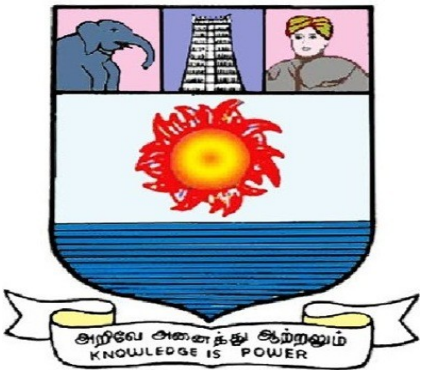
# JEBA61 –E - BUSINESS

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**SYLLABUS**

**JEBA61 – E - BUSINESS**

| UNIT | Details |
|---|---|
| I | Introduction: Definition and scope of e-business - History and evolution of e-business -Types of e-business models (B2B, B2C, C2C) - Advantages and disadvantages of e –business -the Internet and the web- infrastructure for e- business. |
| II | Web based tools for e -business - e-business software -overview of packages. |
| III | Security threats to e-business-implementing security for e - commerce and electronic payment systems - Ethical consideration sine-business |
| IV | E-marketing strategies and techniques-Online advertising and promotion-B2C and strategies for purchasing and support activities - B2B - web auction virtual – web portals |
| V | The environment of e-business -international -legal ethical-tax issues-business plan for implementing- business |

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| 2 | Diwan, Prag and Sunil Sharma -E-Commerce- Managers guide to E- Business |
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| CONTENTS | | |
|---|---|---|
| **UNITS** | **TITLE** | **PAGE NO.** |

# Unit – I

**Structure:**



## 1.1 Introduction to E - Business

E-Business (Electronic Business) is the conduct of business activities through the internet and other digital technologies. It includes not only online buying and selling (e-commerce) but also other activities such as online marketing, electronic payments, customer support, supply chain management, and communication with suppliers and employees. E-business enables companies to reach customers worldwide, operate 24/7, reduce operational costs, and improve efficiency. For example, Amazon and eBay sell products through online platforms, allowing customers to shop from home. Flipkart provides online shopping services in India, while PayPal offers secure digital payment solutions. Banks also provide online banking services that let customers transfer money and pay bills electronically. Although e-business offers advantages

such as global reach, convenience, and faster transactions, it also faces challenges like security risks and dependence on internet connectivity. Overall, e-business has revolutionized the way modern businesses operate by making processes more efficient and accessible through digital technology.

### 1.2 Meaning of E - Business

E-Business (Electronic Business) means conducting business activities using the internet and digital technologies. It involves buying and selling goods and services online, as well as managing other business operations such as marketing, customer service, payments, and communication electronically.

In simple words, e-business is the use of electronic systems and online platforms to run and manage a business efficiently.

### 1.3 Definitions of Service

According to Philip Kotler “Electronic business is the general term for buying and selling process that is supported by electronic means.”

According to Lou Gerstner (Former CEO of IBM) E-business is defined as “the transformation of key business processes through the use of Internet technologies.”

According to David Baum (1996) “E-business is a dynamic set of technologies, applications, and business processes that link enterprises, consumers, and communities through electronic transactions and the electronic exchange of goods, services, and information.”

According to IBM Corporation “E-business is the secure, flexible, and integrated approach to delivering differentiated business value by combining the systems and processes that run core business operations with the simplicity and reach made possible by Internet technology.”

According to Kalakota and Robinson (1999) E-business is defined as “the use of Internet technologies to improve and transform key business processes.”

**1.4 What is e-business?**

Conducting business activities over internet or any other computer network is known as e-business or electronic business. e-business electronically covers the conduct of the activities involved in business activities, like trade, commerce and industry. Computer networks which are more secure, effective and efficient are often used by firms as compared to internet.

**1.5 Scope of e-Business**

- ✓ e-business is the buying and selling of goods and services over the internet, as well as the performance of other critical business functions. It encompasses a broader range of activities than e-commerce.
- ✓ e-business encompasses management functions such as planning, organising, marketing, and production that are carried out electronically. Inventory management, product development, human resource management, and accounting and finance are some of the other functions covered by e-business.
- ✓ e-business courses cover a wide range of topics and offer a variety of options. Candidates with a diploma or certification in the relevant discipline can pursue careers in a variety of fields.

**1.6 History of e-Business**

The history of E-Business (Electronic Business) traces the evolution of business processes from manual operations to fully digital systems, driven by advances in technology and the internet.

**i) Early Beginnings – 1960s to 1970s**

E-business has its roots in the 1960s with the introduction of Electronic Data Interchange (EDI)**.** EDI allowed organizations to exchange business documents such as purchase orders, invoices, and shipping notices electronically between computers. This reduced paperwork, saved time, and improved accuracy. During this period, only large corporations could afford such systems, and the scope was mostly limited to internal operations and supplier communications.

**ii) The 1980s – Computer Networks and Automation**

In the 1980s, businesses started using private computer networks to manage operations and share information. Early enterprise software helped companies automate tasks like inventory management and payroll. Although the internet existed in a limited form, most e-business activities were internal or conducted between partners in a controlled network environment.

**iii) The 1990s – Internet and World Wide Web**

The 1990s marked the real beginning of modern e-business with the commercialization of the internet and the development of the World Wide Web. Companies began creating websites to showcase products and services. This era also saw the emergence of major e-business pioneers:

- ✓ Amazon, initially an online bookstore, became a global e-commerce giant.
- ✓ eBay allowed individuals to buy and sell products online.

Online payment systems and secure transactions also started during this period, making digital commerce more reliable and popular.

**iv) Late 1990s–2000s – Dot-Com Boom and Expansion**

The late 1990s saw rapid growth in internet-based businesses, often called the dot-com boom**.** Many startups offered online shopping, online banking, travel bookings, and digital services. Although the bubble burst around 2000, e-business survived and grew stronger, with companies adopting more robust infrastructure, secure payments, and customer-oriented services.

**v) 2010s–Present – Mobile, Cloud, and Social Commerce**

In the modern era, e-business has expanded beyond websites to mobile apps, cloud computing, and social media platforms**.** Businesses now sell products via smartphones, manage customer relations online, and leverage social media for marketing. Payment options like digital wallets and UPI have made transactions faster and safer. Companies like Flipkart and PayPal have further revolutionized online business in India and globally.

The history of e-business reflects a shift from simple electronic document exchange to complex, global digital operations. Today, e-business is an essential part of the global economy, enabling companies to operate efficiently, reach international markets, and provide faster, more convenient services to customers.

**1.7 Evolution of e-Business**

The evolution of e-business has transitioned from 1960s Electronic Data Interchange (EDI) and 1970s teleshopping to a multi-trillion dollar industry driven by the 1990s internet boom, mobile proliferation, and modern AI/blockchain integration. Key phases include the rise of marketplaces (2000s), mobile-first shopping (2010s), and hyper-personalized experiences (2020s).

**Key Stages in the Evolution of E-Business**

**i) 1960s–1980s: The Foundations (EDI & Early Tech):** E-business began with Electronic Data Interchange (EDI) in the 1960s, allowing businesses to transfer documents digitally. In 1979, Michael Aldrich invented "teleshopping," linking a modified TV to a computer via phone lines. The 1980s saw the creation of online marketplaces like the Boston Computer Exchange.

**ii) 1990s: The Internet Boom & Early Retail:** The introduction of the World Wide Web, secure online payment systems (PayPal in 1998), and the launch of giants like Amazon and eBay (1995) transformed e-commerce from a niche to a commercial reality.

**iii) 2000s: Growth of Marketplaces & Search:** The dot-com bubble consolidation led to more robust platforms. Google launched AdWords in 2000, revolutionizing online marketing. Large marketplaces like Alibaba (1999) expanded global reach.

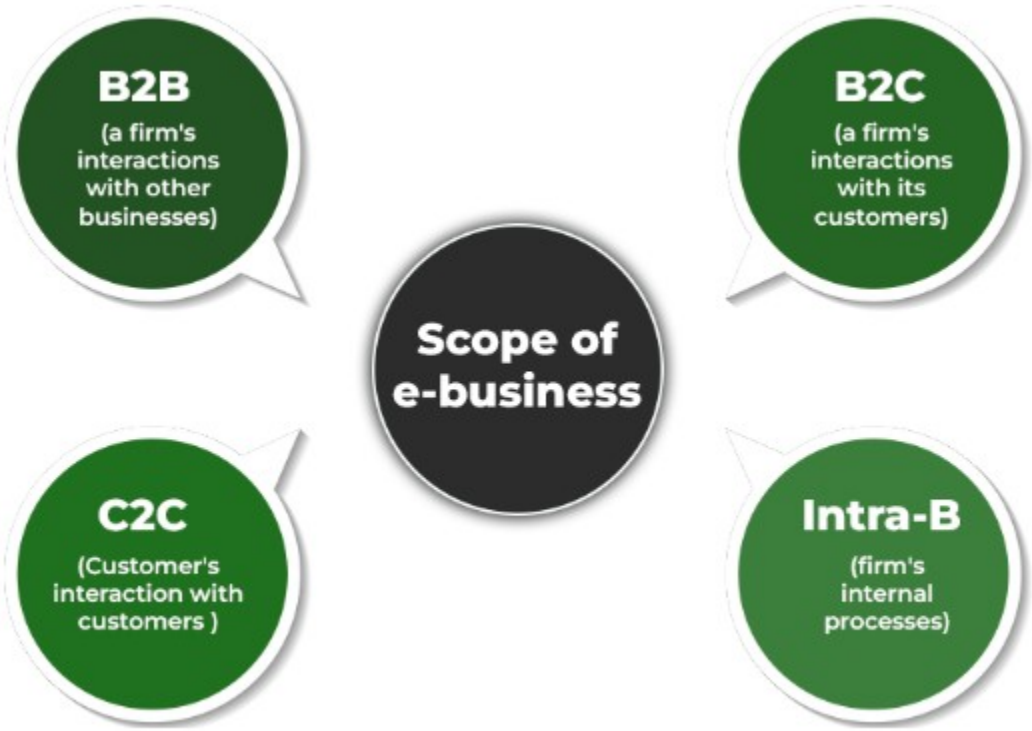
**iv) 2010s: The Mobile & Social Revolution:** Smartphone adoption and improved internet connectivity shifted consumers toward "anywhere, anytime" shopping. Social media platforms became key marketing and sales channels, and 2010–2020 saw the rise of mobile-first optimization.

**v) 2020s–Present: AI, Data & Personalization:** The modern era is defined by artificial intelligence (AI), machine learning, and blockchain for secure, highly personalized shopping experiences. The industry is now focusing on seamless omni-channel experiences, with global sales exceeding $4.9 trillion in 2021.

**1.8 Types of e-business Models (B2B, B2C, C2C)**

1. B2B (a firm's interactions with other businesses),
2. B2C (a firm's interactions with its customers)
3. C2C (Customer's interaction with customers)

4. Intra-B (firm's internal processes)




i) B 2 B Commerce

Both parties involved in e-commerce transactions are business firms, hence the name B2B, which stands for business-to-business.

