successful pursuit of online business. The two main aspects of this are as follows:-

- **Global :** A feature of online commerce that is easily apparent but typically goes unconsidered from an organisational perspective is that it essentially has no national boundaries. Particularly in the case of simplified international trading within Europe, this means that end consumers, presented with an ever-greater decline in shipping costs, perceive cross-border trade to be completely normal. What is true for end consumers also applies to international purchasing organisations, such as those from large online marketplace like Amazon. In the case of cross-border sourcing, the manufacturer's organisational structure is exploited by buyers, who purchase from different country organisations (e.g Poland, Austria) depending on the destination country (e.g. Germany). Against this backdrop, a global e-commerce organisational unit is needed to control and coordinate online business in the interests of the company as a whole.
- **Dedicated :-** In many companies, online business accounts for a smaller share than brick-and-mortar business, at least initially. Companies tend to approach the online segment as an additional business

area that can be accommodated for with the existing organisational structure and resources. Successful e-commerce development can only be achieved with a dedicated organisational unit and corresponding resources. Existing sales force typically lack both the necessary global reach and resources to develop the business quickly and sustainably.

In simplified terms, a global, dedicated relate to organisation of business in e-enterprise consists of the three core areas.



- **E-Commerce Sales** : Depending on the e-commerce distribution strategy, the roles of different channel-specific key account managers can be combined. Sub-organisation may exists depending on the size of the individual channels (e.g Amazon unit with vendor account management)
- **Digital marketing** : Central coordination of online marketing activites. This foundation may be modified slightly for specific channels, but does not deviate significantly from a set of key tasks.
- **Product data management** : As an interface between product management and marketing, this section is responsible for the central provision and administration of product data required for various online channels.

### 2.5.1 BENEFITS OF E-ENTERPRISE

E-Enterprise is the conduct of business processes on the internet. These electronic business processes include buying and selling products, supplies and services, serving customers, processing payment, managing production control, collaborating with business partners, sharing information, running automated employee services, recruiting etc. The benefits or advantages of E-enterprise is as follows :-

1. **Provides Flexibility** :- E-enterprise interact with more customer, can entail more, and can offer an innovative experience through website. It offers a platform for organizations to interact with the customers in a creative way and provides flexibility to realise creativity along with

infrastructure that decides the scope. The restructuring of organizational processes and functions are much easier and they contribute to better utilization of resources and assets. In this age of information explosion, e-enterprise offers a platform for information utilization and allow building an edge through creative use of information. It comes in various ways such as outsourcing, off shoring, and integrating various business components.

2. No need for physical presence :- Business are no longer dependent on physical reach because most of them have expanded through the internet. This has increased the visibility of the companies. Increased connectivity has enhanced responsiveness manifold. Introduction of new service have changed their management and treatment in marketplace.
3. Cost Reduction :- E-enterprise reduces the cost information collection, information storage and information analysis. Most importantly, it reduces the communication costs.
4. Transparency :- In e-enterprise, markets, prices, transaction, and cost become more and more transparent. This transparency leads to more efficient markets. Cost transparency refers to the ability of the customer to determine that actual costs.
5. Personalization :- Another important aspect of e-enterprise is personalization. E-enterprise allows one to have targeted marketing message and even customers can select their messages of interest. They can keep their transactions listed and merchants can give personalized service as e-business allows very easy information handling.
6. End-to-end information flows :- E-enterprise transforms business relationship traditionally working in hierarchy and many indirect connections. The old indirect connectivity and hierarchy was responsible for the market inefficiencies and loss of information. E-enterprise with end-to-end relationship empowers efficient information flow. This allows customer demands at different levels being addressed more efficiently.
7. Integrated solution :- E-enterprise even helps in managing the chain of networks linking customers, workers, suppliers, distributors, and even competitors within an integrated or extended supply chain management solution. Supply chain management(SCM) is defined as the management of supply-related functions and activities, that is, materials, information, and finance as they move from source to destination that is, from the supplier to manufacturer to wholesaler to retailer and, finally, to consumer. It involves the coordination and integration of parties involved in it and flows both within and among companies.
8. Saves time :- One of the major driving forces behind implementation of e-business is that it saves time. The savings in time takes place on different fronts. The customer saves time

because he/she can perform different transactions at any time and at any place. The turnaround time for transactions is reduced to a great extent. Overall connectivity empowers the organization to deliver an efficient service. Time is also saved in other transactions, information transefers, and ultimately helping in decision making.

9. Improved communication with customers and suppliers :- The communication and interaction of customers with suppliers has become easier. Finacial transactions have become efficient and that allows both customers and suppliers to concentrate on other fronts. Electronic communication makes overall communication efficient.
10. Online publishing :- Text, graphics, and multimedia files are used in web-based documents for web publishing. The examples of web-publishing include various e-magazines, web based newspapers, and e-books that are published on website. Other materials used for promotional purpose and published on websites also come under web publishing. Low-cost univesal access, the independence of time and place, and ease of distribution are some of the advantage of online publishing. There are mangement issues and public policy issues that need to be considered before online purchasing. The measurement and profitability related issues come under management issues , while copyright, censorship related issues, and legal aspects come under public policy related issues. Online publishing uses both business-to-business (B2B) and business-to-consumers(B2C).
11. Benefits for the retailer:- E-enterprise provides benefits to the buiness houses, customers and even retailers. These benefits come from information efficiencies and penetration made available in the form of market exposure and cost reduction. Following are the benefits for a retailer:
  - Increase market exposure :-It is possible for the retailers to sell the products not only to those who have easy access to them but also to customer accessing the website from far-off places. It improves market exposure and reaches of the retailer and makes a bigger market available for him/her to compete.
  - Increase sales :- Increased time saving and market exposure enables the organization to increase their sales.
  - Reduce Cost :- The reduction in delay and elimination of obstacles allows to get rid intermediate losses of communication and further overall pace of communication is increased. The traditional business, the customer has no choice but to go through the intermediate dealers. The establishment of direct channels, allows customer flaxibility and reduction of cost, resulting in better experience. Information efficiency and reduction delay and inaccuracies contribute to cost reduction.

## **2.5.2 LIMITATIONS OR DISADVANTAGES OF E-ENTERPRISE**

Though e-commerce offers many advantages to customers, business, society and nation, there are still some areas of concern that need to be addressed. The following are some of the disadvantages or limitations of e-enterprise.

1. **Security** :-The biggest drawback of e-business is the issue of security. People fear to provide personal and financial information, even though several improvements have been made in relation to data encryption. Certain websites do not have capabilities to conduct authentic transactions. Fear of providing credit card information and risk of identity limit the growth of e-business.
2. **Lack of privacy** :- Many websites do not have high encryption for secure online transaction or to protect online identity. Some websites illegally collect statistics on consumers without their permission. Lack of privacy discourages people to use internet for conduction commercial transactions
3. **Tax issues** :-Sales tax is another big issues when the buyer and seller are situated in different locations. Computation of sales tax poses problems when the buyer and seller in different states. Another factor is that physical stores will lose business if web purchases are free from tax.
4. **Fear** :- People fear to operate in a paperless and faceless electronic world. Some of the business organizations do not have physical existence, people do not know with whom they are conducting commercial transactions. This aspect makes people to opt physical stores for purchase.
5. **Legal issues** :- The cyber laws that govern the e-business transactions are not very clear and vary from country-to-country. These legal issues prevent people from entering into electronic contacts.
6. **Sectoral Limitations** :- The main disadvantage of e-business is the lack of growth in some sectors on account of product or sector limitations. The food sector has not benefited in terms of growth of sales and consequent revenue generation because of number of practical reasons, like food products becoming perishable items. Consumers do not look for food products on the internet, since they prefer to going to the supermarket to buy the necessary items as and when its require. Therefore, e-business gets the online orders relate to food, grocery related products.
7. **Costly e-business solutions for optimization** :- Substantial resources are required for redefining products lines in order to sell online. Upgrading computer systems, training personnel, and updating websites requires substantial resources. Electronic Data management (EDM) and Enterprise resource planning(ERP),



necessary for ensuring optimal business process, may be pose challenges to e-enterprise.

8. Challenges of low Entry Barriers to existing Firms :- In e-commerce there is low entry barriers. The rapid growth of e-commerce sector is attracting new entrants. One can start e-business venture with an initial investment of as low as rs.5 to rs 10 lakhs, thereby leading to reduced competitive advantages. The sector is also attracting the interest of Venture Capital Funds, and thus enabling e-commerce entrepreneurs to secure funds easily. This enables new companies to easily replicate the existing business models and , thereby ,increase competition in the sector.
9. Low Penetration of Internet in Rural Areas :- India's e-commerce market is mainly dominated by urban areas, with the bulk of the business being restricted to cities. Internet useage in rural areas is limited, although 70% of india's population lives in rural areas. The limited internet useage in rural areas could be due to several factors such as low internet speed and internet user base. The inadequacy of vernacular content of e-commerce websites is another reason for low penetration in rural areas.
10. Problem in payment gateways :- Indian payment gateways have high failure rate as compared to other countries. Several customers do not attempt payment after a transaction fails. Therefore, online sellers using payment gateways are losing out on online sales.

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## **2.6 SUMMARY**

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The entire module is based on various concept which is useful for the students to understand the e-enterprise (e-commerce) very well.

The www project merges the techniques of networked information and hypertext to make an easy but powerful global information system. W3 was originally developed to allow information sharing within internationally dispersed teams and give the more focus on developing own website for the expansion and modernization of business.

Net commerce or the undertaking of all types of activities over the internet, has developed rapidly, starting from the days of electronic brochure hosting. There are two stages of Net Commerce, who have created a wide range of new applications and business models. Such as EDI concept, applications of e-commerce and e-enterprises, application to CRM. E-commerce is the first stage of Net Commerce. It involved the creation of B2C services and E-business is the second stage of Net Commerce, which involved the development of business and application models focused on the needs of the B2B marketplace. In this module the students are going to learn the key factors relate to e-enterprise like

Continuous Development relate to e-enterprise and e-CRM

Application and technology Architecture

Benefits and limitations of e-enterprise within an organisation

Business and technology.

EDI concept: - Now a days most of the corporate sector use electronic data interchange (less paper work transactions, mostly work done through electronically)

Comparison between conventional organisation and e-enterprise.

Making the transition from e-commerce to e-business-to e-enterprise means understanding and anticipating the changes that must occur in every aspect of the enterprise: culture, people, business model, Organizational model, application, Pros and cons of EDI, various technology used in E-commerce.

As per the current business scenario, the business persons give more focus on customer satisfaction rather than making more profit. In that case www and e-enterprise definitely play an important role.

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## **2.7 EXERCISE**

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1. Explain the reasons for building website by e-marketers.
2. Discuss the benefits of website.
3. Describe the procedure in registering a domain name.
4. Discuss the role of website in B2C e-commerce.
5. Write a note on push and pull approaches of e-enterprise.
6. Discuss the pros and cons of electronic data interchange.
7. Explain the related new technologies which can be used in e-commerce.
8. What are the various applications of e-commerce in e-enterprise?
9. Discuss the applications to e-CRM.
10. Discuss the types of e-CRM.
11. Describe the functional components of e-CRM.
12. Discuss the features of e-enterprise.
13. Bring out a comparison between Conventional Organisation and E-enterprise.
14. Discuss the different aspects relating to organisation of business in E-enterprise.
15. Discuss the benefits of E-Enterprise.
16. What are the limitations of e-enterprise?

## **OBJECTIVE QUESTIONS**

### **A. Select the most appropriate option given in the bracket and rewrite the sentence:**

1. \_\_\_\_\_ is a system of internet servers that support specially formatted documents.  
(WWW, URL, Domain Name)
2. The \_\_\_\_\_ is a global system of interchanged computer networks.  
(Internet, HTML, WWW)
3. \_\_\_\_\_ is a smart computer programme designed to handle conversations on a human level.  
(Chatbot, Beacon, Droid)
4. \_\_\_\_\_ refer to payments made over the internet.  
(E-Payment, Cash on Delivery, E-CoD)
5. \_\_\_\_\_ allows customers to locate the status of the order in real time.  
(Self-Tracking System, Field Service Automation, Personalised Web Pages)
6. \_\_\_\_\_ predicts sales and inventory requirements.  
(Forecasting, Regression, Association)
7. \_\_\_\_\_ are collection of online discussions grouped into communities.  
(Usenet Groups, Chat-rooms, Forums)
8. \_\_\_\_\_ name is used to identify Internet Protocol address.  
(Domain, Internet, E-mail)
9. Under \_\_\_\_\_ promotional strategy, the intermediaries get incentives.  
(Push, Pull, Please)
10. UX stands for \_\_\_\_\_ experience in website design.  
(User, Universal, Ultra)
11. \_\_\_\_\_ Technology can be used for delivery of packages to customers.  
(Drone, Dried, Drip)

### **B. State whether the following statements are true or false:**

1. URL helps to identify web resources through the internet.
2. Social Medias are non-interactives sites for networking purpose by individuals.
3. Websites restricts global reach for business firms.
4. CRM helps to maximize brand loyalty.
5. There are limited levels in tall organization structure.

6. Touch ID is a fingerprint recognition designed by Apple Inc.
7. Normally, viewing a web page on the World Wide Web begins with the typing the URL, of the page into a web browser or by following a hyperlink to that page.
8. ICANN stands for international Council of Names and Numbers.
9. Under pull promotion strategy, the dealers are motivated to stock the product.
10. Test Early, Test Option Principle can be used for testing website design.
11. Smart Refrigerators enable shoppers to view the contents in the refrigerators on their websites.
12. WeChat is the US popular messenger.
13. Pure click companies launch a website without any previous existence as a firm.
14. The concept of relationship marketing was developed by Philip Kotler.

**Match the Groups.**

<b>GROUP A</b>	<b>GROUP B</b>
1) WWW Founder	a) Computer Data Interchange
2) Push Strategy	b) Element Of Typography
3) Pull Strategy	c) Directed Towards Consumers
4) Paragraphing	d) Directed Towards intermediaries
5) EDI	e) Tim-Berners-Lee

<b>Group A</b>	<b>Group B</b>
1) Self-Check-Out Technology	a) Leonard Berry
2) Drone Technology	b) Autonomous Robots
3) Virtual Fitting Technology	c) Online Trial Rooms
4) Droid Technology	d) Flying Autonomous Craft
5) Relation Marketing	e) Amazon Go



## **E-MARKETING AND ELECTRONIC PAYMENT SYSTEM**

### **Unit Structure**

- 3.0 Objectives
- 3.1 Introduction
- 3.2 E-Marketing
- 3.3 E-Commerce Customer Strategies
- 3.4 Electronic Payment System
- 3.5 Operational, credit and legal risks of E-payment system
- 3.6 Summary
- 3.7 Exercise

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### **3.0 OBJECTIVES**

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After studying this unit the student will be able to -

- Understand the changing marketing and business processes and its transition to E- marketing and E-Commerce.
- Know the various evolving methods of E-Marketing and its scope. Understand E-Commerce, its growing importance.
- Know the pros and cons of E-Commerce.
- Understand the payment systems have also changed and its security issues too.

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### **3.1 INTRODUCTION**

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E-Commerce is the term to reckon with changing times and unprecedented worldwide outbreak of Covid-19, businesses have taken a complete turn from its run of the mills activities. It has forced the entrepreneurs to switch gears and go online with no time to prepare. E-commerce, Electronics Marketing and digitalization of payments have made the job of entrepreneurs difficult on the other hand increased the complacency for the customer. Also with advent of such system, arise problems of equal magnitude. This module discusses various ways of Electronic Business and Marketing and also various technical aspects of payments and its safety related measures as well as government intervention.

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## 3.2 E-MARKETING

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### 3.2.1 MEANING:

**E-marketing** is a process of planning and executing the conception, distribution, promotion, and pricing of products and services in a computerized, networked environment, such as the Internet and the World Wide Web, to facilitate exchanges and satisfy customer demands-**Marketing** (also referred to as web marketing or internet marketing) uses electronic communication technologies including the Internet, mobile phones and digital media

#### **Definition:**

According to Kotler and Keller, E-Marketing portrays company efforts to inform and communicate with buyers, and promote and sell its products and services over the Internet.

### 3.2.2 SCOPE OF E-MARKETING:

#### **1. Advertising:**

Ecommerce advertising is the practice of disseminating paid messages to sell a product online. The advertiser will pay for placement, impressions, clicks, etc. on a publisher. E marketing forms a better way for advertising as major population has access to internet and also advertising will have a better reach and ultimately better conversion

#### **1. Promotions:**

E-Marketing can be used for promotions of either an existing product or a new product. With the help of emerging technology marketers can make use of creativity and promote their products in a better manner which was not possible in traditional method

#### **2. Market Analysis**

Market analysis forms a very important and one of the primary activities of any business activity. It helps the business to understand the market standing. It helps the organization to identify its competitors and form a combat force to fight the same. This basically forms a source of primary first-hand information for the business. E Marketing can be used for gathering this crucial information.

#### **3. Strategic Web activities**

To be in constant touch with the customers and prospects, it is very important for the business to be in news and do things differently. It is often said 'Out of Sight is Out of Mind'. Hence, companies must keep engaging themselves in strategic activities over different platform to be visible. This can be done through E-Marketing.

#### **4. Business expansion**

After survival and Growth, Expansion is an inevitable part of any business organization. For expansion, its is not just enough to escalate

the R & D process but also to communicate it efficiently in the market. Unless a better communication is done, even the best of products cannot pick up sales. E-Marketing, can be seen as a platform for launch of new products as well business expansion.

### **5. Customer response**

Business and marketing are a continuous activity. Its continuity is largely based on the feedback that is received from the customer. In today's era, its difficult to pay attention to individual responses and letters/ Grievances/ Satisfaction, but much easier when E-Marketing tools are used. It helps the organization to gauge the exact summary of customer feedback.

## **3.2.3. TECHNIQUES OF E-MARKETING:**

### **1. Search Engine Marketing (SEM)**

This is a type of marketing that seeks to promote websites by increasing their visibility in Search Engine Result Pages. This is done through the use of paid inclusion, contextual advertising, and paid placement, and search engine optimization.

### **2. Blog Marketing**

Blog marketing is internet marketing by way of web logs (blogs). Blogs are different than corporate websites because they contain daily or weekly postings, many times around a single subject. Many corporations use blogs to foster a dialog with customers so that they can explain the features of their products and services.

### **3. Email Marketing**

This is a type of direct marketing that uses Email to communicate commercial or fundraising messages to an audience. Emails are sent with the purpose of:

- Strengthening the relationship of the business person with his/her previous and current clients to create customer loyalty
- Acquiring new clients or convincing existing clients to purchase something
- Adding advertisements sent by other businesses to their clients.

### **4. Viral Marketing**

Viral marketing is a marketing technique that creates brand awareness by using social networks that already exist. Viral marketing increases brand awareness and achieves other marketing objectives (such as product sales) through self-replicating viral processes, analogous to the spread of pathologic and computer viruses. Information can be spread by word-of-mouth or it can be enhanced by the network effects of the internet. Viral promotions might be in the form of video clips, eBooks, images, text messages, or brandable software.

## **5. Social Media Marketing**

Social media marketing is a term that describes the act of using social networks, online communities, blogs, wikis, and other collaborative internet forms of media for marketing, sales, public relations, and customer service. Common social media marketing tools include Twitter, blogger, LinkedIn, Facebook, Flickr, and YouTube.

## **6. Article Marketing**

Article marketing is advertising in which businesses write short articles related to their industry. These articles are made available for publication and distribution in the marketplace. Each article contains a bio box and by line that include references and contact information for the author's business. Well-written content articles released for free distribution have the potential of increasing the business' credibility within its market as well as attracting new customers.

## **7. Affiliate Marketing**

Affiliate marketing is an internet-based marketing practice in which a business rewards one or more affiliates for each visitor or customer brought about by the affiliate's marketing efforts.

## **8. Geo Marketing**

Geo targeting (in internet marketing) and geo marketing are the methods of determining the geolocation (the physical location) of a website visitor with geolocation software and delivering customized content to that visitor based on his or her location, such as country, region/state, city, metro code/zip code, organization, Internet Protocol (IP) address, ISP, or other criteria.

### **3.2.4. TRADITIONAL WEB PROMOTIONS:**

Despite ongoing changes in the web, traditional online marketing is still an important part of a successful online strategy, and should not be neglected. Classic banner advertising still draws the attention of many potential customers. Even intelligent email marketing offers opportunities if implemented properly. Offline marketing can also be effectively linked to online marketing in order to significantly increase traffic.

### **3.2.5. WEB COUNTERS:**

A web counter or hit counter is a computer software program that indicates the number of visitors, or hits, a particular webpage has received. Once set up, these counters will be incremented by one every time the web page is accessed in a web browser.

The number is usually displayed as an inline digital image or in plain text. Image rendering of digits may use a variety of fonts and styles; the classic example is the wheels of an odometer. The counter is often accompanied by the date it was set up or last reset, without which it becomes impossible to estimate within what time the number of page



loads counted occurred. Some web counters were simply web bugs used by webmasters to track hits and included no visible on-page elements.

Counters were popular in the 1990s, but were later replaced by other web traffic measures such as self-hosted scripts like Analog, and later on by remote systems that used JavaScript, like Google Analytics. These systems typically do not include on-page elements displaying the count. Thus, seeing a web counter on a modern web page is one example of retrocomputing on the Internet.

### **3.2.6 WEB ADVERTISEMENTS:**

Web Advertisement is important not just because it helps you to get found online, but also because it can change the way your business is perceived by potential customers. For example, ranking high in search engine results pages, along with respected industry authorities, instantly boosts your business' credibility.

### **3.2.7. TYPES OF WEB ADVERTISEMENTS:**

#### **1. Display Advertising**

Display advertising is a kind of online exhibit that typically uses images and text. The most popular forms of these kinds of ads are banner ads, landing pages (LP's) & popups. Display ads are found on websites and publisher web pages and redirect a user's attention to the brand's product.

#### **2. Search Engine Marketing & Optimization (SEM) & (SEO)**

SEM and SEO promote content & increases visibility through online searches. In SEM, instead of paying for the ad, advertisers pay each time users to click on their ad to their website. In SEO, they use various tactics like linking, targeting keywords and creating high-level content that other sites will link to in order to drive traffic.

#### **3. Social Media Ads**

Placing online ads, promoted posts and sponsored stories on social media are a popular way to reach a target demographic without paying a hefty amount. Facebook and Twitter are the most popular social media platforms for companies to reach potential new customers with LinkedIn a popular avenue for B2B traffic.

#### **4. Native Advertising**

Some popular publishers have sponsored ads at the bottom of their webpages. Some also have a "recommended reading" or "other people liked" section for potential readers to click on. This is native advertising.

## **5. Pay Per Click (PPC) Ads**

Pay per click (PPC) ads are advertisements where the promoters pay every time a user clicks on an ad. That means, even if the ad was seen by hundreds of personalities but only 1 person clicked on the ad, the cost of the ad would be calculated on the one click.

## **6. Remarketing**

Remarketing is a kind of online advertising that uses online cookies to track followers around the internet, in order to target them again. These users are targeted once they leave the website by then seeing subtle hints (ads), reminding them about their previous interest.

## **7. Affiliate Marketing**

Affiliate marketing promotes a brand's product while earning a commission for each successful transaction. This is widely used by publishers and bloggers who have massive followership and are looking to gain passive income.

## **8. Video Ads**

Video ads are rapidly gaining popularity, especially among millennial and Gen Z consumers. YouTube is undoubtedly the No. 1 platform for online videos, and it uses a PPC method, i.e., brands pay when someone engages with an ad.

### **3.2.8 SOCIAL MEDIA AND E-MARKETING:**

Social media marketing, or SMM, is a form of internet marketing that involves creating and sharing content on social media networks in order to achieve your marketing and branding goals. Social media marketing includes activities like posting text and image updates, videos, and other content that drives audience engagement, as well as paid social media advertising.

Although the terms e-marketing and digital marketing are still dominant in academia, social media marketing is becoming more popular for both practitioners and researchers. Most social media platforms have built-in data analytics tools, enabling companies to track the progress, success, and engagement of ad campaigns.

Social media marketing is a powerful way for businesses of all sizes to reach prospects and customers. Your customers are already interacting with brands through social media, and if you're not speaking directly to your audience through social platforms like Facebook, Twitter, Instagram, and Pinterest.

### **3.2.9 ADVANTAGES AND DISADVANTAGES OF SOCIAL MEDIA MARKETING:**

#### **Advantages:**

##### **1. Increased Brand Awareness**

Social media is one of the most cost-efficient digital marketing methods used to syndicate content and increase your business' visibility. Implementing a social media strategy will greatly increase your brand recognition since you will be engaging with a broad audience of consumers. Simply having people interact with content will increase brand awareness and begin building reputation as a business by investing only a few hours per week, over 91% of marketers claimed that their social marketing efforts greatly increased their exposure.

##### **2. More Inbound Traffic**

Without marketing business on social media, inbound traffic is limited to usual customers. The people familiar with brand are likely searching for the same keywords business already rank for. Without utilizing social media as part of marketing strategy, business will have much more difficulty reaching anyone outside of your loyal customer circle. Every social media profile added to marketing mix is a gateway to company's website, and every piece of content posted is another opportunity to acquire a new customer.

##### **3. Improved Search Engine Rankings**

Although posting on social media might get business some site traffic, more effort than that is required to see significant success. Search engine optimization is very important for achieving higher page rankings and obtaining traffic to business website. While social media doesn't directly increase search engine rankings, Social Media Examiner states that more than 58% of marketers who have been using social media for one year or longer still see improved search engine rankings. Being able to rank in the top positions for business keywords will revolutionize your traffic and continue to generate positive results for your business

##### **4. Higher Conversion Rates**

With increased visibility, business gains more opportunities for conversion. Every blog post, image, video, or comment may lead viewers to company's website and increase traffic. Social media marketing allows business to give a positive impression through a humanization factor. When brands are interactive by sharing content, commenting, and posting statuses on social media, it personifies a brand. People prefer to do business with other people, rather than companies.

##### **5. Improved Brand Loyalty**

One of the main goals of almost all businesses is developing a loyal customer base. Considering that customer satisfaction and brand loyalty typically go hand in hand, it is important to regularly engage with consumers and begin developing a bond with them. Social media is not just limited to

introducing your brand's products and promotional campaigns. Customers see these platforms as a service channel where they can communicate directly with the business. The millennial generation is known for being the most brand loyal customers of all. Since these technology natives require communication with their brands, businesses must implement social media marketing to get the attention of their most influential consumers.

## **6. Cost-Effective**

Social media marketing is possibly the most cost-efficient part of an advertising strategy. Signing up and creating a profile is free for almost all social networking platforms, and any paid promotions you decide to invest in are a relatively low cost compared to other marketing tactics. Being cost-effective is such an advantage because businesses can see a greater return on investment and retain a bigger budget for other marketing and business expenses.

## **7. Gain Marketplace Insights**

One of the most valuable advantages of social media is marketplace insight. By monitoring the activity on company profiles, one can see customer interests and opinions that you might not otherwise be aware of if your business didn't have a social media presence. Using social media as a complementary research tool can help gain information that will aid you in understanding your industry generating revenue.

## **8. More Brand Authority**

Customer satisfaction and brand loyalty both play a part in making your business more authoritative, but it all comes down to communication. When consumers see company posting on social media, especially replying to customers and posting original content, it makes company appear more credible. Regularly interacting with customers demonstrates that business cares about customer satisfaction, and is available to answer any questions that they might have.

## **9. Better Customer Satisfaction**

Social media is a networking and communication platform. Creating a voice for company through these platforms is important in humanizing company. Customers appreciate knowing that when they post comments on your pages, they will receive a personalized response rather than an automated message.

Every customer interaction on your business's social media accounts is an opportunity to publicly demonstrate your compassion for the customers.

## **Disadvantages:**

### **1. Not Built for Businesses**

This is the main disadvantage of social media marketing for business. Many businesses, especially the new ones, which do not have enough awareness or reputation are extremely not advised to focus on

social media marketing. Even the well-reputed business does not invest much in social media marketing in general.

## **2. Negative Feedback can tarnish brand name**

Being on social media means exposing yourself publicly to all kinds of people who may or may not have the intention of coming across or seeing your brand. With the internet being easily accessible more than ever before, there are people who always aim to damage one's reputation. If your business is unknown or just starting to gain momentum, the chances of getting an attack are more likely.

## **3. Heavily Rely on Ads**

Social media ads announcement was a revolution. With its ability to target specific audiences based on various parameters in-depth, it's what makes it such a powerful tool to generate leads online which is disadvantage for small business most of the times also its quite an expensive affair to indulge in social media marketing

## **4. Low ROI**

ROI from social media marketing is probably one of the lowest in online marketing strategies. Companies have to put both time, effort and money to really make things work. Also, there is a constant need to keep providing something new to the viewers (Prospects)

## **5. Time-Consuming**

There are several free or low-cost social media tools available, but it calls for huge investment of time. Also free of cost media does not provide you the expected reach which a sponsored page guarantee.

## **6. Need To Stay Engaged And Active**

Social media is constantly changing and if you're not up-to-date, you're going to fall behind the others. People on social media are always looking for new and fresh things. As a marketer, that's your job to provide them. This is the very reason why businesses, influencers loose followers and likes start reducing on their respective pages.

## **7. Difficult To Measure**

Measuring your marketing effort on social media is just more difficult and complicated than it sounds. This particular con of social media marketing is what many business owners will have to face. The quantum of likes and followers make it difficult to determines whether it will be converted into prospects. Hence, it can not to completely assumed as success index.

## **8. Security and Privacy Policy Issues**

One of the biggest negatives of social media marketing is the security and privacy-related issues. Business information and details come into public domain, while there are many anti-social elements vying at the preys for easy money for coning businesses as well as customers. Take a

look at the latest Facebook data breach news, millions and millions of data have been leaked and with this, one is risking business in the hands of unreliable platforms.

### **9. Limited Only To Social Media Platforms**

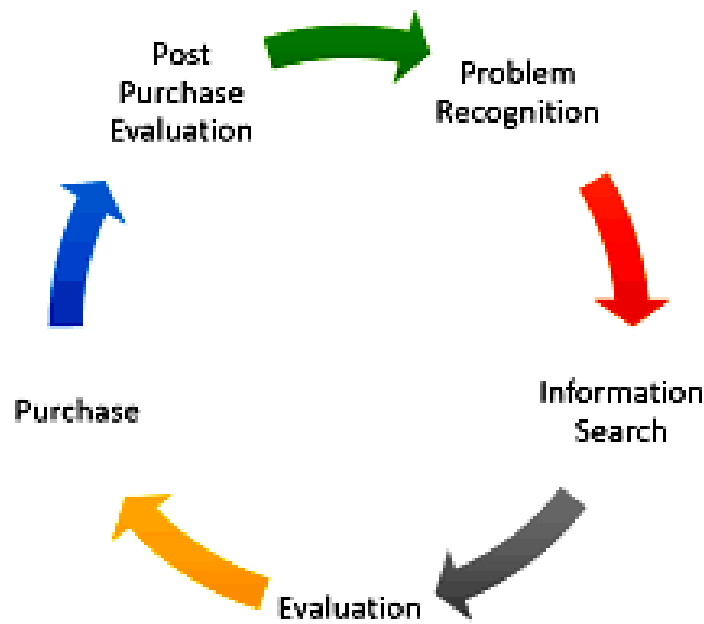
When one does social media marketing, it is essential to using social media platforms like Facebook, LinkedIn, Instagram or Twitter to market and build brand awareness. But this is only limited to social media. Unlike other marketing channels like SEO or SEM, where one can expand marketing effort to various places, thus being more flexible, social media marketing only stays on social media.