The creation of utilities or the delivery of value requires the interaction of a business with a number of other business firms, which may be suppliers or vendors of various inputs, or they may be a part of the channel through which a firm distributes its products to consumers. For example, the production of an automobile requires the assembly of a large number of components, which are manufactured elsewhere, either locally or overseas.

A computer network is used to place orders, monitor the production and delivery of components, and make payments. Similarly, a company can strengthen and improve its distribution system by exercising real-time (as-it-happens) control over its stock-in-transit as

well as that with various middlemen in various locations. For example**,** each shipment of goods from a warehouse and stock on hand can be tracked**,** and replenishments and reinforcements can be initiated as needed.

Around 80 per cent of the total share of transactions is comprised of B2B transactions. Sharing of information, Commercial negotiations and Distribution of goods are some of the B2B transactions.

ii) B 2 C Commerce

B2C (business-to-customers) transactions involve business firms on one end and their customers on the other. Although online shopping is the first thing that comes to mind, it is important to remember that selling is the outcome of the marketing process. Marketing begins before a product is offered for sale and continues after the product is sold. As a result, B2C commerce entails a wide range of marketing activities such as identifying activities, promoting, and sometimes even delivering products that are carried out online.

e-business enables these activities to be carried out at a much lower cost but at a much faster pace. For example, an ATM helps to withdraw money 24x7 in a convenient and fast manner.

Furthermore, the B2C variant of e-commerce allows a company to communicate with its customers around the clock. Companies can use online surveys to find out who is buying what and how satisfied their customers are. C2B commerce is a reality that allows consumers to shop whenever and wherever they want. Customers can also use call centres set up by companies to make toll-free calls to make inquiries and lodge complaints 24 hours a day, seven days a week. Selling and Distribution of goods, conducting surveys, after-sale services, promotional activities, etc., are B2C transactions.

iii) C 2 C Commerce

C2C Commerce consists of the transactions taking place between two or more customers. For example, you could sell used books or clothes for cash or in exchange for goods. People can search for potential buyers all over the world because of e-commerce. Quikr, OLX, are such platforms where customers sell their goods and services to other customers.

Furthermore, e-commerce technology provides market system security to such transactions, which would otherwise be missing if buyers and sellers interact in the anonymity of one-to-one transactions. An excellent example of this can be found on eBay, where consumers sell their goods and services to other consumers. Several technologies have emerged to improve the security and robustness of this activity. For beginners, eBay allows all sellers and buyers to rate one another.

The payment intermediary is another technology that has emerged to support C2C activities. PayPal is an excellent example of this type, rather than purchasing items directly from an unknown, untrustworthy seller; instead, the buyer can send the money to PayPal. The seller is then notified by PayPal that the funds will be held for them until the goods have been shipped and accepted by the buyer.

iv) Intra B-Commerce

The interaction and dealing among various departments and persons within the firm is known as Intra B-Commerce. Intranet is used to interact and deal between various departments and firms within a firm. Intra B-Commerce has facilitated flexible manufacturing. For example, finance department may interact regularly with marketing department within a firm. Intra-B-commerce transactions are conducted for Inventory and cash management, reporting by subordinates to superiors, human resource management, recruitment and selection, and for

training, development, and education. Nowadays, companies use VPN, which is, Virtual Private Network technology, which helps employees access the organisation's network and enable work from anywhere through network.

### 1.9 Advantages of E-Business

#### i) Global Reach and Market Expansion

E-business allows companies to reach customers across the globe without physical boundaries. Unlike traditional business limited to local markets, online platforms can target international customers. This helps companies expand their market, increase sales, and build a global brand.

**Example:** Amazon serves customers worldwide through its online marketplace.

#### ii) 24/7 Availability

Online businesses never close. Customers can shop, make inquiries, or access services at any time, making it highly convenient for both businesses and customers. This continuous availability also increases potential sales and customer engagement.

**Example:** Online banking platforms allow users to transfer money and pay bills anytime.

#### iii) Cost Reduction

E-business reduces operational costs by eliminating the need for large physical stores, paper-based processes, and manual labor. Digital marketing is often cheaper than traditional advertising and can reach a wider audience.

**Example:** Companies using email marketing and social media campaigns save significantly compared to TV or print advertisements.

**iv) Faster and Efficient Transactions**

Online systems allow instant order placement, payment processing, and delivery tracking. This reduces the time involved in transactions and improves operational efficiency.

**Example:** PayPal provides instant secure payment processing globally.

**v) Improved Customer Service**

Businesses can interact with customers instantly through emails, chatbots, social media, and support portals. Customer queries are addressed quickly, leading to higher satisfaction.

**Example:** E-commerce platforms use AI chatbots to provide 24/7 support and order updates.

**vi) Personalization and Customer Insights**

E-business platforms collect customer data to offer personalized products, services, and promotions. Data analytics helps businesses understand customer preferences and plan strategies accordingly.

**Example:** Amazon recommends products based on previous purchases and browsing behavior.

**vii) Better Supply Chain and Inventory Management**

Digital systems improve coordination with suppliers, track inventory in real-time, and streamline logistics. This reduces errors and ensures timely delivery of goods and services.

**viii) Easy Marketing and Brand Promotion**

Social media, websites, and email campaigns allow businesses to reach a wide audience cost-effectively. Digital marketing analytics helps measure campaign effectiveness and optimize strategies.

## 1.10 Disadvantages of E-Business

### i) Security and Privacy Concerns

Online transactions involve sensitive information such as credit card numbers and personal data. Cyberattacks, hacking, and data breaches can lead to financial loss and damage a company's reputation.

**Example:** Large-scale cyberattacks on e-commerce or banking platforms can compromise millions of users' data.

### ii) Dependence on Internet and Technology

E-business operations rely entirely on internet connectivity and digital infrastructure. Any technical failure, server downtime, or poor network can halt operations and affect sales.

### iii) High Initial Setup Cost

Setting up an e-business requires investment in websites, mobile apps, payment gateways, security systems, and IT infrastructure. Small businesses may find these costs challenging.

### iv) Lack of Personal Touch

Online transactions lack face-to-face interaction, which may reduce the personal connection between the business and its customers. Some services requiring personal attention may be less effective online.

### v) Technical Challenges

Software glitches, server crashes, cyberattacks, and compatibility issues can disrupt e-business operations. Continuous monitoring and updates are necessary.

**vi) Legal and Regulatory Issues**

E-businesses operating globally must comply with international laws, data protection regulations, taxation rules, and trade policies. Failure to comply can result in legal penalties.

**vii) Competition and Market Saturation**

Online markets are highly competitive, with many businesses offering similar products. Standing out requires constant innovation, marketing, and quality service.

## 1.11 The Internet and the web- Infrastructure for E- business

The Internet and the World Wide Web (WWW) serve as the backbone of modern **e-**business (electronic business)**,** providing the technological infrastructure that allows companies to operate online, communicate globally, and manage digital operations efficiently. Without these two, e-business as we know it today would not exist.

### 1. The Internet: The Core Foundation

The Internet is a global network of interconnected computers, servers, and devices that allows the transfer of data and communication worldwide. For e-business, the Internet provides the essential infrastructure for connecting businesses, suppliers, and customers across the globe. Its role can be elaborated as follows:

**i) Global Connectivity:**

- ✓ Businesses can interact with customers, suppliers, and partners anywhere in the world in real time.
- ✓ Eliminates geographical boundaries, allowing companies to operate globally.
- ✓ Example: International e-commerce companies can sell products to customers in different countries simultaneously.

**ii) Communication Channels:**

- ✓ Email, VoIP (Voice over Internet Protocol), video conferencing, and instant messaging enable businesses to communicate instantly and at low cost.
- ✓ Supports internal communication among employees, as well as customer and partner communication.

**iii) Data Transfer and Sharing:**

- ✓ Large volumes of business information, such as orders, invoices, contracts, and multimedia content, can be shared electronically.
- ✓ Reduces time delays compared to traditional mail or courier services.

**iv) Cloud Computing and Online Services:**

- ✓ Internet access allows businesses to use cloud services for storage, software, and infrastructure without maintaining physical servers.
- ✓ Reduces infrastructure costs and provides scalability for growing businesses.
- ✓ Example: Cloud-based ERP systems, online collaboration tools like Google Workspace or Microsoft 365.

**v) Security Support:**

- ✓ Secure networks, firewalls, and encryption protocols ensure safe data transmission for sensitive business transactions.

**2. The World Wide Web (WWW): The User Interface of E-Business**

The World Wide Web is a system of interlinked documents and resources accessed through web browsers over the Internet. While the Internet provides connectivity, the web acts as the front-end interface for businesses to interact with customers and conduct online operations. Its key contributions include:

**i) Websites and Online Stores:**

- ✓ Businesses can showcase their products, provide detailed descriptions, and allow customers to make purchases online.
- ✓ **Example:** Amazon provides a full-featured online marketplace for global customers.

**ii) Digital Marketing and Advertising:**

- ✓ Businesses use websites, search engines, and social media to promote products and services effectively.
- ✓ Online marketing tools such as SEO, email campaigns, and targeted ads help reach the right audience at lower costs.

**iii) E-Commerce Platforms:**

- ✓ Online marketplaces and B2B/B2C platforms rely on web interfaces to conduct business transactions.
- ✓ **Example:** eBay allows individuals and businesses to buy and sell products through its web platform.

**iv) Online Transactions:**

- ✓ Web-based payment gateways, digital wallets, and secure checkout systems allow businesses to conduct financial transactions safely and efficiently.
- ✓ **Example:** PayPal facilitates secure global payments via the web.

**v) Customer Interaction:**

- ✓ Businesses can provide support, feedback channels, and personalized services through web portals.

- ✓ Chatbots, contact forms, and customer portals enhance engagement and improve satisfaction.

**3. Supporting Technologies for E-Business Infrastructure**

Beyond the Internet and web, several technologies ensure that e-business operates smoothly and securely:

**i) Web Servers and Hosting Services:**

- ✓ Store website data and deliver it to users over the web.

**ii) Database Management Systems:**

- ✓ Maintain records of products, customers, and transactions efficiently.

**iii) Secure Payment Systems:**

- ✓ SSL (Secure Socket Layer), digital wallets, and encryption protocols ensure safe online payments.

**iv) Networking Hardware:**

- ✓ Routers, switches, broadband connections, and fiber optics support fast and reliable data transmission.

**v) Cloud Infrastructure:**

- ✓ Enables scalable operations, remote access, and backup systems for businesses.

**vi) Mobile Technology:**

- ✓ Supports mobile commerce (m-commerce), allowing users to access business services via smartphones and tablets.

**4. Importance of Internet and Web for E-Business**

- ✓ **Global Reach:** Businesses can operate internationally without physical stores.