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## **3.3 E-COMMERCE CUSTOMER STRATEGIES**

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### **3.3.1 E-COMMERCE PURCHASE BEHAVIOUR:**



#### **1. Problem Recognition**

The customer must have a reason to believe that what they want, where they want to be or how they perceive themselves or a situation is different from where they actually are. The desire is different from the reality – this presents a problem for the customer. However, for the marketer, this creates an opportunity. By taking the time to “create a problem” for the customer, whether they recognize that it exists already or not, one is starting the buying process. To do this, one should start with content marketing. Share facts and testimonials of what product or service can provide. Ask questions to pull the potential customer into the buying process. Doing this helps a potential customer realize that they have a need that should be solved.

#### **2. Information Search**

Once a problem is recognized, the customer search process begins. They know there is an issue and they're looking for a solution. If it's a new makeup foundation, they look for foundation; if it's a new refrigerator with all the newest technology thrown in, they start looking at refrigerators – it's fairly straight forward. As a marketer, the best way to market to this need is to establish brand or the brand of your clients as an industry leader or expert in a specific field. Methods to consider include becoming a Google Trusted Store or by advertising partnerships and sponsors prominently on all web materials and collaterals.

### **3. Evaluation of Alternatives**

Customers want to be sure as they've done thorough research prior to making a purchase. Because of this, even though they may be sure of what they want, they'll still want to compare other options to ensure their decision is the right one. Marketing to this couldn't be easier. Keep them on site for the evaluation of alternatives stage. Leading insurance provider Policy Bazaar allows customers to compare rates with other insurance providers all under their own website – even if the competition can offer a cheaper price. This not only simplifies the process, it establishes a trusting customer relationship, especially during the evaluation of alternatives stage.

### **4. Purchase Decision**

The purchase decision falls near the middle of the six stages of the consumer buying process. At this point, the customer has explored multiple options, they understand pricing and payment options and they are deciding whether to move forward with the purchase or not. This means it's time to step up the game in the marketing process by providing a sense of security while reminding customers of why they wanted to make the purchase in the first time. At this stage, giving as much information relating to the need that was created in step one along with why the brand, is the best provider to fulfil this need is essential.

### **5. Purchase**

A need has been created, research has been completed and the customer has decided to make a purchase. All the stages that lead to a conversion have been finished. However, this doesn't mean it's a sure thing. A consumer could still be lost. Marketing is just as important during this stage as during the previous. If the purchase process is too difficult, customers, and therefore revenue, can be easily lost.

### **6. Post-Purchase Evaluation**

Just because a purchase has been made, the process has not ended. In fact, revenues and customer loyalty can be easily lost. After a purchase is made, it's inevitable that the customer must decide whether they are satisfied with the decision that was made or not. They evaluate. If a customer feels as though an incorrect decision was made, a return could take place. This can be mitigated by identifying the source of dissonance, and offering an exchange that is simple and straightforward. However,

even if the customer is satisfied with his or her decision to make the purchase, whether a future purchase is made from your brand is still in question. Because of this, sending follow-up surveys and emails that thank the customer for making a purchase are critical.

### 3.3.2. CUSTOMER SUPPORT ACTIVITIES:

Support Method	Ways
<b>Attitude Exercises</b>	<ul style="list-style-type: none"> <li>• Good and bad customer service experiences</li> <li>• Stepping into the shoes of your customers</li> <li>• Experience your service as a customer</li> <li>• Evaluate competitor customer service</li> <li>• “Attitude Anchors” to maintain positivity</li> <li>• Customer service focus within staff induction</li> </ul>
<b>Skills Exercises</b>	<ul style="list-style-type: none"> <li>• Communication skills training exercises</li> <li>• Dealing with difficult situations and complaint handling</li> <li>• Customer service focus within staff induction</li> </ul>
<b>Knowledge Exercises</b>	<ul style="list-style-type: none"> <li>• Defining your customer service framework</li> <li>• Setting customer service standards</li> <li>• Develop product knowledge</li> <li>• Suggestions for improving customer service</li> <li>• Internal customer service improvements</li> <li>• Customer service focus within staff induction</li> </ul>

### 3.3.3 PLANNING PROCESS FOR E-COMMERCE:

#### 1. Research and Strategy:

The core focus of any e-Commerce website design should be clear communications between the web development company and the client. It is very important that the designers and developers have a clear understanding of the company, the product and the industry as a whole. Discuss your target audience and brainstorm possible keywords that potential customers might use to find your company or your product. Taking this all-important first step will ensure one doesn't blindly waste marketing money trying to reach or convert the wrong



type of customer. Using this strategy virtually guarantees that one's efforts to focus in on the right types of customers are well-rewarded, saving time and money.

## **2. Planning**

This involves setting down all the requirements for the new e-Commerce site as well as its participants. This is the time to ask crucial questions regarding how much (or how little) knowledge someone must have about product or service to make a purchase. Are they simply aware of it or are they searching specific item numbers and names? Knowing this information will help pinpoint exactly how customers are finding online store, as well as how long they're staying and which pages they're visiting. It can often make the difference between a broad, general information search that yields no results and a specific product name or price comparison that turns into a sale.

## **3. Information Architecture**

Following best practices in information architecture is key to overall user satisfaction and a higher conversion rate. Understanding how customers browse site is key to giving them what they're looking for without a lot of hassle or wasted time. The sooner your e-Commerce website can resolve their needs, the more likely they will be to make a purchase and come back again.

## **4. Design**

This will be the visual representation of site. Often created as a Photoshop template, pieces can be moved around and adjusted during the design phase to create a professional, customer-oriented style that best captures your brand and focus. Having a professionally designed website is paramount to the all-important "first impression" a potential customer gets of site and its credibility. If the site does not project a style that is attractive and pleasing, the customer may mistakenly infer that the products sold will not live up to their expectations.

## **5. Construction**

This is the fixation behind any solid, reliable e-Commerce website, including client and server-side applications (front end and back-end programming), quality assurance testing, integration of third-party tools and other solutions that will make e-Commerce website scalable as it continues to grow. Ensuring that third party tools, backend applications and other components work seamlessly together contribute to the overall user experience and repeat purchases.

### **3.3.4. ADVANTAGES OF E-COMMERCE:**

#### **1. Faster buying process**

Customers can spend less time shopping for what they want. They can easily browse through many items at a time and buy what they like. When online, customers can find items that are available in physical stores

far away from them or not found in their locality. This is where ecommerce comes to the rescue for many shoppers. They go online, search for an item, get a fast response and can buy it just as quickly.

## **2. Store and product listing creation**

A product listing is what the customer sees when they search for an item. This is one advantage in ecommerce meant for the seller. This online business plus point is that you can personalise your product listing after creating them. Creating a listing takes very little time, all you require is your product name or codes like EAN, UPC, ISBN or ASIN. Sellers can add many images, a description, product category, price, shipping fee and delivery date. So, in just one step you can tell the customer many things about the item. Creating your listing shows the buyers what you have.

## **3. Cost reduction**

One of the biggest advantages of ecommerce to business that keep sellers interested in online selling is cost reduction. Many sellers have to pay lots to maintain their physical store. They may need to pay extra upfront costs like rent, repairs, store design, inventory etc. In many cases, even after investing in services, stock, maintenance and workforce, sellers don't receive desired profits and ROI.

## **4. Affordable advertising and marketing**

Sellers don't have to spend a lot of money to promote their items. The world of ecommerce has several affordable, quick ways to market online. Ecommerce marketplaces are visual channels – and sellers can really show off their product. For example, Amazon sellers can use Advertising tools to add videos, info graphics, good quality resolution images.

## **5. Flexibility for customers**

An important advantage of ecommerce to business is that sellers can provide flexibility to customers. One highlight is that the product and services are ready 24x7. The result is that seller can offer his item any place, any time.

## **6. Product and price comparison**

In ecommerce, sellers can compare the products using tools or on their own. This gives them a good idea of product alternatives available, the standard rates, if a product need is unfulfilled. Comparison is faster online and covers many products. It helps to save time when making this comparison, as all details are available on the shopping site. In a physical store, sellers may not be able get access to so many details –they only have better knowledge about their own inventory.

## **7. No reach limitations**

A seller with a physical store may only be able to reach a certain number of buyers. They can deliver to the customers' homes but there can

be distance limitations. Several e-commerce marketplaces have their own logistics and delivery system.

#### **8. Faster response to buyer/market demands**

Every interaction is faster when you begin selling online. Ecommerce marketplaces offer you a streamlined logistics or delivery system. What this means is that the buyers order gets delivered efficiently. Product returns management is one more plus point that can be handled quickly – you either refund the payments or give a replacement.

#### **9. Several payment modes**

Buyers like personalisation – the same goes for paying for their orders. Ecommerce marketplaces permit multiple payment modes that include UPI, cash on delivery, card on delivery, net banking, EMIs on credit or debit card and pay-later credit facility.

### **3.3.5. DISADVANTAGES OF E-COMMERCE:**

#### **1. Security**

The biggest drawback of e-commerce is the issue of security. People fear to provide personal and financial information, even though several improvements have been made in relation to data encryption. Certain websites do not have capabilities to conduct authentic transactions. Fear of providing credit card information and risk of identity limit the growth of e-commerce.

#### **2. Lack of privacy**

Many websites do not have high encryption for secure online transaction or to protect online identity. Some websites illegally collect statistics on consumers without their permission. Lack of privacy discourages people to use internet for conducting commercial transactions,

#### **3. Tax issue**

Sales tax is another bigger issue when the buyer and seller are situated in different locations. Computation of sales tax poses problems when the buyer and seller are in different states. Another factor is that physical stores will lose business if web purchases are free from tax.

#### **4. Fear**

People fear to operate in a paperless and faceless electronic world. Some of the business organizations do not have physical existence, People do not know with whom they are conducting commercial transactions. This aspect makes people to opt physical stores for purchases.

#### **5. Product suitability**

People have to rely on electronic images to purchase products. Sometimes, when the products are delivered, the product may not match with electronic images. Finally, it may not suit the needs of the buyers. The lack of 'touch and feel' prevent people from online shopping.

## **6. Cultural obstacles**

E-commerce attracts customers from all over the world. Habits and culture of the people differ from nation to nation. They also pose linguistic problems. Thus, differences in culture create obstacles to both the business and the consumers.

## **7. High Labour cost**

Highly talented and technically qualified workforce are required to develop and manage the websites of the organization. Since internet provides a lot of job opportunities, business organizations have to incur a lot of expenses to retain a talented pool of employees,

## **8. Legal issues**

The cyber laws that govern the e-commerce transactions are not very clear and vary from country to country. These legal issues prevent people from entering into electronic contracts.

## **9. Technical limitations**

Some protocol is not standardized around the world. Certain software used by vendor to show electronic images may not be a common one. It may not be possible to browse through a particular page due to lack of standardized software. Insufficient telecommunication bandwidth may also pose technical problems.

## **9. Huge technological cost**

It is difficult to merge electronic business with traditional business. Technological infrastructure may be expensive and huge cost has to be incurred to keep pace with ever changing technology. It is necessary to allocate more funds for technological advancement to remain competitive in the electronic world.

### **3.3.6. JUSTIFY AN INTERNET BUSINESS:**

Business involves flow of material as well as flow of information. Internet evolved as a network to connect businesses and share information. Apparently, Now Internet controls flow of materials also. Examples are E-commerce ventures, Uber, Social Networks.

Virtual world act as a parallel to real world, and business activities such as advertisement, payments, invoices, orders etc. are very well done in virtual world now.

Internet have created platform to create business. This platform allows businesses to share information, this not only improves efficiency but also effectiveness of the businesses.

Business Enterprises can utilize resources in a better way if business elements are connected with each other.

Example: Amazon connects: Warehouse, Sellers, Buyer, Logistics company

Internet business, by its explosive growth, has escalated the economic growth. It is dominating various areas like logistics, Cloud kitchen, travel etc. In fact, it has completely changed the economy by helping to bring in gig culture.

Internet business also serves as an easy platform for mid-sized to small-sized businesses to launch their products. It gives an easy entrance to new participants into the business.

Doing a business online helps to acquire and retain customers easily through catchy promotional activities, which is otherwise an expensive affair. New technology can take you places. Streamlining of businesses have become easy. Big data, data analytics are taking over. These huge pool of customer data can be used to be in constant touch with them. This helps in building a good customer relationship.

Unlike Brick and mortar model, online business have the ability to function 24 x 7. This is a win-win situation for both buyer and seller. Buyer at his own convenience can shop or order goods/services, whereas seller will also not lose out his customer base due to timings. In short it allows you to do business from anywhere , anytime.

All thanks to internet, small companies like Netflix, have become a global player. According to AMR Research more than 1,3\$ trillion of goods and services will flow through the B2B marketplaces. This has given tremendous scope to many start-ups which have, in no time, not made unbelievable profits but also achieve the coveted status of 'Unicorn'.

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## **3.4 ELECTRONIC PAYMENT SYSTEM**

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### **3.4.1. E-PAYMENT SYSTEM**

#### **Meaning and Definition**

An e-payment system is a way of making transactions or paying for goods and services through an electronic medium, without the use of checks or cash. It's also called an electronic payment system or online payment system. The electronic payment system has grown increasingly over the last decades due to the growing spread of internet-based banking and shopping. As the world advances more with technology development, we can see the rise of electronic payment systems and payment processing devices. As this increase, improve, and provide ever more secure online payment transactions the percentage of check and cash transactions will decrease.

### **3.4.2. CHARACTERISTIC OF E-PAYMENT SYSTEM:**

#### **Security**

Since payments involve actual money, payment systems will be a prime target for criminals. Since Internet services are provided today on networks that are relatively open, the infrastructure supporting electronic commerce must be usable and resistant to attack in an environment where eavesdropping and modification of messages is easy.

#### **Reliability**

As more commerce is conducted over the Internet, the smooth running of the economy will come to depend on the availability of the payment infrastructure, making it a target of attack for vandals. Whether the result of an attack by vandals or simply poor design, an interruption in the availability of the infrastructure would be catastrophic. For this reason, the infrastructure must be highly available and should avoid presenting a single point of failure.

#### **Scalability**

As commercial use of the Internet grows, the demands placed on payment servers will grow too. The payment infrastructure as a whole must be able to handle the addition of users and merchants without suffering a noticeable loss of performance. The existence of central servers through which all transactions must be processed will limit the scale of the system. The payment infrastructure must support multiple servers, distributed across the network.

#### **Anonymity**

For some transactions, the identity of the parties to the transaction should be protected; it should not be possible to monitor an individual's spending patterns, nor determine one's source of income. An individual is traceable in traditional payment systems such as checks and credit cards. Where anonymity is important, the cost of tracking a transaction should outweigh the value of the information that can be obtained by doing so.

#### **Acceptability**

The usefulness of a payment mechanisms is dependent upon what one can buy with it. Thus, a payment instrument must be accepted widely. Where payment mechanisms are supported by multiple servers, users of one server must be able to transact business with users of other servers.

#### **Customer base**

The acceptability of a payment mechanism is affected by the size of the customer base, i.e. the number of users able to make payments using the mechanism. Merchants want to sell products, and without a large enough base of customers using a payment mechanism, it is often not worth the extra effort for a merchant to accept the mechanism.

**Flexibility**

Alternative forms of payment are needed, depending on the guarantees needed by the parties to a transaction, the timing of the payment itself, requirements for auditability, performance requirements, and the amount of the payment. The payment infrastructure should support several payment methods including instruments analogous to credit cards, personal checks, cashier's checks, and even anonymous electronic cash. These instruments should be integrated into a common framework.

**Convertibility**

Users of the Internet will select financial instruments that best suit their needs for a given transaction. It is likely that several forms of payment will emerge, providing different tradeoffs with respect to the characteristics just described. In such an environment it is important that funds represented by one mechanism be easily convertible into funds represented by others.