- ✓ **24/7 Availability:** Customers can access products and services anytime, increasing revenue opportunities.
- ✓ **Cost Efficiency:** Reduces operational, marketing, and logistics costs.
- ✓ **Speed and Convenience:** Transactions, communication, and service delivery are faster and more convenient.
- ✓ **Data Analytics:** Internet and web-based systems collect customer data for market analysis and personalized marketing.

The Internet and the World Wide Web are the pillars of modern e-business infrastructure. The Internet provides connectivity, data transfer, and cloud access, while the web offers an interactive interface for transactions, marketing, and customer engagement. Together, they enable businesses to operate globally, serve customers 24/7, manage resources efficiently, and innovate continuously. Modern e-business depends heavily on secure, reliable, and scalable internet and web infrastructure to remain competitive in the digital economy.

**Check Your Progress**

**Choose the Correct Answer:**

1. **Which of the following best defines e-business?**

   a) selling products only in a local market

   b) conducting business activities electronically using the internet and digital technologies

   c) manufacturing goods using machines

   d) advertising through newspapers

   **Answer: b) conducting business activities electronically using the internet and digital technologies**

2. **Which company is considered one of the pioneers of e-commerce in the 1990s?**

   a) flipkart

   b) ibm

   c) amazon

   d) walmart

   **Answer: c) amazon**

3. **A business model where companies sell directly to consumers online is called:**

   a) b2b (business to business)

   b) b2c (business to consumer)

   c) c2c (consumer to consumer)

   d) c2b (consumer to business)

   **Answer: b) b2c (business to consumer)**

4. **Which of the following is a disadvantage of e-business?**

   a) global reach

   b) 24/7 availability

   c) security and privacy risks

   d) faster transactions

   **Answer: c) security and privacy risks**

5. **What is the main role of the World Wide Web in e-business?**

   a) manufacturing products

   b) serving as an interactive platform for transactions, marketing, and communication

   c) reducing electricity costs

   d) hiring employees

**Answer: b) serving as an interactive platform for transactions, marketing, and communication**

**Small Questions – LOCF Mapping Table**

| S.No | Small Question | CO | Bloom's Level | PO |
|---|---|---|---|---|
| 1 | Define e-business. | CO1 | Remembering | PO1 |
| 2 | List the types of e-business models. | CO2 | Remembering | PO1 |
| 3 | Give an example of a B2C company. | CO2 | Understanding | PO2 |
| 4 | Mention two advantages of e-business. | CO3 | Understanding | PO3 |
| 5 | What is the role of the Internet in e-business? | CO4 | Understanding | PO4 |

Big Questions – LOCF Mapping Table

| S.No | Big Question | CO | Bloom's Level | PO |
|---|---|---|---|---|
| 1 | Explain the meaning, definition, and scope of e-business. | CO1 | Understanding | PO1 |
| 2 | Describe the history and evolution of e-business with examples. | CO1 | Understanding | PO2 |
| 3 | Explain the types of e-business models (B2B, B2C, C2C) with examples. | CO2 | Understanding | PO2 |
| 4 | Discuss the advantages and disadvantages of e-business in detail. | CO3 | Analyzing | PO3 |
| 5 | Explain the role of the Internet and the World Wide Web as infrastructure for e-business. | CO4 | Understanding | PO4 |

## UNIT – II

**Structure:**

**2.1 Web based tools for e –business**

**2.2 E-Business Software and Applications**

**2.3 An Overview of E-Business Software Packages**

### 2.1 Web based tools for e -business

Web-based tools are online software applications and platforms that allow businesses to operate, manage, and grow their activities over the internet**.** These tools form an essential part of modern e-business, as they help companies handle operations, marketing, sales, customer service, collaboration, and analytics efficiently. With web-based tools, businesses can automate tasks, improve communication, secure transactions, and expand their reach globally. Below is a detailed explanation of the main categories of web-based tools used in e-business:

**i) Content Management Systems (CMS)**

CMS tools are platforms that allow businesses to create, manage, and modify website content without extensive technical knowledge. They are crucial for managing online stores, blogs, and websites.

**Key Features:**

- ✓ Easy content creation and editing
- ✓ Media management (images, videos, documents)
- ✓ Templates and themes for website design
- ✓ Multi-user management

**Examples:**

- ✓ **WordPress** – Most popular CMS for websites and blogs; flexible and customizable.

- ✓ **Joomla** – Suitable for complex websites and portals.
- ✓ **Drupal** – Enterprise-level CMS for large organizations with advanced functionality.

**Use in E-Business:**

- ✓ Maintaining product catalogs, blog updates, news, and promotional content.
- ✓ Supports SEO and marketing campaigns to attract online traffic.

**ii) Customer Relationship Management (CRM) Tools**

CRM tools help businesses **manage interactions with customers**, track sales, and improve relationships. They store detailed customer data, monitor buying patterns, and enable personalized communication.

**Key Features:**

- ✓ Customer database management
- ✓ Sales pipeline tracking
- ✓ Marketing automation
- ✓ Customer support management

**Examples:**

- ✓ **Salesforce** – Cloud-based CRM for sales, service, and analytics.
- ✓ **Zoho CRM** – Suitable for small to medium businesses.
- ✓ **HubSpot** – Integrates CRM with marketing automation and lead management.

**Use in E-Business:**

- ✓ Enhances customer satisfaction through personalized services.
- ✓ Tracks customer behavior to optimize marketing strategies.

### iii) Enterprise Resource Planning (ERP) Tools

ERP systems integrate **core business processes** like inventory management, procurement, accounting, HR, and supply chain into a single platform.

**Key Features:**

- ✓ Real-time data management
- ✓ Process automation across departments
- ✓ Reporting and analytics
- ✓ Scalability for growing businesses

**Examples:**

- ✓ **SAP** – Widely used by large corporations for end-to-end business operations.
- ✓ **Oracle NetSuite** – Cloud-based ERP suitable for medium-sized enterprises.
- ✓ **Microsoft Dynamics 365** – Combines ERP and CRM for unified business management.

**Use in E-Business:**

- ✓ Streamlines internal operations, reduces costs, and improves decision-making.
- ✓ Ensures smooth inventory, order, and financial management.

### iv) E-Commerce Platforms

These are web-based platforms that enable businesses to sell products and services online with integrated payment, inventory, and order management.

**Key Features:**

- ✓ Online storefronts with shopping carts
- ✓ Inventory and order tracking
- ✓ Integration with payment gateways
- ✓ Customer management and marketing tools

**Examples:**

- ✓ **Shopify** – Simple platform for online stores with customizable themes.
- ✓ **Magento** – Flexible and scalable for large businesses.
- ✓ **WooCommerce** – WordPress plugin to turn a website into an online store.

**Use in E-Business:**

- ✓ Facilitates online sales, order management, and customer service.
- ✓ Supports multi-channel selling (web, mobile, social media).

**v) Online Payment Systems**

Tools that facilitate secure digital payments for products and services purchased online.

**Key Features:**

- ✓ Secure transactions with encryption
- ✓ Support for multiple payment methods (credit/debit cards, digital wallets)
- ✓ Fraud detection and risk management

**Examples:**

- ✓ **PayPal** – Global online payment platform.
- ✓ **Stripe** – Online payment gateway for businesses.
- ✓ **Razorpay / Paytm** – Popular in India for secure online payments.

**Use in E-Business:**

- ✓ Ensures safe, fast, and convenient financial transactions.
- ✓ Increases customer trust and reduces abandoned shopping carts.

**vi) Web Analytics Tools**

Tools that track and analyze website traffic, user behavior, and marketing performance**.**

**Key Features:**

- ✓ Monitor website visits, clicks, and engagement
- ✓ Heatmaps and user session tracking
- ✓ Conversion tracking and goal setting
- ✓ Reports for data-driven decisions

**Examples:**

- ✓ **Google Analytics** – Free tool for tracking website activity and performance.
- ✓ **Hotjar** – Provides heatmaps and user interaction analytics.
- ✓ **Adobe Analytics** – Advanced analytics for enterprise-level businesses.

**Use in E-Business:**

- ✓ Helps optimize websites and marketing strategies.
- ✓ Provides insights for improving customer experience and increasing sales.

**vii) Collaboration and Communication Tools**

Web-based collaboration tools allow teams to communicate, share documents, and manage projects online in real-time.

**Key Features:**

- ✓ Instant messaging and video conferencing
- ✓ File sharing and document collaboration
- ✓ Task and project management
- ✓ Cloud storage and remote access

**Examples:**

- ✓ **Slack** – Team messaging and collaboration.
- ✓ **Microsoft Teams** – Chat, video calls, and file sharing.

- ✓ **Google Workspace** – Cloud-based productivity suite including Gmail, Docs, Drive, and Meet.

**Use in E-Business:**

- ✓ Facilitates remote work and global team collaboration.
- ✓ Improves coordination and efficiency across departments.

**viii) Social Media and Digital Marketing Tools**

Platforms and tools used to promote products, engage customers, and manage online marketing campaigns**.**

**Key Features:**

- ✓ Social media posting and scheduling
- ✓ Audience targeting and segmentation
- ✓ Analytics and campaign tracking

**Examples:**

- ✓ **Hootsuite** – Social media management and scheduling.
- ✓ **Buffer** – Digital marketing and analytics tool.
- ✓ **Mailchimp** – Email marketing automation and campaign management.

**Use in E-Business:**

- ✓ Expands brand reach and customer engagement.
- ✓ Drives traffic to e-commerce websites and increases sales.

Web-based tools are essential for modern e-business operations**.** They enable businesses to manage websites, customer relationships, internal operations, marketing, transactions, analytics, and collaboration effectively. By integrating CMS, CRM, ERP, e-commerce platforms,

payment systems, analytics, collaboration, and digital marketing tools, businesses can achieve higher efficiency, better customer engagement, and global market reach**.**

**2.2 E-Business Software and Applications**

E-business software and applications are specialized tools that help organizations conduct, manage, and automate online business operations efficiently. They cover functions such as customer management, sales, marketing, finance, inventory, and collaboration. The following are the E – Business Software and Applications:

i) Enterprise Resource Planning (ERP) Software

- ✓ ERP integrates all core business processes such as inventory management, accounting, human resources, procurement, and supply chain management into a single platform.
- ✓ It provides real-time data**,** which helps in better decision-making and efficient resource management.
- ✓ **Examples:** SAP, Oracle NetSuite, Microsoft Dynamics 365.
- ✓ **Use in E-Business:** Helps streamline operations, reduce manual work, manage resources efficiently, and ensure smooth coordination across departments.

ii) Customer Relationship Management (CRM) Applications

- ✓ CRM applications allow businesses to manage and analyze customer interactions**,** sales pipelines, and marketing campaigns.
- ✓ They maintain a centralized database of customer information and help in personalizing communication and offers.
- ✓ **Examples:** Salesforce, Zoho CRM, HubSpot.
- ✓ **Use in E-Business:** Improves customer satisfaction, helps retain clients, tracks leads, and automates marketing efforts.

iii) E-Commerce Platforms

- ✓ E-commerce platforms are software solutions that enable businesses to sell products and services online through websites or marketplaces.
- ✓ These platforms include shopping carts, inventory management, payment gateways, and order tracking**.**
- ✓ **Examples:** Shopify, Magento, WooCommerce.
- ✓ **Use in E-Business:** Facilitates online transactions, manages product listings, monitors orders, and ensures smooth delivery to customers.

4. Online Payment Applications

- ✓ Online payment tools provide secure and fast digital transactions for online sales.
- ✓ They support multiple payment methods such as credit/debit cards, digital wallets, and net banking.
- ✓ **Examples:** PayPal, Stripe, Razorpay.
- ✓ **Use in E-Business:** Ensures secure transactions, builds customer trust, reduces abandoned carts, and simplifies global payments.

5. Web Analytics and Marketing Tools

- ✓ These applications help businesses track website performance, user behavior, and marketing campaign effectiveness**.**
- ✓ They provide insights such as traffic sources, customer preferences, conversion rates, and engagement patterns.
- ✓ **Examples:** Google Analytics, Hotjar, Mailchimp.
- ✓ **Use in E-Business:** Optimizes marketing strategies, improves website usability, targets the right audience, and increases online sales.

vi) Collaboration and Communication Applications

- ✓ These tools enable teams to communicate, share documents, and manage projects online**,** improving productivity and teamwork.
- ✓ They support features like instant messaging, video conferencing, task assignment, and cloud storage.
- ✓ **Examples:** Slack, Microsoft Teams, Google Workspace.
- ✓ **Use in E-Business:** Enhances remote team coordination, allows seamless collaboration across departments, and ensures timely project completion.

7. Content Management Systems (CMS)

- ✓ CMS allows businesses to create, manage, and update website content without advanced technical knowledge.
- ✓ These systems provide templates, themes, media management, and multi-user access.
- ✓ **Examples:** WordPress, Joomla, Drupal.
- ✓ **Use in E-Business:** Maintains product catalogs, blogs, promotional content, and helps in digital marketing through SEO-friendly websites.

E-business software and applications form the backbone of online business operations**,** helping companies manage internal processes, engage customers, conduct sales, handle payments, analyze performance, and collaborate effectively. By integrating ERP, CRM, e-commerce platforms, payment applications, analytics, collaboration tools, and CMS, businesses can operate efficiently, increase productivity, improve customer experience, and expand their reach in the global digital marketplace.

## 2.3 An Overview of E-Business Software Packages

E-business software packages are **applications or suites designed to help businesses operate, manage, and sell online efficiently**. They go beyond simple online sales and cover back-end operations, customer relations, supply chains, and analytics.

### 1) E-Commerce Platforms

Enable businesses to sell products and services online, manage transactions, and interact with customers.

Types of E-Commerce Packages

**i) Hosted / SaaS Platforms**

- ✓ Cloud-based, provider handles maintenance and hosting.
- ✓ Ideal for small to medium businesses who don't want technical overhead.
- ✓ **Examples:** Shopify, BigCommerce, Wix eCommerce

**ii) Self-Hosted / Open Source Platforms**

- ✓ Business manages servers and software.
- ✓ Highly customizable but requires technical knowledge.
- ✓ **Examples:** WooCommerce (WordPress), Magento, PrestaShop

**iii) Enterprise Platforms**

- ✓ Feature-rich platforms for large-scale operations, B2B and B2C.
- ✓ Offer advanced analytics, integrations, and multi-channel support.
- ✓ **Examples:** Salesforce Commerce Cloud, SAP Hybris, Oracle Commerce

**Key Features:**

- ✓ Product catalog management
- ✓ Shopping cart & checkout

- ✓ Payment gateways integration
- ✓ Customer account management
- ✓ Mobile-friendly storefronts
- ✓ Marketing tools (discounts, coupons, SEO)

**2) Enterprise Resource Planning (ERP)**

Integrate all core business processes into a single system, including finance, inventory, procurement, HR, and manufacturing.

Types of ERP Packages

**i) Full-Scale Enterprise ERP**

- ✓ Used by large organizations for complex operations.
- ✓ **Examples:** SAP S/4HANA, Oracle NetSuite, Microsoft Dynamics 365

**ii) SME ERP**

- ✓ Scaled-down versions for small or mid-sized companies.
- ✓ **Examples:** SAP Business One, Odoo, ERPNext

**Key Features:**

- ✓ Accounting & Finance management
- ✓ Inventory & warehouse management
- ✓ Order & procurement management
- ✓ Production & manufacturing modules
- ✓ Analytics & reporting
- ✓ Multi-location and multi-currency support

**Benefits for E-Business:**

- ✓ Synchronizes online sales with inventory

- ✓ Automates order fulfillment
- ✓ Reduces manual errors
- ✓ Improves operational efficiency

**3. Customer Relationship Management (CRM)**

Track and manage customer interactions, sales leads, marketing campaigns, and service support.

Popular CRM Packages

- ✓ Salesforce CRM
- ✓ HubSpot CRM
- ✓ Zoho CRM
- ✓ Microsoft Dynamics CRM

**Features:**

- ✓ Lead & opportunity management
- ✓ Customer data & interaction history
- ✓ Email marketing & automation
- ✓ Sales pipeline tracking
- ✓ Integration with e-commerce platforms for personalized marketing

**ERP + CRM Integration:** Some ERP packages (Odoo, SAP, Oracle) include CRM modules to **unify customer management and operational data**.

**4. Supply Chain & Inventory Management**

Streamline procurement, warehousing, logistics, and fulfillment, which is critical for physical product e-commerce.

**Software Examples:**

- ✓ Part of ERP suites: SAP, Odoo, NetSuite
- ✓ Stand-alone tools: TradeGecko, Fishbowl, Cin7

**Key Features:**

- ✓ Real-time inventory tracking
- ✓ Supplier & vendor management
- ✓ Demand forecasting
- ✓ Order fulfillment & shipping integration
- ✓ Returns & reverse logistics

**5. Integration & Automation Tools**

Connect different e-business systems (ERP, CRM, e-commerce, marketing tools) for **seamless operations**.

**Examples:**

- ✓ Zapier – connects apps to automate workflows
- ✓ MuleSoft – enterprise integration
- ✓ Celigo – integrates cloud applications

**Benefits:**

- ✓ Eliminates manual data entry
- ✓ Automates order processing & reporting
- ✓ Synchronizes customer data across systems
- ✓ Integrates payment gateways, marketplaces, and logistics providers

**6. Supporting Packages**

Besides the core software, modern e-business relies on other supporting tools:

- ✓ **Marketing & Analytics:** Google Analytics, SEMrush, Mailchimp
- ✓ **Payment Processing:** PayPal, Stripe, Square
- ✓ **Customer Support:** Zendesk, Freshdesk, LiveChat
- ✓ **Security & Compliance:** SSL certificates, GDPR compliance tools

**7. How Packages Work Together**

A typical mid-to-large e-business may have the following architecture:

- ✓ **Front-end:** E-commerce platform (Shopify, Magento)
- ✓ **Back-end Operations:** ERP (SAP Business One, Odoo)
- ✓ **Customer Management:** CRM (Salesforce, HubSpot)
- ✓ **Supply Chain & Inventory:** ERP module or standalone software
- ✓ **Integration & Automation:** Zapier or middleware connecting platforms
- ✓ **Analytics & Marketing:** Google Analytics, marketing automation tools

This ecosystem ensures **smooth operation, customer satisfaction, and scalable growth**.

**Check Your Progress**

**Choose the Correct Answer:**

1. **Which of the following is primarily a web-based e-commerce platform?**

   a) Sap Business One

   b) Shopify

   c) Erpnext

   d) Microsoft Excel

   **Answer: b) Shopify**

2. **Which category of e-business software integrates core business functions like accounting, inventory, and procurement?**

a) CRM

b) ERP

c) CMS

d) POS

**Answer: b) ERP**

3. **Which of the following is an example of a CRM software that can be used for web-based e-business?**

   a) Woocommerce

   b) Hubspot Crm

   c) Prestashop

   d) Sap Hybris

   **Answer:** B) Hubspot Crm

4. **Which of these tools is used to connect different e-business applications and automate workflows?**

   a) Zapier

   b) Magento

   c) Odoo Erp

   d) Stripe

   **Answer: a) Zapier**

5. **Which of the following is a web-based open-source ERP software suitable for small and medium-sized businesses?**

   a) Oracle Netsuite

   b) Erpnext

c) Salesforce Commerce Cloud

d) Bigcommerce

**Answer: b) Erpnext**

**Small Questions – LOCF Mapping Table**

| S.No | Small Question | CO | Bloom's Level | PO |
|---|---|---|---|---|
| 1 | Define e-business software. | CO1 | Remembering | PO1 |
| 2 | List any 3 web-based e-commerce platforms. | CO1 | Remembering | PO1 |
| 3 | Explain the difference between ERP and CRM. | CO2 | Understanding | PO2 |
| 4 | Name any two integration tools used in e-business. | CO3 | Remembering | PO3 |
| 5 | Distinguish between hosted and self-hosted e-commerce platforms. | CO2 | Analyzing | PO4 |

Big Questions – LOCF Mapping Table

| S.No | Big Question | CO | Bloom's Level | PO |
|---|---|---|---|---|
| 1 | Explain in detail the features, types, and examples of web-based e-commerce platforms. | CO1 | Understanding / Analyzing | PO2 |
| 2 | Discuss the role and modules of ERP software in e-business with examples. | CO2 | Understanding / Applying | PO3 |
| 3 | Compare and contrast ERP and CRM software in terms of functionality, benefits, and use cases. | CO2 | Analyzing / Evaluating | PO4 |
| 4 | Describe how integration and automation tools improve workflow efficiency in web-based e-business. | CO3 | Understanding / Applying | PO3 |
| 5 | Analyze the advantages and disadvantages of hosted vs self-hosted e-commerce platforms for businesses. | CO2 | Analyzing / Evaluating | PO4 |

## UNIT – III

**Structure:**

**3.1 Security Threats to E-Business**

**3.2 Implementing Security for E - Commerce and Electronic Payment Systems**

**3.3 Ethical considerations in e-business**

### 3.1 Security Threats to E-Business

E-business platforms handle online transactions, sensitive customer information, and critical business operations**.** Because of this, they are vulnerable to numerous cybersecurity threats**.** Threats can come from external hackers, malicious software, or even internal personnel. Understanding these threats is critical for protecting business assets and maintaining customer trust.

**i) Malware (Malicious Software)**

Malware is software designed to disrupt, damage, or gain unauthorized access to computer systems. Common types include viruses (infect files), trojans **(**disguised as legitimate programs), ransomware (locks files for ransom), and spyware (steals information).

**Example:** A ransomware attack encrypting an e-commerce store's database and demanding payment to restore access.

**Types of Malware:**

- ✓ **Viruses:** Infect files or software, spreading across systems.
- ✓ **Trojans:** Appear as legitimate programs but carry malicious payloads.
- ✓ **Ransomware:** Encrypts files and demands payment for decryption.
- ✓ **Spyware:** Secretly monitors user activity and steals information.