**Efficiency**

Royalties for access to information may generate frequent payments for small amounts. Applications must be able to make these "micropayments" without noticeable performance degradation. The cost per transaction of using the infrastructure must be small enough that it is insignificant even for transaction amounts on the order of pennies.

**Ease of integration**

Applications must be modified to use the payment infrastructure in order to make a payment service available to users. Ideally, a common API should be used so that the integration is not specific to one kind of payment instrument. Support for payment should be integrated into request-response protocols on which applications are built so that a basic level of service is available to higher level applications without significant modification.

**Ease of use**

Users should not be constantly interrupted to provide payment information and most payments should occur automatically. However, users should be able to limit their losses. Payments beyond a certain threshold should require approval. Users should be able to monitor their spending without going out of their way to do so.

**3.4.3. METHODS OF E-PAYMENT:****1. Credit Payment System**

**a. Credit Card** - A form of the e-payment system which requires the use of the card issued by a financial institute to the cardholder for making payments online or through an electronic device, without the use of cash.

**b. E-wallet** — A form of prepaid account that stores user's financial data, like debit and credit card information to make an online transaction easier.

**c. Smart card** — A plastic card with a microprocessor that can be loaded with funds to make transactions; also known as a chip card.

## **2. Cash Payment System**

### **a. Direct debit**

A financial transaction in which the account holder instructs the bank to collect a specific amount of money from his account electronically to pay for goods or services.

### **b. E-check**

A digital version of an old paper check. It's an electronic transfer of money from a bank account, usually checking account, without the use of the paper check.

### **c. E-cash**

It is a form of an electronic payment system, where a certain amount of money is stored on a client's device and made accessible for online transactions.

**d. Stored-value card** — A card with a certain amount of money that can be used to perform the transaction in the issuer store. A typical example of stored-value cards are gift cards.

### **3.4.4. SECURE ELECTRONIC TRANSACTION OR SET:**

Secure Electronic Transaction or SET is a system which ensures security and integrity of electronic transactions done using credit cards in a scenario. SET is not some system that enables payment but it is a security protocol applied on those payments. It uses different encryption and hashing techniques to secure payments over internet done through credit cards. SET protocol was supported in development by major organizations like Visa, Mastercard, Microsoft which provided its Secure Transaction Technology (STT) and NetScape which provided technology of Secure Socket Layer (SSL).

### **3.4.5. SET PROTOCOL FOR CREDIT CARD PAYMENT:**

#### **Requirements in SET :**

SET protocol has some requirements to meet, some of the important requirements are :

- It has to provide mutual authentication i.e., customer (or cardholder) authentication by confirming if the customer is intended user or not and merchant authentication.
- It has to keep the PI (Payment Information) and OI (Order Information) confidential by appropriate encryptions.
- It has to be resistive against message modifications i.e., no changes should be allowed in the content being transmitted.



- SET also needs to provide interoperability and make use of best security mechanisms.

### **Participants in SET :**

In the general scenario of online transaction, SET includes similar participants:

1. **Cardholder** – customer
2. **Issuer** – customer financial institution
3. **Merchant**
4. **Acquirer** – Merchant financial
5. **Certificate authority** – Authority which follows certain standards and issues certificates (like X.509V3) to all other participants.

### **SET functionalities:**

#### **1. Provide Authentication**

- **Merchant Authentication** – To prevent theft, SET allows customers to check previous relationships between merchant and financial institution. Standard X.509V3 certificates are used for this verification.
- **Customer / Cardholder Authentication** – SET checks if use of credit card is done by an authorized user or not using X.509V3 certificates.

**2. Provide Message Confidentiality:** Confidentiality refers to preventing unintended people from reading the message being transferred. SET implements confidentiality by using encryption techniques. Traditionally DES is used for encryption purpose.

**3. Provide Message Integrity:** SET doesn't allow message modification with the help of signatures. Messages are protected against unauthorized modification using RSA digital signatures with SHA-1 and some using HMAC with SHA-1,

#### **4. Dual Signature:**

The dual signature is a concept introduced with SET, which aims at connecting two information pieces meant for two different receivers:

**Order Information (OI) for merchant Payment Information (PI) for bank**

### **3.4.6. PREPAID E-PAYMENT SERVICES**

- Prepaid payment instruments are methods that facilitate purchase of goods and services against the value stored on such instruments. The value stored on such instruments represents the value paid for by the holder, by cash, by debit to a bank account, or by credit card.

- The prepaid payment instruments that can be issued in the country are classified under following categories:

#### **Closed System Payment Instruments:**

These are payment instruments issued by a person for facilitating the purchase of goods and services from him/her/them/it.

#### **Semi-Closed System Payment Instruments:**

These payment instruments are redeemable at a group of clearly identified merchants that contract specifically with the issuer to accept the payment instrument. These instruments do not permit cash withdrawal or redemption by the holder.

#### **Semi-open System Payment Instruments:**

These are payment instruments that can be used to purchase goods and services at any card-accepting merchant locations (Point of sale terminals). These instruments do not permit cash withdrawal or redemption by the holder.

#### **Open System Payment Instruments:**

These payment instruments can be used for purchase of goods and services and also permit cash withdrawal at ATMs, Merchant Local Locations, and automated business correspondents.

#### **Mobile Prepaid Instruments:**

These are prepaid talk time instruments issued by mobile service providers. This talk time value can also be used to purchase 'value added service' from the mobile service provider or third-party service providers.

The commonly used Prepaid E-Payment Services are:

##### **a. Prepaid Cards:**

Prepaid cards are widespread among minors and customers with no bank accounts. The most popular prepaid cards are Mint, Ticket surf, Paysafe card, and Telco Card. Age rather than income affects the adoption of prepaid cards. Prepaid cards come in various stored values for customers to choose from. Online gaming companies usually offer prepaid cards as their preferred payment method in order to load it with virtual currency for in-game transactions

##### **b. Smart Cards:**

Smart cards is another method of prepaid payment system. Its is familiar to passengers travelling through Metros. Many a times it is also used at resorts, amusement parks. This smart card or token has microprocessor embedded in it. A customer possessing a smart card/token denotes that he/she has already made the payment.

### **3.4.7. POST E-PAYMENT SERVICES:**

Postpaid is defined as a scheme in which the customers are billed at the end of the month for the services availed by them. Normally, the customer is charged as per his contract with the service provider, which specifies the limit for browsing, texting, calling minutes, shopping etc. If the usage is less than or equal to the limit specified, the user is charged at a flat rate. Any usage over and above is subject to extra charges. It can also be said that the user can enjoy unlimited credit.

**The commonly used Post Paid methods are:**

**a. Credit Cards:**

Today, credit cards are the most common way to pay on the web. Visa, MasterCard, Discover, and American Express are the major credit card networks. There is a wide range of local credit cards used globally. When integrating a payment gateway merchant get to choose what types of credit cards to offer. Credit card processing fees usually look like a fixed percentage out of a transaction. An average credit card fee ranges from 1.5% to 3.5% per transaction.

**b. Mobile Payments**

Mobile payments are widespread in countries with a low credit card and banking penetration. For example, some areas of Asia, Africa, and Latin America. Mobile payments allow customers to purchase on e-commerce websites quickly and hassle-free. They are commonly used on browser games, donation portals, and social media networks (aka dating sites, where customers can pay with SMS).

**c, Bank Transfers**

Banks transfer is a reliable and secure payment method. It assures customers that their funds are safely used as each transaction has to be authenticated and verified first by the customer's internet banking.

**d. E-wallets**

An e-wallet acts as a web treasury that stores a customer's personal data and funds. The money can later be used to purchase from online stores and websites. Getting an e-wallet is fast and easy, with customers demanded just to submit their information once for purchases. One of the most popular e-wallets is Paytm. Many banks have started providing wallets.

**e. Remittance system transfer**

Businesses with a high average ticket amount benefit from offering swift and SEPA as payment methods. They are the types of remittance systems, wire transfers. SWIFT is a global remittance system that is available inside the US. It processes dollars. SEPA, on the contrary, functions inside the European Union and supports euro only.

### **3.4.8. TYPES OF PAYMENT SYSTEM:**

#### **1. Credit Card**

The most popular form of payment for e-commerce transactions is through credit cards. It is simple to use; the customer has to just enter their credit card number and date of expiry in the appropriate area on the seller's web page. To improve the security system, increased security measures, such as the use of a card verification number (CVN), have been introduced to on-line credit card payments. The CVN system helps detect fraud by comparing the CVN number with the cardholder's information

#### **2. Debit Card**

Debit cards are the second largest e-commerce payment medium in India. Customers who want to spend online within their financial limits prefer to pay with their Debit cards. With the debit card, the customer can only pay for purchased goods with the money that is already there in his/her bank account as opposed to the credit card where the amounts that the buyer spends are billed to him/her and payments are made at the end of the billing period.

#### **3. Smart Card**

It is a plastic card embedded with a microprocessor that has the customer's personal information stored in it and can be loaded with funds to make online transactions and instant payment of bills. The money that is loaded in the smart card reduces as per the usage by the customer and has to be reloaded from his/her bank account.

#### **4. E-Wallet**

E-Wallet is a prepaid account that allows the customer to store multiple credit cards, debit card and bank account numbers in a secure environment. This eliminates the need to key in account information every time while making payments. Once the customer has registered and created E-Wallet profile, he/she can make payments faster.

#### **5. Net banking**

This is another popular way of making e-commerce payments. It is a simple way of paying for online purchases directly from the customer's bank. It uses a similar method to the debit card of paying money that is already there in the customer's bank. Net banking does not require the user to have a card for payment purposes but the user needs to register with his/her bank for the net banking facility. While completing the purchase the customer just needs to put in their net banking id and pin.

#### **6. Mobile Payment**

One of the latest ways of making online payments are through mobile phones. Instead of using a credit card or cash, all the customer has to do is send a payment request to his/her service provider via text message; the customer's mobile account or credit card is charged for the purchase. To set up the mobile payment system, the customer just has to

download a software from his/her service provider's website and then link the credit card or mobile billing information to the software.

#### **7. Crypto currency:**

In the last decade, crypto currency has gained a lot of importance. Many businesses are allowing an option of payment by Crypto currency. For eg. Tesla is contemplating to accept Bitcoins as payment option.

#### **8. Electronic Cheque:**

The electronic Cheque or e-cheque, is based on the idea that electronic documents can be substituted for paper and public key cryptographic signatures can be substituted for handwritten signatures. The e-cheques is designed to fit into current cheque practices and system with minimum impact on payers, payees, banks and the financial system.

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### **3.5 OPERATIONAL, CREDIT AND LEGAL RISKS OF E-PAYMENT SYSTEM**

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#### **3.5.1. CONCERNS FOR E-COMMERCE GROWTH:**

##### **1. Finding the right products to sell**

Shopping cart platforms like Shopify have eliminated many barriers of entry. Anyone can launch an online store within days and start selling all sorts of products. Amazon is taking over the eCommerce world with their massive online product catalogue. Their marketplace and fulfilment services have enabled sellers from all over the world to easily reach paying customers. All of this has made it very difficult for retailers to source unique products unless you they decide to manufacture your own.

##### **2. Attracting the perfect customer**

Online shoppers don't shop the same way as they used to back in the day. They use Amazon to search for products (not just Google). They ask for recommendations on Social Media. They use their smart phones to read product reviews while in-store and pay for purchases using all sorts of payment methods. Retailers must figure out where their audience is and how to attract them efficiently without killing their marketing budget.

##### **3. Generating targeted traffic**

Digital marketing channels are evolving. Retailers can no longer rely one type of channel to drive traffic to their online store. They must effectively leverage SEO, PPC, email, social, display ads, retargeting, mobile, shopping engines and affiliates to help drive qualified traffic to their online store. They must be visible where their audience is paying attention.

##### **4. Capturing quality leads**

Online retailers are spending a significant amount of money driving traffic to their online store. With conversion rates ranging

between 1% to 3%, they must put a lot of effort in generating leads in order to get the most out of their marketing efforts. The money is in the list. Building an email subscribers list is key for long term success. Not only will help you communicate your message, but it will also allow you to prospect better using tools such as Facebook Custom Audiences. Not all leads are created equally. Retailers must craft the right message for the right audience in order to convert them into leads with hopes of turning them into customers.

#### **5. Nurturing the ideal prospects**

A small percentage of your email list will actually convert into paying customers. Nonetheless, retailers must always deliver value with their email marketing efforts. Online retailers put a lot of focus on communicating product offering as well as promotions, but prospects need more than that. Value and entertainment goes a long way but that requires more work.

#### **6. Converting shoppers into paying customers**

Driving quality traffic and nurturing leads is key if you want to close the sale. At a certain point, you need to convert those leads in order to pay for your marketing campaigns. Retailers must constantly optimize their efforts in converting both email leads as well as website visitors into customers. Conversion optimization is a continuous process.

#### **7. Retaining customers**

Retaining the old customers is more expensive than attracting the new ones. Retailers must implement tactics to help them get the most out of their customer base in increase customer lifetime value.

#### **8. Achieving profitable long-term growth**

Increasing sales is one way to grow the business but in the end, what matters most is profitability. Online retailers must always find ways to cut inventory costs, improve marketing efficiency, reduce overhead, reduce shipping costs and control order returns.

#### **9. Choosing the right technology & partners**

Some online retailers may face growth challenges because their technology is limiting them or they've hired the wrong partners/agencies to help them manage their projects. Retailers wanting to achieve growth must be built on a good technology foundation. They must choose the right shopping cart solution, inventory management software, email software, CRM systems, analytics and so much more.

#### **10. Attracting and hiring the right people to make it all happen**

Attracting the right talent is key in order to achieve desirable online growth. Also, having the right leader plays an even bigger role. Retailers should be out there getting their name out within the online community by attending e-commerce conferences, speaking at events and

networking. Employees want to work for companies that care about them and their future.

### **3.5.2. RISKS INVOLVED-**

#### **1. Online Security risk**

There is a whole range of security threats out there to beware of, including malware, phishing attacks, hacking and spam mail.

To defend against these threats, make sure that you update your platform's operating system regularly, and use a strong SSL

#### **2. System Reliability Risk**

The Internet service provider (ISP) server could crash, your online payment system could show errors and the ecommerce plug-in could have bugs.

Except keeping all operating systems and APIs updated, these are just some things that may happen outside of our control.

#### **3. Privacy Issues Risk**

Customers' personal data could be compromised and used for spamming, identity theft and unsolicited marketing.

In addition to the online security measures previously mentioned, make sure to require customers to use strong passwords.

#### **4. Customer Disputes**

A customer might not have received their order, their credit card was charged twice, or the product they received didn't fit the online description.

Whether the customer is right or not, it's important to always have great customer service and to rectify all possible mistakes that were made.

#### **5. Credit Card Fraud**

Someone could use a stolen credit card to make an online purchase, or a hacker could use stolen credit data from other customers in your system.

No matter how good your online security measures are, always watch out for any suspicious transactions.

#### **6. Intellectual Property Issues**

Your website images, product descriptions, logos, videos, music, as well as your products, could be copied by others, or violate someone else's intellectual property.

## **7. SEO**

Google or other platforms could do a complete makeover of their algorithm at any time, and make your website traffic drop significantly overnight.

## **8. Taxation**

You might not be including the appropriate sales tax in your sales, or you are not paying fair shipping and/or import taxes depending on your shipping destination.

## **9. Return of Goods and Warranty**

Common headaches when dealing with product returns: Increase in supply chain costs and not being able to resell the items at their original price.

## **10. Warehousing and Logistics Risk**

You could run out of stocks while orders are coming in, a product shipment might be delayed, or a parcel could be delivered to the wrong recipient.

These are risks that come with the territory when running an ecommerce business.

The most important thing you can do is to always keep these in mind, and to build a strategy on how to deal with them once they happen.

## **11. Cyber Risk:**

- (a) Cyber Attacks
- (b) Hacking (Phishing, IP Spoofing,)

### **3.5.3. PRINCIPLES FOR E-PAYMENT**

#### **1. Integrity and authorization**

A payment system with integrity allows no money to be taken from a user without explicit authorization by that user. It may also disallow the receipt of payment without explicit consent, to prevent occurrences of things like unsolicited bribery. Authorization constitutes the most important relationship in a payment system. Payment can be authorized in three ways: via out band authorization, passwords, and signature.

#### **2. Out-band authorization:**

In this approach, the verifying party (typically a bank) notifies the authorizing party (the payer) of a transaction. The authorizing party is required to approve or deny the payment using a secure, out-band channel (such as via surface mail or the phone). This is the current approach for credit cards involving mail orders and telephone orders: Anyone who knows a user's credit card data can initiate transactions, and the legitimate user must check the statement and actively complain about unauthorized



transactions. If the user does not complain within a certain time (usually 90 days), the transaction is considered "approved" by default.

### **3. Password authorization :**

A transaction protected by a password requires that every message from the authorizing party include a cryptographic check value. The check value is computed using a secret known only to the authorizing and verifying parties. This secret can be a personal identification number, a password, or any form of shared secret. In addition, shared secrets that are short - like a six-digit PIN - are inherently susceptible to various kinds of attacks. They cannot by themselves provide a high degree of security. They should only be used to control access to a physical token like a smart card (or a wallet) that performs the actual authorization using secure cryptographic mechanisms, such as digital signatures.

### **4. Signature authorization:**

In this type of transaction, the verifying party requires a digital signature of the authorizing party. Digital signatures provide non repudiation origin: Only the owner of the secret signing key can sign messages.

### **5. Confidentiality:**

Some parties involved may wish confidentiality of transactions. Confidentiality in this context means the restriction of the knowledge about various pieces of information related to a transaction: the identity of payer/payee, purchase content, amount and so on. Where anonymity and un-traceability are desired, the requirement may be to limit this knowledge to certain subsets of the participants only.

### **6. Availability and reliability:**

All parties require the ability to make or receive payment whenever necessary. Payment transactions must be atomic. They occur entirely or not at all, but not hanging. No payer would accept a loss of money due to network or system crash. Availability and reliability presume that the underlying networking services and all software and hardware components are sufficiently dependable.

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## **3.6 SUMMARY**

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The module discusses the emergence of E-Commerce. It also throws light on the pros and cons of this buzzing business mode. In continuation to this, the module also discusses E-marketing and its types. There are various ways of E-Marketing which are categorically mentioned. The E-Payment system, which happens to be the most sensitive area of E-Commerce, has a standard principles and specific protocol which is included in this module.

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### 3.7 EXERCISE

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#### Questions for Exercise:

##### A. Select appropriate option and fill in the blanks:

1. Communicating the prospects about the various features of a product/service online using internet tools is called ---  
(**E-Marketing**/ E-Commerce/ E-Payment )
2. ---- in e-Commerce research is gaining tremendous importance in today's time. (Google/ Data factoring/ **Data analytics**)
3. ----promote content & increases visibility through online searches.  
(Seamless Electronic Mechanism/ **Search Engine Optimization**/ Secured Electronic Marketing)
4. Marketing communication done on platforms like Facebook, Twitter, Instagram is called----  
(Social Marketing/ **Social Media Marketing**/ Societal Marketing)
5. ---- ads are advertisements where the promoters pay every time a user clicks on an ad.  
(Pay Per Cancellation/ **Pay Per Click**/ Pay Per Call)
6. ---- is a kind of online advertising that uses online cookies to track followers around the internet, in order to target them again.  
(Demarketing/ **Remarketing**/ Premarketing)
7. An ---- system is a way of making transactions or paying for goods and services through an electronic medium, without the use of checks or cash.  
(E-Marketing/ E-Media Planning/ E-Payment)
8. Social Media helps a marketer to gain----  
(**Market insights**/ Market Competition/ Market Disruptors )

##### B. State whether the following statement is TRUE or FALSE:

1. Confidentiality is not maintained in E -Payment System- FALSE
2. Social Media Marketing calls for high level of creativity and need for constant engagement-TRUE
3. Tesla has declared that it will accept Bitcoin as a payment option- TRUE
4. E-Kart is logistics Unit, an extension of Amazon-FALSE
5. E-payment is a prime target for online criminals- TRUE
6. Problem recognition is the first step in Online Purchase Buying Process-TRUE

7. Measuring online Marketing efforts is difficult- TRUE
8. Customer Satisfaction does not lead to brand loyalty-FALSE
9. Word-of-mouth has to be the most powerful marketing tool. TRUE
10. Digital signatures do not provide non repudiation origin. TRUE

**C. Answer the following questions**

1. Define e-Marketing and its Scope

Or

Explain the areas where E-Marketing can be brought into use.

2. What are the different techniques used in E-Marketing
3. Write a note on Web Counters
4. Elaborate the different types of Web Advertisements used
5. Discuss the advantages and Disadvantages of Social Media Marketing
6. Discuss the E- Buying Process in detail
7. Explain the planning process for E-Commerce
8. Discuss the advantages and Disadvantages of E-Commerce
9. What are the characteristics of an E-Payment System?
10. Explain the SET protocol for Credit Card Payment
11. What are the growing concerns for E-Commerce?
12. Explain the risks involved in E-Commerce
13. State the Standard setting/ Industry Principles for E-Payment System



## **LEGAL AND REGULATORY ENVIRONMENT AND SECURITY ISSUES OF E-COMMERCE**

### **Unit Structure:**

- 4.0 Objective
- 4.1 Introduction
- 4.2 Introduction to Cyber Laws
- 4.3 Taxation Issues in E-Commerce
- 4.4 Security Issues in E-Commerce
- 4.5 Security tools in E-Commerce
- 4.6 Summary
- 4.7 Exercise

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### **4.0. OBJECTIVES**

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After studying this unit the student will be able to -

- Understand the concept Legal and Regulatory Environment
- Knowledge about Cyber Laws and protection
- Know about the protection to Cyber Consumers
- Know about the Risk Management of E-Commerce Security
- Understand about various tools of security in E- Commerce

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### **4.1 INTRODUCTION**

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E-commerce is considered a game-changer for the Indian economy and the future of “Digital India”. R-commerce can be regarded as one of the greatest development of this century. The increasing scope of E-commerce has already revolutionized the way businesses are being done nowadays. The shift from the conventional method of doing business physically to the modern method of doing it virtually online has tremendously given rapid growth to many sectors. With this growth, it is equally important to establish trust and confidence amongst consumers concerning fair dealing. Two points need to be addressed:

- (i) Is the current legal framework concerning e-commerce adapted to create confidence,
- (ii) Are the existing rules providing the predictability that business activity needs?

The legal & regulatory framework provides a lot of protection by making the service providers to compulsory adhere to, on online platforms.

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## 4.2 INTRODUCTION TO CYBER LAWS

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### 4.2.1 CYBER LAWS

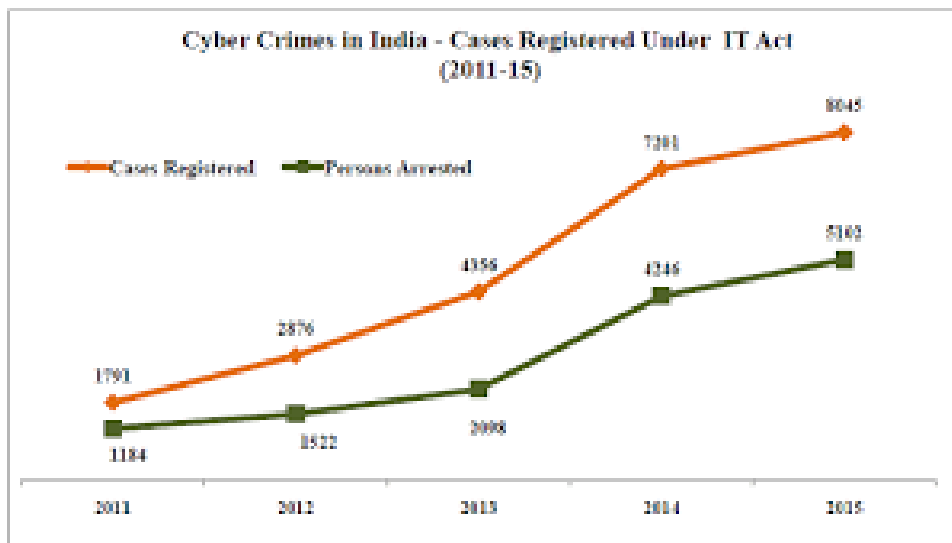
Information Technology getting advanced day by day has taken computers to play an important role in today's business but unfortunately, it has also given rise to crimes using computers.

It is very important hence to enforce laws that can educate in the cyber sector to keep up with this criminal element. It is important to educate people on cyber laws and security practices to use the platform.

#### Cyber Crime:-

Cybercrime is criminal activity that uses a computer, a computer network, or a networked device. While most cybercrimes are carried out to generate profit for the cybercriminals, some cybercrimes are carried out against computers or devices directly to damage or disable them, while others use computers or networks to spread illegal information, images, or other materials.

According to the latest govt data, India has recorded a massive increase of 63.5% in cybercrime cases in 2019. The National Crime Record Bureau's (NCRB) data stated that 44,546 cases of cybercrimes were registered in 2019 as compared to 28,248 in 2018.



With the increasing usage of the internet and the increasing cybercrime, it is important to take measures to control it. The existing laws of India, even with the most compassionate and liberal interpretation could not be interpreted in the light of emergency that could include all aspects relating to different activities in cyberspace.

## **Cyber Laws:-**

Cyberlaw is a term used to describe the legal issues related to the use of communications technology, particularly "cyberspace", i.e. the Internet. It is a distinct field of law. It is an intersection of many legal fields, including intellectual property, privacy, freedom of expression, and jurisdiction.

Cyberlaw is any law that applies to the internet and internet-related technologies. Cyberlaw provides legal protections to people using the internet.

### **4.2.2 CYBER LAWS IN INDIA**

In India, Cyber Laws are included under Information Technology Act, 2000, which came into force on October 17, 2000. The main purpose of the Act is to provide legal recognition to e-commerce and to facilitate the filing of electronic records with the Government.

With an increase in the dependency on the use of technology, the need for cyber law was necessary. Much like every coin has two sides, therefore, the dependency on technology has its pros and cons.

#### **The major areas of cyber law include:**

- a. Fraud
- b. Copyright
- c. Defamation
- d. Harassment and Stalking
- e. Freedom of Speech
- f. Trade Secrets
- g. Contracts and Employment Law

#### **Case Studies of Cyber Crime:-**

##### **a) Bazee.com case**

In December 2004 the Chief Executive Officer of Bazee.com was arrested because he was selling a compact disk (CD) with offensive material on the website, and even CD was also conjointly sold-out in the market of Delhi. The Delhi police and therefore the Mumbai Police got into action and later the CEO was free on bail.

##### **b) Parliament Attack Case**

The Bureau of Police Research and Development, Hyderabad had handled this case. A laptop was recovered from the terrorist who attacked the Parliament. The laptop which was detained from the two terrorists, was under siege, was sent to the Computer Forensics Division of BPRD. The laptop contained several proofs that affirmed the two terrorist's motives, mainly the sticker of the Ministry of Home that they had created on the laptop and affixed on their ambassador car to achieve entry into Parliament House and the fake ID card that one of the two terrorists was

carrying with a Government of India emblem and seal. The emblems (of the 3 lions) were carefully scanned and additionally, the seal was also craftly created together with a residential address of Jammu and Kashmir. However careful detection proved that it was all forged and made on the laptop.

Many such cases of Cyber Crimes are there, which indicates the loopholes in the Law.

#### **4.2.3 LIMITATION OF CYBER LAWS:-**

With Indians using the internet for all their needs, ranging from shopping to banking, studying to storing data, and cybercrimes increasing, there are some limitations or challenges that need to be dealt with. These limitations are:-

##### **1. Lack of uniformity in devices used for internet access:-**

With varying income groups in India, not everyone can afford expensive phones. In the US, Apple has over 44% market share. However, in India, the iPhones with their higher security norms are used by less than 1% of mobile users. The widening gap between the security offered by the high-end iPhone and lower cost mobiles makes it almost impossible for legal and technical standards to be set for data protection by the regulators.

**2. Lack of national level architecture for Cybersecurity :-**Critical infrastructure is owned by the private sector, and the armed forces have their firefighting agencies. However, there is no national security architecture that unifies the efforts of all these agencies to be able to assess the nature of any threat and tackle them effectively.

**3. Lack of separation:-** Unlike countries or states, in cyberspace there are no boundaries, thus making the armed forces, digital assets of ONGC, banking functions, etc. vulnerable to cyber attacks from anywhere. This could result in security breaches at a national level, causing loss of money, property, or lives. To respond to possible threats to the country's most precious resources, there is a need for a technically equipped multi-agency organization that can base its decisions on policy inputs and a sound strategy.

**4. Lack of awareness:-** In absence of a national regulatory policy in place for cybersecurity there is a lack of awareness at both the company level as well as individual level. Protection from the cyber attacks is possible only if there is a guided and supervised legal framework.

Efforts must be made for improvement. With strengthened cybersecurity defenses in India's future, Indian businesses will become more competitive on a global level and create a safer digital India

#### 4.2.4 HACKING:-

One of the Cyber Crimes that is very common is “Hacking”. It refers to the activity of identifying weaknesses in a computer system or a network to exploit the security to gain access to personal data or business data. **An example of computer hacking can be:-** “using a password cracking algorithm to gain access to a computer system.

A **Hacker** is a person who finds and exploits the weakness in computer systems and/or networks to gain access. Hackers are usually skilled computer programmers with knowledge of computer security.

#### 4.2.5 TYPES OF HACKERS:-

1. **Ethical Hacker / White hat:-** A security hacker who gains access to systems intending to fix the identified weaknesses. They may also perform penetration testing and vulnerability assessment.

2. **Cracker / Black hat:-** A hacker who gains unauthorized access to computer systems for personal gain. The intent is usually to steal corporate data, violate privacy rights, transfer funds from bank accounts, etc.

3. **Grey hat:-** A hacker who is in between ethical and black hat hackers. He/she breaks into computer systems without authority intending to identify weaknesses and reveal them to the system owner.

4. **Script kiddies:-** A non-skilled person who gains access to computer systems using already made tools.

5. **Hactivist:-** A hacker who uses hacking to send social, religious, and political, etc. messages. This is usually done by hijacking websites and leaving a message on the hijacked website.

#### Laws on hacking in India:-

Section 43 and section 66 of the IT Act **cover** the civil and criminal offenses of data theft or **hacking** respectively. ... Section 66B covers punishment for receiving stolen computer resources or information. The punishment includes imprisonment for one year or a fine of rupees one lakh or both

#### 4.2.6 WEB VANDALS:

Web or Digital vandals can be defined as defacing the digital assets of a company or individual to cause nuisance or permanent damage.

In Web /digital vandalism rather than physically damaging technology, digital vandals hack the technology to create issues within the technology itself. Digital vandalism can target a single computer or an entire company, creating simple pranks within websites or altering masses



of data and information. Destroying cyberspace is a digital vandal's main aim, with many vandals spending hours writing software responsible for the cyberattacks around the world. The implications for the rise of digital vandalism are therefore huge and have continued to grow with the advancement of technology in recent years.

### **Case Study**

A high profile digital vandalism prank occurred in 2015 when Google allowed its users to participate in map creation on its Map Maker. Digital vandals seized the opportunity to create an illustration of an Android mascot urinating on Apple's logo for the public to see. Even though Google removed the map as soon as it was flagged to them, the vandalism resulted in Google disabling the map editing capability until digital moderation was adapted and improved. The Map Maker is now enabled again, but editing is slower due to the new moderation systems in place. Digital vandals are constantly looking for potential technology to hack, with high profile companies as exceptionally desirable targets.