**Impact on E-Business:**

- ✓ Loss of critical business data and customer information.
- ✓ Financial losses due to operational disruption.
- ✓ Damage to brand reputation.

**Preventive Measures:**

- ✓ Install reputable antivirus and anti-malware software.
- ✓ Regularly update systems to patch vulnerabilities.
- ✓ Educate employees about suspicious downloads and email attachments.

**ii) Phishing Attacks**

Phishing is a cyberattack where fraudsters trick users into revealing sensitive information, such as passwords, credit card numbers, or login credentials, by pretending to be a trusted source.

**Example:** An email appearing to be from an online store asking customers to "verify your account details" on a fake website.

**Common Methods:**

- ✓ Fake emails from "trusted" sources.
- ✓ Fraudulent websites mimicking real e-commerce stores.
- ✓ Social media messages directing users to malicious links.

**Impact on E-Business:**

- ✓ Account takeover and identity theft.
- ✓ Unauthorized transactions and financial loss.
- ✓ Customer trust erosion and legal liability.

**Preventive Measures:**

- ✓ Use email filters and spam detection systems.
- ✓ Train employees and customers to recognize phishing attempts.
- ✓ Implement two-factor authentication (2FA).

**iii) Hacking and Unauthorized Access**

Hacking involves gaining unauthorized access to computer systems or networks to steal, modify, or delete data. Common methods include SQL injection**,** brute-force attacks**,** and exploiting software vulnerabilities.

**Example:** Hackers accessing an online store's database to steal customer credit card information.

**Common Techniques:**

- ✓ **SQL Injection:** Manipulating database queries to access sensitive data.
- ✓ **Brute-Force Attacks:** Repeatedly guessing passwords.
- ✓ **Exploiting Software Vulnerabilities:** Using unpatched software flaws to gain access.

**Impact:**

- ✓ Theft of sensitive customer or business data.
- ✓ Service disruption and operational downtime.
- ✓ Legal and regulatory consequences.

**Preventive Measures:**

- ✓ Regularly patch and update software.
- ✓ Use strong password policies and 2FA.
- ✓ Implement firewalls and intrusion detection systems.

**iv) Denial of Service (DoS) / Distributed Denial of Service (DDoS)**

A DoS attack occurs when a server or network is overwhelmed with excessive traffic, making it unavailable to legitimate users. A DDoS attack uses multiple systems (often a botnet) to launch the attack simultaneously.

**Example:** A botnet flooding an e-commerce website with fake requests, causing it to crash and preventing customers from accessing it.

**Impact:**

- ✓ Loss of sales and revenue during downtime.
- ✓ Damage to brand reputation and customer trust.
- ✓ Potential cascading effects on backend systems.

**Preventive Measures:**

- ✓ Use DDoS protection services like Cloudflare or AWS Shield.
- ✓ Monitor network traffic for unusual spikes.
- ✓ Maintain redundant servers and scalable infrastructure.

**v) Data Theft / Data Breaches**

Data theft occurs when unauthorized individuals gain access to sensitive business or customer information. A data breach may expose personal, financial, or confidential company data.

**Example:** Hackers stealing credit card information or personal details from an e-commerce website's database.

**Impact:**

- ✓ Regulatory fines (e.g., GDPR violations).
- ✓ Financial loss and lawsuits.

- ✓ Permanent loss of customer trust.

**Preventive Measures:**

- ✓ Encrypt sensitive data in storage and in transit.
- ✓ Implement strict access controls and permissions.
- ✓ Conduct regular security audits.

**vi) Insider Threats**

Insider threats occur when employees, contractors, or trusted partners misuse their access privileges to harm the organization or steal sensitive data.

**Example:** An employee copying confidential customer data or trade secrets for personal gain.

**Impact:**

- ✓ Loss of intellectual property and confidential data.
- ✓ Operational disruption.
- ✓ Reputational damage and legal implications.

**Preventive Measures:**

- ✓ Monitor employee access and activity.
- ✓ Conduct background checks for sensitive positions.
- ✓ Implement role-based access control and audit logs.

**vii) Man-in-the-Middle (MITM) Attacks**

MITM attacks occur when an attacker intercepts communication between two parties to steal, alter, or manipulate sensitive information without their knowledge.

**Example:** Capturing login credentials or payment details over an unsecured public Wi-Fi network.

**Impact:**

- ✓ Fraudulent transactions.
- ✓ Leakage of sensitive customer information.

**Preventive Measures:**

- ✓ Use SSL/TLS encryption for all communications.
- ✓ Encourage secure Wi-Fi usage.
- ✓ Implement VPNs for remote access.

**viii) Security Misconfigurations**

Security misconfigurations occur when web servers, applications, databases, or cloud services are improperly set up, creating vulnerabilities that attackers can exploit.

**Example:** Leaving default passwords unchanged on a web server or exposing database ports to the internet.

**Impact:**

- ✓ Easy exploitation by hackers.
- ✓ Unauthorized access to sensitive information.

**Preventive Measures:**

- ✓ Regular configuration audits.
- ✓ Use security best practices and hardening guides.
- ✓ Change default passwords and disable unused features.

**ix) Social Engineering Attacks**

Social engineering attacks involve manipulating or deceiving users to reveal confidential information or perform actions that compromise security.

**Example:** A fraudster impersonating tech support to trick an employee into sharing login credentials.

**Impact:**

- ✓ Data theft or unauthorized access.
- ✓ Malware infection.
- ✓ Financial loss.

**Preventive Measures:**

- ✓ Employee training and awareness programs.
- ✓ Verification protocols for requests involving sensitive information.
- ✓ Limit sensitive actions to authenticated channels.

**x) Network Eavesdropping / Sniffing**

Network eavesdropping occurs when attackers intercept and capture data being transmitted over a network, often to steal sensitive information such as passwords, credit card details, or confidential communications.

**Example:** An attacker capturing unencrypted login credentials over a public Wi-Fi network.

**Impact:**

- ✓ Exposure of passwords, credit card details, and confidential business communications.
- ✓ Identity theft and fraud.

**Preventive Measures:**

- ✓ Encrypt all data transmissions (HTTPS).
- ✓ Use VPNs for secure communication.
- ✓ Regularly monitor network traffic for anomalies.

### 3.2 Implementing Security for E - Commerce and Electronic Payment Systems

E-commerce platforms and electronic payment systems handle sensitive customer data, payment credentials, and transaction records**,** making them prime targets for cyberattacks. Security must be multi-layered, combining network, application, data, payment, and operational security**,** supported by regulatory compliance and continuous monitoring**.**

**1. Network and Infrastructure Security**

The network is the first line of defense. Weak infrastructure can allow attackers to compromise entire systems.

1.1 Secure Communication

**TLS/SSL Encryption**

- ✓ Use TLS 1.3 to encrypt all communications between client and server.
- ✓ Enforce HTTPS for all pages**,** not just login or checkout pages.
- ✓ Avoid outdated protocols (SSL, TLS 1.0/1.1) vulnerable to attacks like POODLE.

**HSTS (HTTP Strict Transport Security)**

- ✓ Prevents browsers from using insecure HTTP connections.

**DNS Security**

- ✓ Deploy **DNSSEC** to prevent DNS spoofing and phishing.

1.2 Firewalls and Intrusion Prevention

**Network Firewalls**

- ✓ Block unauthorized access and restrict traffic to required ports.

**Web Application Firewall (WAF)**

- ✓ Filters malicious web requests to prevent attacks like SQL injection, XSS, and LFI/RFI.

**Intrusion Detection/Prevention Systems (IDS/IPS)**

- ✓ Monitor traffic for suspicious patterns.
- ✓ Automatically block identified threats (IPS) or alert admins (IDS).

1.3 Network Segmentation

- ✓ Separate web servers, application servers, and databases into different segments.
- ✓ Payment systems should be in a highly restricted network zone.
- ✓ Benefits: Limits lateral movement in case of breach.

1.4 Server Hardening

- ✓ Disable unnecessary services and open ports.
- ✓ Regularly patch OS, web servers, databases, and frameworks.
- ✓ Enable logging and monitoring at the OS and application levels.
- ✓ Use security benchmarks like CIS Benchmarks.

**2. Application Security**

Web applications are the most exposed part of e-commerce platforms.

2.1 Secure Coding Practices

Follow **OWASP Top 10 Vulnerabilities**:

- ✓ Injection (SQL, NoSQL, LDAP)
- ✓ Broken Authentication
- ✓ Sensitive Data Exposure
- ✓ XML External Entity (XXE)
- ✓ Broken Access Control
- ✓ Security Misconfigurations
- ✓ Cross-Site Scripting (XSS)

- ✓ Insecure Deserialization
- ✓ Using Components with Known Vulnerabilities
- ✓ Insufficient Logging & Monitoring

Parameterize queries instead of string concatenation.

Sanitize user input before rendering.

2.2 API Security

- ✓ Authenticate using OAuth 2.0 or JWT tokens**.**
- ✓ Validate and sanitize input data.
- ✓ Use rate limiting to prevent brute force or DoS attacks.
- ✓ Use HTTPS for all API traffic**.**

2.3 Session Management

- ✓ Use long, random session tokens.
- ✓ Set HTTPOnly**,** Secure**,** and SameSite cookies.
- ✓ Expire sessions automatically after inactivity.
- ✓ Monitor for session hijacking or replay attacks**.**

**3. User Authentication and Access Control**

3.1 Strong Authentication

**Passwords**

- ✓ Minimum 12 characters, mix of upper/lowercase, numbers, symbols.
- ✓ Implement password strength meters.
- ✓ Store passwords hashed with bcrypt, Argon2, or PBKDF2.

**Multi-Factor Authentication (MFA)**

- ✓ SMS OTP, authenticator apps, or hardware tokens.

3.2 Role-Based Access Control (RBAC)

- ✓ Assign roles with least privilege principle.
- ✓ Admins get only the permissions needed for tasks.
- ✓ Audit roles periodically to prevent privilege creep.

3.3 Account Protection

- ✓ Lock accounts after multiple failed login attempts.
- ✓ Send alerts for unusual login attempts (different devices or locations).
- ✓ Allow users to review and revoke active sessions.

**4. Payment System Security**

Electronic payments require highest-level security due to financial risk.

4.1 PCI DSS Compliance

Payment Card Industry Data Security Standard (PCI DSS) mandates:

- ✓ Encrypt cardholder data at rest and in transit.
- ✓ Strong access control and authentication.
- ✓ Network monitoring and testing.
- ✓ Regular audits and vulnerability scans.

4.2 Tokenization

- ✓ Replace sensitive card info with a token**.**
- ✓ Tokens are useless if stolen, reducing the risk of data breaches.

4.3 End-to-End Encryption (E2EE)

- ✓ Encrypt card data from the client browser/app to payment processor**.**
- ✓ Prevents data leakage even if servers are compromised.

4.4 Payment Gateway Security

- ✓ Use trusted gateways: Stripe, PayPal, Razorpay, etc.
- ✓ Prefer offsite payment forms to avoid storing card data.
- ✓ Implement 3D Secure 2.0 for additional authentication during payments.