## **4.2.7 TYPES OF DIGITAL VANADALS:-**

### **1. Damaging System Elements:-**

Cyber vandalism may hit a business in the form of an element of a system being damaged in order to interrupt its normal utilization. Cybercriminals may do this by developing and sending malicious software that disables anything from a computer's hard drive to a server that stores information to specific programs or applications.

### **2. Damaging Computer Hardware**

Under this vandalism occurs when a disk drive is removed in an attempt to disable a computer system. This could happen internally by some employee or externally from a thief attempting to steal company data or intellectual property. The loss of important information in this way can cause financial loss or loss of reputation.

### **3. Defacing Websites**

**Website defacement** can be another form of digital vandalism that a company may have to contend with. Individuals often deface websites to make a political statement or simply to draw attention or cause chaos. Anytime a cybercriminal makes changes to a website or its appearance, it is considered defacing a website.

## **4.2.8 E- MAIL ABUSE:-**

E-Mail abuse refers to the unsolicited sending of spam, third party advertisements, derogatory language, slander, and threats via electronic mail.

Unsolicited emails such as phishing attacks and unwanted spam are an increasing problem. These email accounts belong to people who have a habit of marking emails as spam. In email marketing, they're known as "complainers."

According to a study by Mail Chimp, which analyzed hundreds of millions of email campaigns, companies that have between 26 and 50 employees have the lowest abuse rates: 0.007 percent. Some 53 percent of the world's email traffic is spam.

According to the statistical data, in 2019, people are getting about 126 emails a day. On top of that, over 53% of the world's email traffic overall is spam.

#### **4.2.9 TYPES OF EMAIL-ABUSE:-**

##### **1. Ads**

This is one of the most common types of spam. Most of the time the emails are being flooded by these unwanted and unrealistic messages. Like unsolicited commercial email messages sent in bulk, often using a purchased (or stolen) mailing list that includes your address, misleading messages from people, counterfeit messages etc.

##### **2. Chain Letters**

Another type of Email abuse is chain letters, which tell exciting and thrilling stories and persuade you to pass the message along under penalty of having something very bad happen to you. Like – “Pass it to 10 more members, or something bad will happen”, or “passing it to 10 more will bring good luck to you.

##### **3. Email Spoofing**

This spam is related to phishing scams. They happen when spammers or phishers try to fool you by impersonating someone you know or a company you have a relationship with. This is one of the most dangerous types of spam. Like - an email from a well-known shopping website, asking the recipient to provide sensitive data such as a password or credit card number., or a link that installs malware on the recipient's device if clicked.

##### **4. Hoaxes**

This type of spam, includes offers and miracle promises, such as, for example, "get rich in less than a month" or "gain the body of your dream by eating more and working out less".

##### **5. Money Scams**

Money spam also involves asking for money for hungry children in Africa or for families who have suffered losses as a result of a natural disaster.

This email abuse, however, can be controlled by installing an email security system or using anti fraud protection that protects the company domain.

Under Cyber law, The Can Spam Act, 2003., has been formulated to control Email abuse. This law is an Act to govern inter-state commerce by imposing limitations and penalties on the transmission of unsolicited commercial electronic mail through the internet.

#### **4.2.10 SOFTWARE PIRACY**

Software piracy is a term used to describe the act of illegally using, copying or distributing software without ownership or legal rights. The majority of software today is purchased as a single-user license, meaning that only one computer may have that software installed on it at one time. Copying software to multiple computers or sharing it without multiple licenses is considered illegal software piracy.

#### **4.2.11 TYPES OF SOFTWARE PIRACY**

##### **1. Counterfeiting**

This type of piracy is the illegal duplication, distribution, and/or sale of copyrighted material with the intent of imitating the copyrighted product.

##### **2. Internet Piracy**

This occurs when software is downloaded from the Internet. The same purchasing rules apply to online software purchases as for those bought in compact disc format.

##### **3. End User Piracy**

This occurs when an individual reproduces copies of software without authorization. Like Using one licensed copy to install a program on multiple computers, or copying discs for installation or distribution

##### **4. Client-Server Overuse**

This type of piracy occurs when too many users on a network are using a central copy of a program at the same time. If there are more users than allowed by the license, then its "overuse."

##### **5. Hard-Disk Loading**

This occurs when a business sells new computers with illegal copies of software loaded onto the hard disks to make the purchase of the machines more attractive.

In 2018, the Business Software Alliance estimated that 37% of all software installed on personal computers was unlicensed, which translated to \$46.3 billion in lost revenue. Bit Torrent, the most popular file sharing website, accounted for 22% of global upload bandwidth in 2018, according to Sandvine. That shows how much people are interested in pirating content.

### **Ways to avoid Software Piracy:-**

- 1) Copyrights, patents, and end user agreements
- 2) Software product keys
- 3) Obfuscation
- 4) Tamper-proof software
- 5) Software watermarking

### **CASE STUDY**

The Defendants (accused) were engaged in the business of assembly and sale of computers since 1996 and were selling computers loaded with pirated versions of Microsoft software. Microsoft placed a trap order with the Defendants through a Microsoft employee, and the Defendants sold to this employee a computer preloaded with Microsoft's pirated software, viz., visual studio 6.0, MS Windows 98 and MS Office 2000. Thereafter, Microsoft filed a suit against the Defendants inter alia for an order of permanent injunction and damages on the ground that the Defendants did not have any license or permission from Microsoft to copy or sell its software.

### **JUDGEMENT**

The Delhi High Court awarded damages of approximately Rs. 2,000,000 (US\$46500) to Microsoft Corporation ("Microsoft") in a software piracy case, which is one of the highest damages award in such cases in India. In addition to awarding the damages, the court granted a permanent injunction against one, Mr.Yogesh Popat and others (the "Defendants"), from carrying out any infringement/passing off activities of Microsoft products, copyrights or trademarks. The court also passed an order against the Defendants to deliver all pirated copies of Microsoft's software, including the equipment used to make infringing copies of the software, as well as other infringing materials in the Defendants' possession.

### **4.2.12 SOFTWARE PATENTS**

A **patent** is the granting of a property right by a sovereign authority to an inventor. This grant provides the inventor exclusive rights to the **patented** process, design, or invention for a designated period in exchange for a comprehensive disclosure of the invention. They are a form of incorporeal right.

#### **Software Patent law in India**

The Indian Patent Law does not contain any specific provision regarding the protection of computer software. There are no guidelines or office procedures followed by the Indian patent office regarding computer software, however a claim to a manner of manufacture, which results in a tangible product, which requires the application of an algorithm or a particular computer program, may be patentable. India has recently prepared itself for providing patent registrations on software.

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## 4.3 TAXATION ISSUES IN E- COMMERCE

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### INTRODUCTION

With the computer and its technology being very much in use in the business and industry sectors, there is tremendous development the way businesses are being carried today.

E-commerce started in US and China at first. In 1990 the online retail business in US accounted for \$15 billion and grew to \$389 by 2016. India's e-commerce market was worth about \$3.9 billion in 2009, it went up to \$12.6 billion in 2013. In 2013, the e-retail segment was worth US\$2.3 billion. About 70% of India's e-commerce market is travel related. According to Google India, there were 35 million online shoppers in India in 2014 and is expected to cross 100 million mark by end of year 2016. By 2020, India was expected to generate \$100 billion online retail revenue out of which \$35 billion will be through fashion e-commerce.

It is expected that this will grow 4 times in coming years.

### 4.3.1 TAXATION ISSUES

**Taxation of e-commerce** is an important issue for countries, businesses and consumers who want to be a party of **e-commerce**. The issues such as **tax** loss and **tax** evasion are crucial.

As per **Indian taxation** structure the basis of **tax** in **India** has been resident based **taxation** while in other countries the **taxation** basis has been source basis. However with **e-commerce** transactions the need for a physical presence virtually ceases, which further creates **problems** in the enforcement of **tax** laws.

With globalization and E-commerce business growing rapidly, the world has become one single market and the territory barriers no more is applicable. In such a scenario and increasing cyber crimes, having a common taxation regime is all the more important.

With compliance burden and potential increase of costs, many of the e-commerce players consider unilateral measures taken by India as a deterrent to an effective business model.

Some of the fundamental tax-related issues raised by the evolution of cross-border e-commerce transactions may be summarised as follows:

- a need to develop new norms and tenets of interpretation to determine the nature and character of income from cross-border e-commerce transactions
- a need to create a new definition and meaning of the permanent establishment

- a need to change the basis of taxation - for example, residence-based taxation principles of tax neutrality be adhered to.

Unless these issues are addressed, an erosion of the tax base may result, especially for developing and underdeveloped countries.

In absence of boundaries and physical nature of transactions in goods and services, there are many issues relating to the taxation of E-Commerce which are :-

### **1. Tax Jurisdiction:-**

As per traditional rules of determination of jurisdiction, the courts in a country have jurisdiction over individuals and/or to the transactions which occurs within the territorial boundaries of that country. But in case of E commerce there is no such jurisdiction that is applicable. The identification of the countries that have tax jurisdiction is one of the major issues. E-commerce enables a distant person to initiate multiple transactions with customers in different countries without getting in touch with them. Since the supplier has no existence at all in the jurisdiction of the customer, establishing place of supply would not be an easy task. Even the development of WAP (Wireless Application Protocol) integrates mobile telephony with the Internet, making the place of origin of business invisible is a real challenge .

### **2. Permanent Establishment:-**

Due to the intangible nature of transactions in E-Commerce, it is difficult to determine permanent establishment. Determining permanent establishment of the geographic location and ownership of web servers further complicate the matter. To tax E-Commerce transacted on the websites hosted on its web server in another country web servers, hosting companies is required to have a “permanent establishment” status (a rule of Websites comprises of databases and software do not constitute “real property” and therefore not considered to have permanent e For an Internet-based business to be accountable for taxes, possession of ownership or lease of the web server is an essential criterion. However, the possibility of a quick transfer of website and its database to a poses a challenge for governments to easily track and collect taxes from businesses having operations all over the world.

### **3. Tax Collection:-**

Web-based businesses which have an outstanding reach to the universe of customers at low cost, provide an opportunity for small companies to flourish with minimal start-up capital. But the to track tax collection with these companies becomes really impossible

### **4. Confidentiality:-**

The revenue legislation of most nations covers confidentiality provisions preventing their tax administration from revealing information regarding a taxpayer's tax affairs to another revenue authority. Therefore, secrecy laws act as a further barrier to cooperation

and integration within tax authorities across the world. Even where secrecy provisions do not apply, fear of unwanted economic consequences such as capital .

#### **4.3.2 CONSUMER PROTECTION ACT 1986 AND CYBER CONSUMER**

The Consumer Protection Act 1986 was passed by the Indian Parliament to protect consumer rights and to redress consumer complaints and resolve consumer disputes. It protects the consumers from unfair trading or unfair trade practices.

The Consumer Protection Act was passed in 1986 and it came into force from July, 1987. The main objectives of the Act are to provide better and all round protection to consumers and effective safeguards against different types of exploitation such as defective goods, deficient services and unfair trade practices.

##### **Features Of CPA 1986**

**i) Uniformity:-**This Act applies to all kinds of goods, services and unfair trade practices unless there is specific exemption made by the central government. All the sector whether they are private, public or cooperative is covered under this Act.

**ii) 3-Tier Redressal:-**This Act gives consumers three tiers redressal system. There is redressal forums at centre, state and District levels for providing justice to the victim consumer. Three tiers are:-

- National commission :- Section 20 to 27A of the Act talks about the composition of the commission, applications of the complaint, procedures, appeal etc. The complaint must exceed amount of one core. The goods if found defective after testing are asked for replacement or compensation for that defects.
- State commission ( Section 16-19A) :- State commission is formed by each state which consist of two members and president. The complaint should be at least amount of 20 lakh and not exceed more than one core. If the goods are found defective after testing then assured party are asked for replacement and compensation.
- District Forum ( Section 9-15) :- This forum is set up by the state at District level which consists of two members and a president. Among these members one should be woman and is appointed by the state government. The complain should not be entertained if amount exceed twenty lakh.

**iii) Umbrella Of Legislation:-**This Act is an umbrella of legislation covering goods and services but excluding all the transactions undertaken by the person not coming under the ambit of section 2(1)(d).

### **4.3.3 PROBLEMS FACED BY CONSUMERS IN E-COMMERCE:-**

#### **1. Quality issues**

The biggest problem while buying things online is that you have no guarantee of a product's quality. With the volume of goods e-commerce companies handle these days, it can be quite difficult for them to conduct quality checks on each and every one of the products they're selling.

#### **2. Delivery and logistics**

Delivery of product in shopping online is a big chaakange. While all e-commerce sites have order tracking systems for their customers, they aren't always accurate. no way to fix a particular time slot for the delivery to take place. This same issue exists while returning products. Another problem is that the vast majority of the Indian population which lives in rural areas and Tier-III cities is unable to shop online because all e commerce sites do not provide deliveries there

#### **3.Digital payment failures**

E wallet is now used by majority of customer's like Paytm, G-Pay credit/debit card, net banking, the failure of digital payments is always lthere while making online transactions. A faltering internet connection or a technical glitch often results in the payable amount being debited from a customer's account without being credited to the selling party.

#### **4. Additional charges**

Many a times customer ends up paying additional charges in the name of delivery charges or shippment charges. These hidden charges are normally informed at the payment gateway.

#### **5. Unclear return and guarantee policies**

Many e-commerce sites does not provide return policy or any guarantee with respect to quality of goods. As a result consumers on these platform often faces issues pertaining to return or quality of goods

#### **6. Lack of security**

Cyber security, or more precisely the lack of it, is a major problem on the internet today. E-commerce sites record important customer data like name, phone number, address, and bank details, that can easily be misused if proper care is not taken.

### **CASE STUDY**

Case of *Rediff. com India Ltd. v/s UrmilMunjia*<sup>6</sup>, wherein the consumer was dissatisfied with the goods delivered by the online shopping website. While the consumer wanted to return the product and claim refund, he did not find a Return Policy, which provided details of the address to which the products were to be returned. Since the online portal was facilitator between the sellers and buyers as mentioned in the terms and conditions, it was the duty of the facilitator to inform the consumer as to how the goods are to be returned to the seller. The Court held the online portal liable on the grounds of 'Deficiency in Service' for not providing sufficient information.



#### **4.3.4 ELECTRONIC RECORDS**

Electronic records refer to any combination of text, graphics, data, audio, pictorial, or other information representation in digital form that is created, modified, maintained, archived, retrieved, or distributed by a computer system.

Examples of **electronic records** include: e-mail messages, word-processed documents, **electronic** spreadsheets, digital images and databases.

As per the IT ACT 2000 "electronic record" means data, record or data generated, image or sound stored, received or sent in an electronic form or micro film or computer generated micro fiche.

#### **Importance Of Electronic Record As Evidence**

1. An Easy Access to All the Files and Information
2. Creates Standard Approach and Better Access Control.
3. Enhance Security and Data Back up.
4. Ensures Improved Compliance
5. Integration With Other Systems Increases Efficiency
6. Protects business from Security Related Issues
7. Cost Effective

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### **4.4 SECURITY ISSUES IN E-COMMERCE**

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#### **• Risk Management Approach To E-Commerce**

The growth of E Commerce in recent times has grown three folds and so is the risk. The security issues are also increasing with same rate, and it is important to take necessary measures that can safeguard the users interest. Risk in on line transaction is unavoidable.

Managing risk is very important in E Commerce. It plays a critical role to protect the organization and its ability to perform their business and not just its IT assets. Risk management is the process of identifying risk, assessing risk, and taking steps to reduce risk to an acceptable level. Following are the most important procedures for managing risk in e-commerce transactions.

#### **1. Understand the risks and train staff**

It is important in order to minimise the risk in E Commerce that staff should know clearly what risks e-commerce business may have to deal with. Everyone in business structure needs to understand the types of risks inherent in online payments. Establishing a procedure on avoiding and solving risks, which is a must for all staff to follow.

#### **2. Ensure information security**

Information related to customer databases, buying requests, payment process.etc. is very important in E –Commerce. Hacking by

hackers is very common problem, so there is a need to ensure good security all the time to avoid data being changed or stolen. There is a need to set up a secure and efficient process for submitting authorization requests over the internet, before starting accepting card payments online. It is important for E-commerce companies to look for DSS (Data Security Standards).

### **3. Select the right acquiring bank and merchant services provider.**

Bank and Merchant are key players along with the customer in E Commerce. The right acquiring bank and merchant services provider will provide effective risk management support if they have a complete understanding of e-commerce fraud risk and liability associated with online transactions.

### **4. Create and display effective policies**

Website is the first place where interaction between buyer and seller starts. Hence website must list all privacy, shipping, return and refund policies very clearly on each page. Customers should not be forced to search for them. This will also create satisfaction and convenience for customers to visit web page more often.

### **5. Use collection efforts to minimize losses**

It is important to have control over charge-backs and especially the ones resulting from processing errors. A well-designed collection system can help recover unwarranted chargeback losses

### **6. Secure the process of routing your authorizations.**

In E-Commerce it is important that authorizations are handled carefully, it is important to ensure a system that all authorizations are submitted in a secure and efficient manner, before it starts accepting card payments over the internet. The routing of information has to be through secured mode.

### **7. Establish a process for handling transaction post-authorizations.**

In E-Commerce transactions it is important to deal separately with approved and declined authorizations. A system has to be developed for filtering it.

### **8. Build a fraud screening process.**

A strong and secure system has to be in place for fraud screening and control. When adequately implemented, the screening of online card transactions can help in minimizing fraud for high-risk transactions.

The Internet has driven a huge increase in the level of trade conducted electronically, and had lead a growth in E-commerce. Lot of transaction for buying and selling happens on a daily basis. But with this growth comes security issues in e-commerce . These security issues has

become a great threat . Any e-commerce system must meet certain criteria to guard against these potential threats.

E commerce security threats are causing havoc in online trading. There is approximately 32.4% of threats that is experienced annually in online trading.

#### **4.4.1 SOURCES / TYPES OF SECURITY ISSUES IN E COMMERCE:-**

##### **1. Financial frauds**

Financial fraud has been a very common in on line trading. There are various kinds of Financial frauds prevalent in the e-commerce industry, but we are going to discuss the two most common of them.

##### **a. Credit Card Fraud**

It happens when hacker steal the credit card data or any other personal details , used by the customer on any of the site . It can be identified as normally shipping and billing address varies. AVS - Address Verification System can be used by the companies to detect and control these frauds.

##### **b. Fake Return & Refund Fraud**

Some hackers engage in refund frauds, where they file fake requests for returns. Sometimes even they perform unauthorized transactions and clear the trail, causing businesses great loss.

##### **6. Phishing**

Phishing is a cyber attack that uses disguised email as a weapon. The goal is to trick the email recipient into believing that the message is something they want or need. a request from their bank, for instance, or a note from someone in their company — and to click a link or download an attachment.

##### **7. Spamming**

**Spamming** is when one person or company sends an unwanted email to another person. **Spam** emails are the computer version of unwanted "junk mail" that arrives in a mailbox, such as advertising pamphlets and brochures.

##### **8. DOS & DDoS Attacks**

A Denial-of-Service (**DoS**) **attack** is an attack meant to shut down a machine or network, making it inaccessible to its intended users. **DoS attacks** accomplish this by flooding the target with traffic, or sending it information that triggers a crash.

Many e-commerce websites have incurred losses due to disruptions in their website and overall sales because of Distributed Denial of services (DdoS) attacks.

## **9. Malware**

Malware is intrusive software that is designed to damage and destroy computers and computer systems. Malware is a common word used for many “malicious software.” Examples of common malware includes viruses, worms, Trojan viruses, spyware, adware, and ransom ware.

## **10. Exploitation Through Vulnerabilities**

Attackers are on the lookout for certain vulnerabilities that might be existing in an e-commerce store. Often an e-commerce store is vulnerable to SQL injection and Cross-site Scripting (XSS).

### **a. SQL Injection**

It is a malicious technique where a hacker attacks your query submission forms to access your database. They corrupt your database with an infectious code, collect data, and later wipe the trail.

### **b. Cross-Site Scripting (XSS)**

The attackers can plant a malicious JavaScript snippet on your e-commerce store to target your online visitors and customers. Such codes can access your customers' cookies and compute.

## **11. Bots**

A **bot** short form of "robot" is an automated program that runs over the Internet. Some bots run automatically, while others only execute commands when they receive specific input. There are many different types of bots, like web crawlers, chat room bots, and malicious bots.

## **12. Brute Force**

Under this type of security issues the hackers normally attack admin panel of the user and try to crack password. They connect to the website and try to obtain user passwords.

## **13. Man in The Middle**

The users are more vulnerable to this type of security issues . A hacker may listen in on the communication taking place between-commerce store and a user.

## **14. E –Skimming**

E-skimming involves infecting a website's checkout pages with malicious software. The intention is to steal the clients' personal and payment details.

## **4.4.2 SOLUTIONS TO SECURITY ISSUES IN E- COMMERCE:-**

### **1. HTTPS and SSL certificates**

HTTPs protocols not only keep users' sensitive data secure but also boost website rankings on Google search page. They do so by securing data transfer between the servers and the users' devices. Therefore, they prevent any interception.

## **2. Anti-malware and Anti-virus software**

An Anti-Malware is a software program that detects, removes, and prevents infectious software (malware) from infecting the computer and IT systems.

Anti-Virus is a software that was meant to keep viruses at bay. Although a lot of Anti-virus software evolved to prevent infection from other malware as well.

## **3. Securing the Admin Panel and Server**

Using complex passwords that are difficult to figure out, changing them frequently is one of the practice that can keep a check on these insecurity.

## **4. Securing Payment Gateway**

Storing the credit card information of clients on database should be totally avoided. A third party such as PayPal and Stripe can handle the payment transactions away from website. This ensures better safety for customers' personal and financial data.

## **5. Deploying Firewall**

Firewall are a part of a computer system that is designed to prevent people from getting information without authority but still allows them to receive information that is sent to them. Deploying firewalls can keep away fishy networks, and helps in regulating the traffic on website..

## **6. Additional security implementations**

Always scan your websites and other online resources for malware. Back up your data. Most e-commerce stores also use multi-layer security to boost their data protection.

It is important that these security related issues need to be managed carefully and efficiently in E commerce

### **4.4.3 PROTECTING E-COMMERCE ASSETS AND INTELLECTUAL PROPERTY**

Market dynamics are changing, businesses are growing and customers need more technology support to optimize their marketing channels, effectiveness and improve their business outcomes. Setting online capabilities and analyzing business needs is must in E commerce . There are many E Commerce assets that need to be take care on online platforms.

#### **E-Commerce Assets:-**

Anything that provides or attaches value to the business is called as assets. A **digital asset** is a **digital entity** owned by an individual or company. They are tangible in nature, like files, documents, recordings, videos, or basically anything that can be stored digitally on a computer, hard drive, databases, or on the cloud.

These assets need to be protected by E Commerce companies against the suppliers, programme developer or hackers. The valuable assets in E-commerce includes:-

### **1. Domain**

Domain name is the address of website that people type in the browser, URL bar to visit website. An E Commerce companies have to most of the time get it from Domain registrar on rent and need to renew it again and again. If it is not renewed it automatically gets expired. In that case it is available to be purchased by others. If proper security is not handled there are chances of some important details to be misused. It is important to know how to manage domain, because some records need to be changed within the domain for security reasons.

#### **Securing this asset**

- Keep a record of domain registrar with and contact details.
- Make sure that the domain is actually registered
- Check domain records to make sure listing as the Billing Contact and preferable the Admin Contact.
- Set the domain to automatically renew before the expiry date and make sure the payment details on file with the Domain Registrar are kept up to date.

### **2. Website hosting**

E-commerce or website hosting is a business in which a company provides other companies whatever they need to sell their products and services on the World Wide Web - including a Web server to serve a company's pages, the Web site design.

Without hosting, a website won't appear on the internet. An e-commerce company need to outsource it to hosting company. A FTP login or panel is provided . This login will enable you to access the part of the server that your website is using and allows you to manage things like your Word Press installation, databases, domain names, email accounts and backups

#### **Securing this asset**

- Keep a record of who is hosting website and their contact details.
- Keep contact and payment details up to date with hosting company.
- having Panel and/or FTP access from hosting company.
- Consider if website is getting good traffic and/or is key to your business success then moving from shared hosting to a VPS or Dedicated Server.

### 3. Website (CMS) Access

Website access add on the ability to easily make changes to website through a user-friendly interface without having to rely on a developer to code changes, is one of the great benefits of Word Press and other Content Management Systems (CMS). To make changes, one need to be able to login to the 'backend' of your website usually through some kind of Admin access.

The two security risks relating to CMS Access are:

- Weak (easy to guess) passwords
- Unknown or many users with Administrator access meaning they can make changes to and delete the content on your site.

#### Securing this asset

- Review passwords and keep a strong one – 10-12 characters, combination of upper and lower case, numbers and symbols.
- Consider using a password manager to manage passwords.
- Review the users with access to website and the access levels they have and remove/revoke access to anyone who doesn't need it.

### 3. E Mail hosting accounts

**Email hosting** is a service in which **email** messages and associated files are all stored on a server. The server **hosting email** can be the same server that's **hosting** website content, a server managed by another host, or two different servers managed by the same **hosting** company.

It is important to review two things:-

- Who is hosting Emails
- Who has an E mail account associated with business.

#### Securing this asset

- Keep a record of your email hosting provider.
- Consider moving to a Hosted Email Service.
- Review email address associated with your business and remove unused emails

### 4. Advertising, Analytics & Social Media Accounts

In E Commerce business advertising , analytics and having social media accounts is very common. It is therefore important that only those business information should be made available that a business wants people to have access to.

#### Securing this asset

- Review who has access to business Google Ads & Google Analytics accounts .

- Review Facebook Ads Manager and Facebook page roles and remove anyone who no longer need to have access.
- Review all Social Media accounts and remove access to anyone who no longer need to have access

## **5. Customer Database**

In E Commerce customer database is a very important things to be managed. This is most important and valuable assets that a E commerce business need to manage.

### **Securing this asset**

- Review all users with access to CRM, Email Marketing software and/or Customer Database and remove anyone who no longer want to have access.
- Periodically export your database and save it to a local computer and/or cloud storage.

## **4.4.4 INTELLECTUAL PROPERTY IN E – COMMERCE**

**Intellectual Property** (IP) is a legal term that has been associated with industrial **property** with copyrights and other rights in the similar field.

The **Intellectual Property** Law safeguards the business interests and entities of a company or an individual against unfair competition. **E-Commerce** based businesses consider **it** as their most valuable asset and often own Patent portfolios and trademarks to enhance the value of their online businesses.

### **Types of Intellectual Property :-**

#### **1. Copyright**

In this digital era, copyrights play a significant role in safeguarding the creative content and information available on the websites. With rapid digitalization, the copyright owners seek the protection to prevent any unauthorized copying or distribution of work presented online.

Example:- Encryption and Watermarking can be effectively used to safeguard the IP rights of online businesses.

#### **2. Trademarks**

In the online world and E-Commerce, Trademarks have considerable importance to build a brand image by growing or selling the businesses A registered trademarks also makes it easier to take legal action and proceedings against brands that infringe on your business assets online.



### 3. Patents

Patents offer a considerable amount of incentives to the researchers and innovators in the arena of E-Commerce and online businesses. Patents help in licensing, contracting to outsource, and building strategic relationships involved in E-Commerce.

#### 4.4.5 ELEMENTS OF E COMMERCE PROTECTED UNDER INTELLECTUAL PROPERTY ACT

1. E-Commerce systems, search engines or other technical Internet tools
2. Software includes the text-based HTML code
3. Website design is protected under copyright.
4. Content in the form of written material, photographs, graphics,
5. Databases can be protected by copyright or by sui generis database laws.
6. Business Names, Logos, Product names, domain names and other signs
7. Graphic Symbols, displays, graphic user interfaces

### Case Studies

#### 1. The Coca-Cola Company v. Bisleri International Pvt. Ltd. and Ors

This case is better known as the **MAAZA War** case . Coca Cola is the largest brand of soft drinks operating in 200 countries whereas Defendant (Bisleri) No1 earlier known as Acqua Minerals Pvt. Ltd. used to be a part of the Parle Group of Industries. The owners of Bisleri had sold the trademarks, formulation rights, know-how, intellectual property rights, and goodwill etc. of their product MAAZA amongst others to the coca cola by a master agreement.

In March 2008, when the Coca cola filed for registration of MAAZA trademark in Turkey, the defendant sent a legal notice repudiating the Licensing Agreement thereby ceasing the Coca cola from manufacturing MAAZA and using its trademarks etc. directly or indirectly. In consequence, the Coca cola claimed permanent injunction and damages for infringement of trademark and passing off. The coca cola also alleged that the defendant had unauthorisedly permitted the manufacture of certain ingredients of the beverage bases of MAAZA to be manufactured by a third party in India.

The court held that it is a well-settled position of law that exporting products from a country is to be considered as a sale within the country wherefrom the goods are exported and it amounts to infringement of the trademark.

The Court granted an interim injunction against the defendant from using the mark in India as well as in the export market to prevent the

plaintiff from irreparable loss and injury and quashed the appeal by the defendant.

## 2. **Yahoo! Inc. v/s Akash Arora**

The Yahoo is a global internet media who is the owner of the trademark '**Yahoo!**' and the domain name '**Yahoo.Com**', which are very well-known and rendering services under its domain name. While the application of the plaintiff for registration of the trademark was pending in India, the defendant Akash Arora started providing similar services under the name '**Yahoo India**'.

The present case is brought out by Yahoo for passing off the services and goods of the defendants as that of the Yahoo's by using a name which is identical to or deceptively similar to the plaintiff's trademark '**Yahoo!**' and prayed for a permanent injunction to prevent the defendant from continuing to use the name.

The Court addressed the issue and came to the conclusion that Yahoo Inc had a good reputation in the market and that the name adopted by the defendant were deceptive and misleading causing damage to the reputation of the plaintiff and undue gain for the defendants. In consequence, the court granted an injunction in favour of Yahoo.

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## **4.5 SECURITY TOOLS IN E COMMERCE**

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E commerce or online business is expanding day by day. Growing at an exponential rate, the **market** value of the **e-commerce** industry in **India** was approximately 50 billion U.S dollars in 2018. This number is estimated to reach 200 billion U.S. dollars by 2027.

Online businesses experienced 32.4% of cyber attacks in 2018. A serious business should, therefore, employ rock-solid E-commerce security protocols and measures to safeguard the business.

### **4.5.1 SECURITY TOOLS**

E commerce is the security is the protection from unauthorized access, use, alteration or destruction. It is important to build secure system. Dimensions of security in E commerce are -

**Integrity-** The ability to ensure that information being displayed on website or transmitted on internet has not been altered by any authorized party.

**Non repudiation -** The ability to ensure that E commerce participants do not deny their online action.

Authenticity:- The ability to identify the identity of a person with whom the business is dealt

Confidentiality - The ability to ensure that the messages or data is available to be viewed only to those who are authorized to view them.

Privacy – The ability to control the use of information about oneself.

Availability - the ability to ensure that an E commerce site continues to function.

### **Tools-**

- Firewalls – Software and Hardware.
- Public Key infrastructure.
- Encryption software.
- Digital certificates.
- Digital Signatures.
- Biometrics – retinal scan, fingerprints, voice etc.
- Locks and bars – network operations centre

#### **1. Firewalls**

Firewalls allow you to protect entire network from the outside world with a single physical device. A **software firewall** is installed on an individual computer and it protects that single device. If multiple computers need protection, the **software** must be installed on each device.