**5. Data Security**

5.1 Data Encryption at Rest

- ✓ Encrypt sensitive data with **AES-256** or equivalent.
- ✓ Store keys securely (hardware security modules or KMS services).

5.2 Data Minimization and Masking

- ✓ Only collect necessary data.
- ✓ Display partial card numbers (e.g., XXXX-XXXX-1234) to reduce exposure.

5.3 Secure Backups

- ✓ Encrypted offsite backups.
- ✓ Test restoration procedures regularly.
- ✓ Keep backups immutable to prevent ransomware attacks.

**6. Fraud Detection and Monitoring**

6.1 Real-Time Transaction Monitoring

- ✓ Detect anomalies like high-value transactions, multiple failed payments, or unusual geolocations.
- ✓ Use **device fingerprinting** to detect unusual devices.

6.2 Machine Learning Fraud Detection

- ✓ Analyze historical transactions to detect patterns of fraud.
- ✓ Combine with behavioral analytics (mouse movements, typing patterns).

6.3 Logging and Auditing

- ✓ Centralize logs for all transactions, admin actions, and security events.
- ✓ Maintain logs for forensic investigations.
- ✓ Set real-time alerts for suspicious activity.

**7. Compliance and Legal Regulations**

7.1 Privacy Laws

GDPR (Europe) and CCPA (California) require:

- ✓ Explicit user consent for data collection.
- ✓ Right to access, correct, or delete data.

7.2 Electronic Payment Regulations

- ✓ PSD2 (Europe): Strong Customer Authentication.
- ✓ Local anti-money laundering (AML) and anti-fraud regulations.

**8. Operational Security**

**Security Awareness Training**

- ✓ Train staff against phishing, social engineering, and insider threats.

**Incident Response Plan**

- ✓ Steps: Detect → Analyze → Contain → Eradicate → Recover.

**Penetration Testing**

- ✓ Regular tests to find vulnerabilities before attackers do.

**Supply Chain Security**

- ✓ Maintain a **Software Bill of Materials (SBOM)** to track vulnerabilities in third-party components.

## 9. Emerging Technologies in Payment Security

### Biometric Authentication

- ✓ Fingerprint or facial recognition for authentication.

### Blockchain Payment Ledger

- ✓ Immutable, transparent, and auditable transaction record.

### AI & ML

- ✓ Real-time fraud scoring, anomaly detection, and risk assessment.

## 10. End-to-End Secure E-Commerce Payment Flow

1. **User Access**:
   - ✓ User opens the e-commerce website via **HTTPS**.
2. **Login/Checkout**:
   - ✓ Multi-factor authentication secures user accounts.
3. **Payment Entry**:
   - ✓ Payment data is encrypted **E2EE** in the browser/app.
4. **Tokenization**:
   - ✓ Sensitive card data replaced with a token by the payment gateway.
5. **Payment Processing**:
   - ✓ Gateway validates card and authorization via the bank.
6. **Transaction Logging**:
   - ✓ Token, transaction amount, and metadata stored securely.
7. **Fraud Checks**:
   - ✓ Real-time anomaly detection flags suspicious transactions.

8. **Confirmation**:
    - ✓ Only non-sensitive information shown to users.
9. **Monitoring and Alerts**:
    - ✓ Admins alerted for unusual behavior.
10. **Compliance Reporting**:
    - ✓ Transaction reports generated for PCI DSS, GDPR, PSD2, etc.

### 3.3 Ethical Considerations in E-business

The rapid growth of e-business has transformed the way people buy, sell, and interact online, making ethical considerations more important than ever. Unlike traditional commerce, e-business involves handling large volumes of personal data, financial information, and digital content**,** which places a responsibility on companies to act responsibly and transparently. Ethical practices in e-business are not limited to legal compliance; they encompass privacy protection, data security, honesty in marketing, intellectual property respect, consumer protection, social responsibility, and fair competition**.** For instance, companies must ensure that user data is collected and stored securely, transactions are protected from fraud, and advertising does not mislead customers. Moreover, with the increasing use of AI, automated decision-making, and global operations**,** ethical e-business practices must consider fairness, cultural sensitivity, and sustainability. By integrating ethics into their operations, e-businesses can build trust, customer loyalty, and long-term credibility**,** which are essential for success in the highly competitive digital marketplace.

i) Privacy and Data Protection

E-businesses handle sensitive personal data, so protecting privacy is essential. Ethical companies obtain explicit consent**,** limit data collection, and secure information using encryption.

For example, Amazon allows customers to manage privacy settings, control marketing emails, and clearly explains how personal data is used. Violating privacy, like selling data without consent, is both unethical and illegal under GDPR or CCPA**.**

ii) Security and Fraud Prevention

Protecting customer accounts and payments is critical. Secure payment gateways, encryption, and fraud monitoring are ethical requirements. PayPal is an example; it uses multi-layered encryption, secure login, and AI-driven fraud detection to prevent unauthorized transactions. Reporting vulnerabilities ethically, rather than exploiting them, is also crucial.

**iii)** Intellectual Property Rights

Respecting IP ensures creators are not exploited. Ethical businesses avoid selling counterfeit goods or using copyrighted content without permission. Etsy monitors its platform to prevent counterfeit products and copyright infringement, protecting artisans and customers. Selling pirated software, music, or images would be unethical.

iv) Transparency and Honesty

Honest communication builds trust. Companies must provide accurate product information, pricing, and genuine reviews. Zappos displays clear pricing, shipping fees, and authentic customer reviews, avoiding misleading claims. By contrast, fake discounts or hidden charges would be unethical.

v) Consumer Protection and Accessibility

Ethical e-businesses ensure fair consumer treatment and accessibility. This includes clear return/refund policies**,** safe products, and accessible websites. For instance, Apple provides detailed product descriptions, warranties, and accessibility features for visually impaired users. Online stores that hide return policies or provide unsafe products act unethically.

vi) Social Responsibility and Sustainability

Ethical companies consider environmental and social impact. Patagonia is an example; it uses sustainable sourcing, eco-friendly packaging, and donates to environmental causes. E-businesses ignoring environmental impact or exploiting labor are violating ethical standards.

vii) Ethical Use of AI and Automation

AI in e-business must be fair and transparent. Netflix uses algorithms to recommend content while avoiding bias and informing users about data usage. Similarly, LinkedIn ensures its job recommendations and ads are non-discriminatory. Using AI for discriminatory pricing or biased credit approval would be unethical.

viii) Respect for Competition and Fair Practices

Ethical e-businesses compete fairly. They avoid sabotage, price-fixing, or fake negative reviews. For example, Shopify stores must respect competitors' IP and operate transparently. Manipulating search results or reviews to harm competitors is unethical.

ix) Global and Cultural Sensitivity

E-businesses often serve international users, requiring cultural awareness. Companies must avoid offensive content and comply with local laws. For instance, Coca-Cola's global online campaigns are adapted to local cultures and regulations to avoid offense. Ignoring cultural differences can harm reputation and trust.

x) Ethical Marketing

Marketing should be honest and non-manipulative. Avoid spam, "dark patterns," or tricking users into purchases. Etsy and Shopify sellers often provide opt-in marketing, accurate product descriptions, and fair promotional strategies. Misleading users into purchases through deceptive interfaces is unethical.

**Check Your Progress**

**Choose the Correct Answer:**

**1. Which of the following is a common security threat to e-business?**

a. SSL Encryption

b. Phishing Attacks

c. Multi-Factor Authentication

d. Tokenization

**Answer: b. Phishing Attacks**

**2. Which of the following is a best practice for securing an e-commerce website?**

a. Storing Plain-Text Passwords For Faster Access

b. Using Https and TlS Encryption For All Communications

c. Ignoring Software Updates To Avoid Downtime

d. Allowing Unlimited Login Attempts

**Answer: b. Using Https and TlS Encryption for All Communications**

**3. Tokenization in electronic payment systems is used to:**

a. Replace Sensitive Card Information With A Non-Sensitive Token

b. Encrypt the Database Server

c. Reduce Website Traffic

d. Increase Password Complexity

**Answer: a. replace sensitive card information with a non-sensitive token**

**4. Which of the following represents an ethical practice in e-business?**

a. Selling Customer Data Without Consent

b. Providing Clear Return and Refund Policies

c. Posting Fake Product Reviews

d. Using Pirated Images On A Website

**Answer: b. providing clear return and refund policies**

**5. An ethical use of AI in e-commerce includes:**

a. Using Algorithms To Unfairly Increase Prices For Certain Users

b. Providing Transparent Product Recommendations Without Bias

c. Collecting Personal Data Without Consent

d. Ignoring Accessibility For Disabled Users

**Answer: b. providing transparent product recommendations without bias**

**Small Questions – LOCF Mapping Table**

| S.No | Small Question | CO | Bloom's Level | PO |
|---|---|---|---|---|
| 1 | What are the common security threats in e-business? | CO1 | Remember | PO1 |
| 2 | Explain how security can be implemented in e-commerce systems. | CO2 | Understand | PO2 |
| 3 | How do electronic payment systems ensure transaction safety? | CO2 | Apply | PO3 |
| 4 | What are the ethical considerations in handling customer data in e-business? | CO3 | Understand | PO4 |
| 5 | Suggest measures to prevent online fraud and phishing attacks. | CO2 | Apply | PO3 |

Big Questions – LOCF Mapping Table

| S.No | Big Question | CO | Bloom's Level | PO |
|---|---|---|---|---|
| 1 | Analyze the major security threats faced by e-businesses and how they impact operations. | CO1 | Analyze | PO1 |
| 2 | Evaluate various security mechanisms and protocols used to protect e-commerce and electronic payment systems. | CO2 | Evaluate | PO3 |
| 3 | Discuss the ethical challenges in e-business, including data privacy, fraud, and cyber ethics. | CO3 | Understand | PO4 |
| 4 | Design a secure framework for an e-commerce system to prevent fraud, phishing, and data breaches. | CO2 | Create | PO3 |
| 5 | Compare and contrast different electronic payment systems in terms of security, efficiency, and ethical considerations. | CO2 | Analyze | PO3 |

## UNIT – IV

**Structure:**

**4.1 Introduction to E - Marketing**

**4.2 Meaning of E - Marketing**

**4.3 Definitions of E-Marketing**

**4.4 What is an E-Marketing Strategy?**

**4.5 E-Marketing Strategy**

**4.6 E-Marketing Techniques**

**4.7 Online Advertising and Promotion**

**4.8 B 2 C and Strategies for Purchasing and Support Activities**

**4.9 B 2 B - Web Auction Virtual – Web Portals**

### 4.1 Introduction to E - Marketing

E-Marketing (Electronic Marketing) refers to the use of digital technologies and internet based platforms to promote products and services, communicate with customers, and manage marketing activities.

It is also known as:

- ✓ Digital Marketing
- ✓ Internet Marketing
- ✓ Online Marketing

E-Marketing includes all marketing efforts conducted through:

- ✓ Websites
- ✓ Search engines
- ✓ Social media platforms

- ✓ Email
- ✓ Mobile applications
- ✓ Online advertisements

Unlike traditional marketing, e-marketing allows businesses to interact directly with customers and measure results instantly.

**4.2 Meaning of E - Marketing**

E-Marketing (Electronic Marketing) refers to the use of the internet and digital technologies to promote products and services, communicate with customers, and build long-term relationships.

It involves conducting marketing activities through electronic media such as:

- ✓ Websites
- ✓ Search engines
- ✓ Social media platforms
- ✓ Email
- ✓ Mobile apps
- ✓ Online advertisements

**4.3 Definitions of E-Marketing**

According to Judy Strauss and Raymond Frost "E-Marketing is the use of electronic data and applications for planning and executing the conception, distribution, promotion, and pricing of ideas, goods, and services to create exchanges that satisfy individual and organizational goals."

According to Philip Kotler and Kevin Lane Keller "Online marketing efforts made by companies to communicate, promote, and sell products and services over the Internet."

According to Dave Chaffey “E-Marketing is achieving marketing objectives through applying digital technologies.”

According to Mohammed, Fisher, Jaworski and Paddison “E-Marketing is the process of building and maintaining customer relationships through online activities to facilitate the exchange of ideas, products, and services that satisfy the goals of both parties.”

According to El-Ansary “E-Marketing is a modern business practice involved with marketing goods, services, information, and ideas via the Internet and other electronic means.”

**4.4 What is an E-Marketing Strategy?**

An E-Marketing Strategy (also called digital marketing strategy) is a plan that outlines how a business will use online channels to reach its target audience, build brand awareness, and drive sales. It integrates techniques like email, social media, SEO, content marketing, and paid advertising into a cohesive plan.

4.5 E-Marketing Strategy

1. **Set Clear Objectives**
    - ✓ Define what you want to achieve using the SMART framework (Specific, Measurable, Achievable, Relevant, Time-bound).
    - ✓ **Example:** Increase website traffic by 30% in six months or gain 5,000 new email subscribers.
2. **Identify Target Audience**
    - ✓ Create buyer personas to understand demographics, interests, and online behavior.
    - ✓ **Example:** Millennials aged 25–35 who are interested in fitness and wearables.

3. **Analyze Competitors**
    - ✓ Study competitors' digital presence, content, and engagement to find gaps and opportunities.
    - ✓ **Example:** Observing how Adidas uses Instagram campaigns to engage fitness enthusiasts.
4. **Choose Marketing Channels**
    - ✓ Decide which digital platforms suit your audience and goals.
    - ✓ **SEO & Content Marketing:** Blogs, videos, infographics (Nike publishes running tips on its website).
    - ✓ **Social Media Marketing:** Instagram, TikTok, LinkedIn (Nike posts TikTok videos of athletes using new shoes).
    - ✓ **Email Marketing:** Newsletters, drip campaigns (sending early-bird offers to subscribers).
    - ✓ **Paid Advertising:** Google Ads, Facebook Ads (targeting "best running shoes 2026" keywords).
    - ✓ **Influencer / Affiliate Marketing:** Partner with influencers (Nike collaborated with fitness influencers to showcase products).
5. **Develop Content Strategy**
    - ✓ Create relevant and engaging content aligned with the audience and marketing goals.
    - ✓ **Example:** Blog posts on running tips, Instagram reels showcasing product features.

6. **Allocate Budget & Resources**
    - ✓ Decide how much to spend on tools, ads, and manpower, and track ROI.
    - ✓ **Example:** Spending $5,000 on Instagram ads while monitoring conversions to optimize spending.
7. **Measure Performance & Optimize**
    - ✓ Track key metrics like traffic, conversions, engagement, and ROI.
    - ✓ Use analytics tools like Google Analytics or SEMrush.
    - ✓ **Example:** Adjusting ad copy or targeting if a campaign gets clicks but low conversions.
8. **Continuous Improvement**
    - ✓ Refine campaigns based on data insights and changing market trends.
    - ✓ **Example:** Updating social media strategy to focus more on TikTok if engagement there is higher than Instagram.

4.6 E-Marketing Techniques

**i) Search Engine Optimization (SEO)**

SEO is the process of optimizing a website or online content to appear higher in search engine results. The goal is to increase organic (unpaid) traffic. Techniques include keyword research, on-page optimization (meta tags, headings), creating high-quality content, and building backlinks.

**Example:** A fitness blog targeting keywords like “best running shoes 2026” ensures its articles appear at the top of Google search results, attracting users actively looking to buy running shoes.

**ii) Content Marketing**

This technique focuses on creating and distributing valuable, relevant, and consistent content to attract and retain a target audience. Content can include blogs, articles, infographics, videos, podcasts, and eBooks.

**Example:** Nike publishes blogs on running techniques, workout routines, and training guides while integrating their products subtly into the content to educate and engage customers.

**iii) Social Media Marketing (SMM)**

SMM involves promoting products, services, or brands on social media platforms like Facebook, Instagram, LinkedIn, TikTok, and Twitter. It helps build brand awareness, drive traffic, and foster engagement with followers.

**Example:** Nike posts short reels on TikTok showing athletes using their shoes in real-life training, while Instagram stories highlight promotions or product launches to create excitement among followers.

**iv) Email Marketing**

Email marketing uses newsletters, promotional emails, and personalized campaigns to directly reach customers' inboxes. It's highly effective for nurturing leads and maintaining long-term relationships.

**Example:** Amazon sends personalized recommendations and discount offers based on users' browsing and purchase history, increasing the chances of repeat sales.

**v) Pay-Per-Click Advertising (PPC)**

PPC involves paying for ads displayed on search engines or social media, where the advertiser pays only when someone clicks the ad. It's a fast way to drive targeted traffic and generate leads.

**Example:** A sports e-commerce website runs Google Ads targeting "buy running shoes online," ensuring users searching for these shoes see their ads immediately.

**vi) Affiliate Marketing**

Affiliate marketing leverages third-party partners (affiliates) who promote a brand's products in exchange for a commission on sales generated through their referral links.

**Example:** Fashion brands collaborate with bloggers or YouTubers who create "Try-On Haul" videos and link to the products, earning a commission for every purchase made through their referral.

**vii) Influencer Marketing**

Brands collaborate with social media influencers who have a loyal following to promote products authentically. This technique is effective for reaching niche audiences and building credibility.

**Example:** Fitness influencers on Instagram promote Nike shoes in their workout videos, encouraging followers to check out and purchase the products.

**viii) Mobile Marketing**

Mobile marketing focuses on reaching customers via smartphones and tablets, using apps, push notifications, SMS campaigns, and mobile-optimized websites.

**Example:** Starbucks sends app notifications to users about new seasonal drinks or offers, driving both online orders and in-store visits.

**ix) Video Marketing**

Videos are a highly engaging format to showcase products, educate customers, or entertain audiences. Video marketing can be shared on social media, websites, or platforms like YouTube.

**Example:** Red Bull shares high-quality videos of extreme sports events and stunts, reinforcing its brand identity as adventurous and energetic, while subtly promoting its products.

**x) Online Reputation Management (ORM)**

ORM is about monitoring and managing a brand's online image. It involves responding to reviews, handling complaints, and encouraging positive feedback to maintain credibility.

**Example:** Hotels and restaurants respond to TripAdvisor or Google reviews, thanking positive reviewers and addressing complaints professionally, which builds trust with potential customers.

**xi) Webinars & Online Events**

Hosting live or recorded online sessions allows brands to educate audiences, demonstrate products, and interact directly with potential customers.

**Example:** Adobe conducts webinars showcasing new software features, allowing attendees to learn the product and ask questions, which boosts engagement and conversion.

**xii) Remarketing / Retargeting**

This technique targets users who have previously interacted with a brand's website or content but didn't make a purchase. Ads are shown to remind and encourage them to return.

**Example:** An e-commerce site showing ads for shoes a user viewed but didn't buy, increasing the chance of conversion.

**4.7 Online Advertising and Promotion**

Online Advertising and Promotion are strategies businesses use to market products or services through the internet. While online advertising focuses on paid campaigns to reach targeted audiences, online promotion can include both paid and organic methods to boost brand awareness, engage customers, and drive sales. Together, they form an essential part of E-

Marketing, allowing businesses to connect with users where they spend most of their time: online.

1. Online Advertising

Online advertising refers specifically to **paid marketing efforts** that use digital channels to reach a defined audience. The main goal is to increase visibility, generate leads, and drive sales.

Types of Online Advertising

1. **Display Advertising**
    - ✓ Involves visual ads (banners, images, or videos) placed on websites, apps, or social media platforms.
    - ✓ **Example:** Nike placing banner ads on sports news websites promoting their latest shoes.
2. **Search Engine Advertising (Paid Search / PPC)**
    - ✓ Ads appear on search engine results pages when users search for specific keywords. Advertisers pay per click (PPC).
    - ✓ **Example:** A shoe store bidding on "buy running shoes online" to show their ad at the top of Google search results.
3. **Social Media Advertising**
    - ✓ Ads are displayed on platforms like Facebook, Instagram, LinkedIn, TikTok, or Twitter.
    - ✓ **Example:** Spotify promoting premium subscriptions via Instagram Stories ads targeting users interested in music streaming.

4. **Video Advertising**
    - ✓ Ads appear before, during, or after videos on platforms like YouTube or embedded on websites.
    - ✓ **Example:** Red Bull running short video ads before YouTube extreme sports videos.
5. **Native Advertising**
    - ✓ Ads blend seamlessly with content on websites or social platforms, appearing less intrusive.
    - ✓ **Example:** Sponsored articles on BuzzFeed featuring fashion products that match the website's style and tone.
6. **Email Advertising**
    - ✓ Paid or sponsored messages sent to a targeted email list promoting products or services.
    - ✓ **Example:** Online travel agencies sending promotional emails about discounted flight tickets.
7. **Affiliate Advertising**
    - ✓ Partners promote a brand's products on their platforms and earn a commission for sales generated through their referral links.
    - ✓ **Example:** Bloggers including links to Amazon products in "Top 10 Fitness Gear" posts.
8. **Remarketing / Retargeting Ads**
    - ✓ Target users who previously visited a website but did not convert, showing ads to encourage them to return.

- ✓ **Example:** A user browsing shoes on an e-commerce site later sees ads for the same shoes while scrolling social media.

Advantages of Online Advertising

**i) Targeted Reach**

One of the biggest benefits of online advertising is the ability to target specific groups of people. Advertisers can define their audience based on demographics (age, gender, location), interests, online behavior, or previous interactions with the brand. This precision ensures that marketing efforts reach the most relevant customers, reducing wasted ad spend.

**Example:** A company selling fitness gadgets can target ads specifically to adults aged 25–40 who follow fitness pages on Instagram, rather than showing ads to a general audience.