#### **3. Public Key Infrastructure**

A public key infrastructure (PKI) is a system for the creation, storage, and distribution of digital certificates which are used to verify that a particular public key belongs to a certain entity.

#### **4. Encryption Software**

Encryption software is software that uses cryptography to prevent unauthorized access to digital information. Cryptography is used to protect digital information on computers as well as the digital information that is sent to other computers over the Internet.

#### **4. Digital Certificate**

A Digital Certificate is an electronic "password" that allows a person, organization to exchange data securely over the Internet using the public key infrastructure . Digital Certificate is also known as a public key certificate or identity certificate.

## **5. Digital Signature**

A digital signature is a mathematical technique used to validate the authenticity and integrity of a message, software or digital document. It's the digital equivalent of a handwritten signature or stamped seal, but it offers far more inherent security.

## **6. Biometrics Security**

Biometrics scanners are hardware used to capture the biometric for verification of identity. These scans match against the saved database to approve or deny access to the system. In other words, biometric security means your body becomes the "key" to unlock your access.

## **7. Locks and Bars**

A network operations centre NOC is a centralized location where a company and their staff can provide supervision 24 hours a day to help monitor and manage a company's services, databases, external services, firewalls, and network. A NOC is the basis of a company's nervous system.

### **4.5.2 E-BUSINESS AND CLIENT SERVER NETWORK SECURITY**

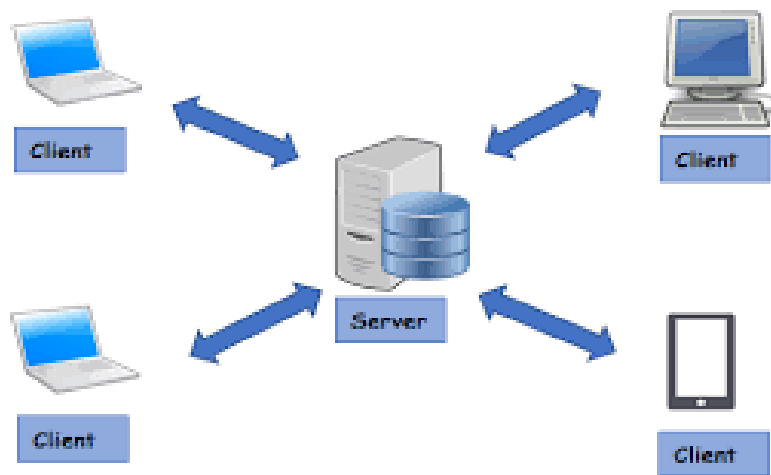
In today's time E-business is used widely in organizations around the world. To secure e-business data, organizations must implement security that works seamlessly across applications and platforms such that it is transparent to users and easy for organizations to manage.

It is important that security must provide privacy to ensure the confidentiality of data, access control to authorize data access, integrity to assure data originality, authentication to provide proof of identity, and non-repudiation to prevent denial of service

#### **Client Server Network Security**

A client server network security is a dedicated computer that controls Client server network resources and serves other computers on the network. The client receives the requested services from the computer client server network .

The client-server model describes how a server provides resources and services to one or more clients. These servers include web servers, mail servers, and file servers. Each of these servers provide resources to client devices, such as desktop computers, laptops, tablets, and smartphones.



The **clients to server network communicate** with each other through a centralized server. If Client 1 wants to send data to Client 2, it first sends a request to the server for permission. The server sends a signal to client 1, from which communication can be initiated.

#### **4.5.3 ADVANTAGES**

1. Centralized backup is possible.
2. The use of dedicated servers improves overall system performance.
3. Security on these networks is good because all shared resource centres are maintained.
4. The use of dedicated servers also increases the speed at which resources are shared.
5. All the required data is centered on one server, i.e. It is therefore easy to protect data and provide authority and authentication.
6. The server does not need to be physically present to the client. However the data can be accessed efficiently.
7. In the client server model it is easy to change, upgrade or move nodes because all nodes are independent and only request data from the server.

#### **4.5.4 DISADVANTAGES**

1. It requires a dedicated server with large memory and secondary storage. It raises costs.
2. The cost of network operating systems that handle different customers is also high.
3. It requires a dedicated network administrator.

4. If all clients simultaneously request data from the server, it may be overloaded. This can lead to client server network congestion.
5. If the server fails for any reason, the client's requests are not fulfilled. This can lead to client server network failure.
6. The cost of installation and maintenance of the client server model is very high.

#### 4.5.5 ELECTRONIC SIGNATURE

An E-Signature or electronic signature is a legal way to get consent or approval on electronic documents or forms. It can replace a handwritten signature in virtually any process.

**Example** - A scanned image of the person's ink signature, a mouse squiggle on a screen or a hand-signature created on a tablet using your finger or stylus, a signature at the bottom of your email, a typed name, a biometric hand-signature signed on a specialized signing hardware device.

#### Electronic Signature v/s Digital Signature



<u>Electronic Signature</u>	<u>Digital Signature</u>
1. This is not authorized and does not require certification authorities	1. This is authorized and regulated by certification authorities.
<u>2. Does not use any coding</u>	2. Have secure coding
<u>3. Verify document</u>	<u>3. Secure Document</u>
<u>4. Easy to use but less authentic</u>	<u>4. Preferred more due to high level of authenticity</u>
<u>5. Can Not be verified</u>	<u>5. Can be verified</u>
<u>6. Used for securing document</u>	<u>6. Shows intent consent</u>

#### 4.5.6 BENEFITS OF ELECTRONIC SIGNATURE-

1. **Enhanced security.** You can be confident that your documents will make it to the right people with security controls including automatic independent verification. Also known as Knowledge Based Authentication

(KBA), this independent verification step is required for certain IRS forms such as the 8878 and 8879 and keeps your clients' documents secure.

2. **Easy to use across industries and countries.** No matter who your clients are, or where they are located, users are accustomed to the eSignature experience, and prefer the convenience of signing a document right from their phone or tablet.
3. **Workflow tracking.** Easily track who has opened, signed, or approved a document, and who is holding you up. You'll have a complete paper trail of who viewed the document and when, without the actual paper!
4. **Convenience for you.** Collect signatures and approvals on multiple documents at one time without printing a single page of paper.
5. **Way better experience for your clients.** Clients can sign quickly from anywhere, on any device! In a time where clients want real-time access to documents, connecting your eSignature solution to your client portal software is a must.
6. **Get paid faster.** Ask for signature and payment details on the same document to securely collect all the information you need to get your clients up and running—including the payment to you!
7. **Centralized document storage.** When you pair eSignature with Smart Vault, you'll benefit from having a central document repository. Gone are the days of searching file cabinets, piles on your desk, or even different systems on your computer to find a document.
8. **Paperless workflow.** When you integrate your eSignature solution with other tools you already use, like Smart Vault, there's no need for printing, scanning, or meeting in person. The signed document is initiated and returned to the same location in Smart Vault – and you get notified when all parties sign.
9. **Increase collaboration.** Collect approvals and signatures from multiple parties in whatever order you choose to increase collaboration and keep projects moving.
10. **Save money!** All of these benefits add up to big cost savings for your business, from reducing paper and printing costs, to reducing the amount of time it takes to sign and collect payment from new clients.

#### 4.5.7 ENCRYPTION

**Encryption** is a process that encodes a message or file so that it can be only be read by certain people. **Encryption** uses an algorithm to scramble, or **encrypt**, data and then uses a key for the receiving party to unscramble, or decrypt, the information.

## **Importance Of Encryption In E Commerce**

### **1. Encryption Provides Security for Data at All Times**

Data is most vulnerable when it is being moved from one location to another. Encryption works by encoding the messages using algorithms and thus providing security to the data. It is an ideal solution no matter where data is stored or how it is used.

### **2. Encrypted Data Maintains Integrity**

Hackers not only steal information, but can also alter data to commit fraud. While it is possible for skilled individuals to alter encrypted data, recipients of the data will be able to detect the corruption, which allows for a quick response to the cyber-attack.

### **3. Encryption Protects Privacy**

Encryption is used to protect sensitive data, including personal information for individuals. This helps to ensure anonymity and privacy, reducing opportunities for surveillance by both criminals and government agencies. Encryption technology is so powerful that some governments are attempting to put limits on the effectiveness of encryption—which does not ensure privacy for companies or individuals.

### **4. Encryption is Part of Compliance**

Many industries have strict compliance requirements to help protect those whose personal information is stored by organizations. They use encryption to protect data, and businesses can use encryption to achieve comprehensive security.

## **4.5.8 PRIVATE AND PUBLIC KEY INFRASTRUCTURE**

The Public and Private key pair comprise of two uniquely related cryptographic keys.

Private Key is the secret key used to encrypt and decrypt messages between communicators. It's a form of symmetric encryption, i.e., the same key is utilized for both encryption and decryption purposes.

The messenger encrypts the message using the public key, and the receiver can access the message after decrypting it with their private key. Security is ensured because only the person with the relevant private key can decode the message.

## **4.5.9 DIFFERENCE BETWEEN PRIVATE AND PUBLIC KEY INFRASTRUCTURE**

The following are some of the important differences between Private Key and Public Key.



Sr. No.	Key	Private Key	Public Key
1	Algorithm	Private Key is used to both encrypt and decrypt the data and is shared between the sender and receiver of encrypted data.	The public key is only used to encrypt data and to decrypt the data, the private key is used and is shared.
2	Performance	The private key mechanism is faster.	The public key mechanism is slower.
3	Secret	The private key is kept secret and not public to anyone apart from the sender and receiver.	The public key is free to use and the private key is kept secret only.
4	Type	The private key mechanism is called symmetric being a single key between two parties.	The public key mechanism is called asymmetric being two keys for different purposes.
5	Sharing	The private key is to be shared between two parties.	The public key can be used by anyone but the private key is to be shared between two parties only.
6	Targets	Performance testing checks the reliability, scalability, and speed of the system.	Load testing checks the sustainability of the system.

#### 4.5.10 BENEFITS OF KEY INFRASTRUCTURES:-

**1. Confidentiality** is ensured because the content that is secured with the public key can only be decrypted with the private key. This ensures that only the intended recipient can ever review the contents

**2. Integrity** is ensured because part of the decryption process requires checking that the received message matches the sent message. This ensures that the message has not been changed in between.

**3. Authenticity** is ensured because each message sent by Alice to Bob is also signed by Alice's private key. The only way to decrypt Alice's private key is with her public key, which Bob can access. By signing the message with her private key, Alice ensures the authenticity of the message and shows that it really did come from her.

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## 4.6 SUMMARY

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- **Cyber Laws:-** A term used to describe the legal issues related to use of communications technology
- **Cyber Laws In India:-** The Information Technology Act, 2000 (also known as ITA-2000, or the IT Act) is an Act of the Indian Parliament (No 21 of 2000) notified on 17 October 2000. It is the primary law in India dealing with cybercrime and electronic commerce.
- **Hacking:-** **Hacking** is an attempt to exploit a computer system or a private network inside a computer.
- **Web Vandals:-** action involving deliberate destruction of or damage to public or private property.
- **Piracy:-** a term used to describe the act of illegally using, copying or distributing **software** without ownership or legal rights
- **CPA (1986):-** The **Consumer Protection Act, 1986 (CPA)** is an **Act** that provides for effective **protection** of interests of **consumers**
- **Electronic Records:-** An **electronic recordkeeping** system (ERKS), also known as an **electronic records management** system in some jurisdictions, is an information/**computer** system with the necessary **records management** capabilities designed to electronically collect, organise, classify and control the creation, storage, retrieval, distribution.
- **E-Signature:-** a legal way to get consent or approval or consent on **electronic** documents or forms.
- **Private Key Infrastructure :-** Private Key is used to both encrypt and decrypt the data and is shared between the sender
- **Public Key Infrastructure:-** The public key is only used to encrypt data and to decrypt the data, the private key is used and is shared

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## 4.7 EXERCISE

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### I. Fill In the Blanks:-

1. Information Technology has given rise to many \_\_\_\_\_ using computers.
2. \_\_\_\_\_ is a criminal activity that uses computer device.
3. \_\_\_\_\_ refers to the legally handling of issues related to IT.
4. \_\_\_\_\_ refers to the activity of identifying weaknesses in a computer system to gain access to personal data or business data.
5. \_\_\_\_\_ is a person who gains access to computer systems
6. \_\_\_\_\_ as defacing the digital assets of a company or individual to cause nuisance or permanent damage.
7. \_\_\_\_\_ are spam's, that include offers and miracle promises, such as, "get rich in less than a month" .
8. The Consumer protection Act was passed in \_\_\_\_\_ by the Indian Parliament to protect consumer rights .
9. \_\_\_\_\_ is a cyber attack that uses disguised email as a weapon.
10. A \_\_\_\_\_ short form of "robot" is an automated program that runs over the Internet.
11. \_\_\_\_\_ is a legal term that has been associated with industrial property, copyrights and other rights in the similar field.
12. \_\_\_\_\_ is an electronic "password" that allows a person, organizaion to exchange data securely over the Internet .
13. \_\_\_\_\_ is a process that encodes a message or file so that it can be only be read by certain people.
14. \_\_\_\_\_ is used to both encrypt and decrypt the data and is shared between the sender
15. The \_\_\_\_\_ is only used to encrypt data and to decrypt the data,

### Ans:-

1- Crimes, 2- Cyber Crimes 3- Cyber Laws 4- Hacking 5- Script Kiddles  
6-Web Vandals 7-Hoaxes 8-1986 9-Phishing 10- Bot 11- Intellectual Property 12 – Digital Certificate 13- Encryption 14- Private Key  
15- Public Key

### II- True and False

1. In India Cyber Laws are included in IT Act 2000.
2. Act of Defamation & harassment are not covered in Cyber Laws.
3. One of the most common crime in cyber world is Hacking.
4. E –Mail abuse refers to the unsolicited sending of spam.
5. The Consumer Protection Act was passed in 1986 and it came into force from 1 July, 1987.

6. DOS & DDoS Attacks in E-commerce refers to the guidelines to be followed in E-Commerce.
7. E Commerce assets need to be protected by E Commerce companies against the suppliers, programme developer or hackers.
8. Digital signature and Electronic signature are one and the same thing.

**Ans:-**

1- True 2- False 3- True 4- True 5- True 6- False 7- True 8- False

### **III - Match The Following**

1. Hackers	a) Trademarks, Patent, copyright
2. Web Vandals	b) Security Tools
3. Email Abuse	c) Credit Card Fraud
4. Software Piracy	d) 3 Tier Redressal
5. CPA 1986	e) Counter felting
6. Financial Fraud	f) Spoofing
7. Fire Walls	g) Defacing Websites
8. Intellectual Property	h) White Hat & black Hat

**Ans:-**

1-h, 2- g, 3- f, 4- e, 5- d, 6- c, 7- b, 8-a

### **REVIEW QUESTIONS**

1. What is Cyber Laws? What are the major areas covered under this Law?
2. What are the limitation of Cyber laws of India?
3. Explain Hacking. And types of Hacking?
4. What is Web Vandals?
5. What is software piracy and its types?
6. Explain Taxation Issues in E –Commerce?
7. How are Cyber Consumers protected under Consumer protection Act ?
8. What is the Risk Management Approach adopted in E-Commerce?
9. Elaborate the various security Issues in E-Commerce.
10. Explain the solution available for various security Issues.
11. How can E-commerce be protected?
12. What are the ways of securing Intellectual Property Rights?

13. Explain security tools used in Ecommerce for safety?
14. Explain the importance of Electronic Records as evidence.
15. Differentiate between Electronic Signature and Digital Signature.
16. What are the benefits of Electronic Signature?
17. What are the benefits of Encryption in E-Commerce?
18. Differentiate between Private & Public Key Infrastructure.
19. What are the benefits of Key Infrastructure in E-Commerce?
20. Explain Client Server Network security