**ii) Cost Efficiency**

Online advertising is often more affordable than traditional advertising channels like TV, radio, or print. Models like **Pay-Per-Click (PPC)** and **Cost-Per-Impression (CPM)** mean businesses pay only when users engage with the ad or when the ad is displayed a certain number of times. This allows even small businesses with limited budgets to reach a large audience.

**Example:** Small e-commerce brands can run Facebook or Google ads with a daily budget as low as $10 and still reach thousands of potential customers.

**iii) Measurable Results**

Unlike traditional advertising, online campaigns provide detailed metrics. Advertisers can track clicks, impressions, conversions, bounce rates, engagement rates, and return on investment (ROI) in real-time. This data-driven approach allows marketers to understand which campaigns are performing and optimize them for better results.

**Example:** An online clothing store can see that Instagram ads generate more clicks than Google search ads, allowing them to shift more budget to the higher-performing channel.

**iv) Flexibility and Real-Time Optimization**

Online advertising campaigns can be launched, paused, or adjusted instantly based on performance. This flexibility allows marketers to experiment with different ad creatives, targeting options, and messaging without committing large budgets upfront.

**Example:** If a YouTube ad for a new sneaker doesn't generate expected engagement in the first week, Nike can change the video content, adjust the audience targeting, or test a different call-to-action immediately.

**v) Global Reach**

Online advertising breaks geographical barriers, allowing businesses to reach a global audience. Unlike local TV or newspaper ads, digital campaigns can target customers anywhere in the world, making it ideal for companies with international ambitions.

**Example:** An online learning platform can run Facebook ads targeting students in multiple countries, promoting courses in English or other languages.

**vi) High Engagement and Interactivity**

Online ads can be interactive, allowing users to click, swipe, watch videos, download content, or even chat with a brand directly. This interactivity increases engagement and the likelihood of conversions.

**Example:** A cosmetics brand using Instagram Stories can create polls or swipe-up links that let users explore products directly from the ad.

**vii) Remarketing Opportunities**

Businesses can retarget users who have previously interacted with their website or ads, encouraging them to return and complete a purchase. Remarketing increases conversion rates by reminding potential customers about products they showed interest in.

**Example:** A user who browsed running shoes on an e-commerce site might later see ads for the same shoes on Facebook or YouTube, prompting them to make a purchase.

**viii) Speed and Instant Results**

Unlike traditional advertising, which may take weeks to show results, online campaigns can generate immediate responses. Ads can be published instantly, and traffic, leads, or sales can start flowing within hours.

**Example:** Launching a flash sale via Google Ads and Instagram promotions can drive significant traffic and sales on the same day.

**ix) Brand Building and Awareness**

Online advertising allows businesses to consistently expose their brand to potential customers, strengthening brand recall. Through repeated ads, engaging content, and social proof, companies can build a strong online presence.

**Example:** Red Bull uses YouTube and Instagram video ads showcasing extreme sports, reinforcing their brand identity as adventurous and energetic worldwide.

**x) Data-Driven Insights for Future Strategy**

Online ads generate rich data about audience behavior, preferences, and trends. Marketers can use this data not only to improve current campaigns but also to inform future product development, pricing, or content strategies.

**Example:** Amazon analyzes which product ads lead to the most conversions, then recommends related products or creates targeted offers for similar audiences.

2. Online Promotion

Online promotion includes both paid and organic strategies designed to increase brand awareness, attract customers, and encourage engagement.

**Types of Online Promotion:**

**i) Content Marketing**

Creating and sharing blogs, videos, infographics, and articles that educate, entertain, or inform audiences.

**Example:** Nike publishes running tips and workout routines featuring its products.

**ii) Social Media Promotion (Organic)**

Engaging users through posts, stories, reels, polls, and contests without direct advertising.

**Example:** Coca-Cola running Instagram contests where followers post photos with Coke bottles to win prizes.

**iii) Email Marketing**

Sending newsletters, promotions, and personalized messages to subscribers to keep them informed and encourage purchases.

**Example:** Amazon sending personalized product recommendations and discount codes to registered users.

**iv) Affiliate Marketing**

Promoting products through partners or influencers who earn a commission for driving sales.

**Example:** Fashion bloggers sharing links to clothing items from an online store, earning commission for each purchase.

**v) Webinars & Online Events**

Hosting live or recorded sessions to educate potential customers or promote products.

**Example:** Adobe webinars showcasing new software features to attract professional users.

**Advantages of Online Advertising and Promotion:**

- ✓ **Targeted Reach:** Reach specific audiences based on demographics, interests, and behavior.
- ✓ **Measurable Results:** Track clicks, impressions, conversions, and ROI in real-time.
- ✓ **Cost Efficiency:** Pay only for engagement or use free methods like social media posts.
- ✓ **Global Reach:** Connect with audiences worldwide instantly.
- ✓ **Flexibility:** Adjust campaigns, creatives, and targeting quickly for better results.
- ✓ **Customer Engagement:** Use interactive content, polls, videos, and promotions to boost loyalty.

**4.8 B 2 C and Strategies for Purchasing and Support Activities**

B2C refers to transactions where a business sells products or services directly to individual consumers, rather than other businesses. It is the most common type of online and offline commerce, covering industries like retail, e-commerce, entertainment, and travel. Examples include Amazon selling products to shoppers, Netflix providing streaming services, or Nike selling shoes directly to customers.

**Key Characteristics of B2C:**

- ✓ High volume of customers but smaller individual transactions.

- ✓ Focus on marketing, convenience, and customer experience.
- ✓ Decisions are often emotion-driven, influenced by pricing, brand, and reviews.

Strategies for Purchasing (B2C)

1. **Simplified Online Buying Process**
    - ✓ Ensure easy navigation, clear product information, and secure payment options.
    - ✓ **Example:** Amazon's "1-Click Purchase" reduces friction in buying.
2. **Personalized Recommendations**
    - ✓ Use customer data to suggest products based on browsing or purchase history.
    - ✓ **Example:** Netflix recommending movies or shows based on previous viewing habits.
3. **Promotions and Discounts**
    - ✓ Offer limited-time deals, coupons, or loyalty rewards to encourage purchases.
    - ✓ **Example:** Nike offering seasonal discounts on its e-commerce platform.
4. **Multiple Payment Options**
    - ✓ Provide credit/debit cards, wallets, UPI, EMIs, and cash-on-delivery options.
    - ✓ **Example:** Flipkart allowing EMI payments and COD for convenience.
5. **User Reviews and Ratings**
    - ✓ Enable consumers to see feedback from other buyers to build trust.
    - ✓ **Example:** Amazon displays product ratings and customer reviews prominently.

Strategies for Support Activities (B2C)

1. **Customer Service Channels**
    - ✓ Provide multiple support options: live chat, email, helplines, and social media.
    - ✓ **Example:** Zomato offering chat support for order-related queries.

2. **After-Sales Support**
    - ✓ Offer easy returns, refunds, and replacements to improve satisfaction.
    - ✓ **Example:** Flipkart and Amazon have hassle-free return policies.
3. **Self-Service Options**
    - ✓ FAQs, tutorials, and chatbots to help customers solve issues independently.
    - ✓ **Example:** Dell providing online troubleshooting guides for laptops.
4. **Loyalty Programs**
    - ✓ Reward repeat customers to encourage long-term engagement.
    - ✓ **Example:** Starbucks Rewards program gives points for purchases redeemable for free items.
5. **Feedback Collection**
    - ✓ Collect reviews and ratings to improve products and services.
    - ✓ **Example:** E-commerce platforms sending post-purchase surveys to customers.

### 4.9 B 2 B - Web Auction Virtual – Web Portals

B2B refers to transactions where one business sells products or services to another business, rather than to individual consumers. These transactions often involve bulk purchases, long-term contracts, and more complex decision-making compared to B2C. Examples include manufacturers selling raw materials to retailers, or software companies selling enterprise solutions to organizations.

#### 1. B2B Web Auctions

Web Auctions in B2B are online platforms where businesses can buy or sell goods through competitive bidding. These auctions help companies get better prices, reduce procurement costs, and increase transparency in business transactions.

**Types of B2B Web Auctions**

**i) Forward Auctions:** Sellers list products, and buyers bid, with the highest bid winning.

**Example:** Industrial equipment manufacturers auction excess inventory to other companies.

**ii) Reverse Auctions:** Buyers post their requirements, and suppliers compete by lowering prices to win the contract.

**Example:** A large retailer posts a request for packaging materials, and suppliers bid to offer the lowest price.

**iii) Dutch Auctions:** The price starts high and decreases until a buyer accepts the price.

**Example:** Commodities like bulk metals sold in online B2B Dutch auctions.

**Advantages of B2B Web Auctions:**

- ✓ Reduces costs for buyers and sellers.
- ✓ Speeds up procurement and sales processes.
- ✓ Increases transparency and competitive pricing.

2. B2B Web Portals

Web Portals are centralized online platforms that provide information, services, and transactional capabilities to multiple businesses. They act as a hub for B2B interactions, including product catalogs, order management, supply chain tracking, and communication tools.

**Types of B2B Web Portals**

**i) Supplier Portals:** Allow suppliers to manage orders, submit invoices, and track shipments.

**Example:** Cisco's supplier portal enables partners to view purchase orders and deliverables.

**ii) Buyer Portals:** Enable companies to search for suppliers, compare products, and place bulk orders.

**Example:** Alibaba.com's B2B portal connects manufacturers and wholesalers globally.

**iii) Industry Portals:** Provide industry-specific information, marketplaces, and networking for businesses.

**Example:** ThomasNet for industrial equipment sourcing in the U.S.

**Advantages of B2B Web Portals:**

- ✓ Streamlines communication between buyers and suppliers.
- ✓ Simplifies order processing and procurement.
- ✓ Centralizes information for easier decision-making.
- ✓ Reduces operational costs and manual paperwork.

**Check Your Progress**

**Choose the Correct Answer:**

1. **Which of the following is an example of content marketing in E-Marketing?**

   a) Google Ads campaign targeting "buy shoes online"

   b) Blog posts about running tips featuring a shoe brand

   c) Paid Instagram Story ads for product promotion

   d) Sending discount emails to subscribers

   **Answer: b) Blog posts about running tips featuring a shoe brand**

2. **Which of the following is an advantage of online advertising and promotion?**

   a) Requires only offline presence

   b) Limited to local audience

   c) Real-time measurable results and targeted reach

   d) Cannot adjust campaigns once launched

   **Answer: c) Real-time measurable results and targeted reach**

3. **Which of the following is a common B2C purchasing strategy?**

   a) Reverse auction for bulk materials

   b) Personalized product recommendations and easy checkout

   c) Supplier portal for invoice management

   d) Industry marketplace for manufacturers

   **Answer: b) Personalized product recommendations and easy checkout**

4. **In a reverse auction in B2B e-commerce, who competes to offer the lowest price?**

   a) Buyers compete to increase the bid

   b) Suppliers compete to reduce their price

   c) Buyers compete to select the best product

   d) Suppliers compete to promote their brand only

   **Answer: b) Suppliers compete to reduce their price**

5. **Which of the following best describes a B2B web portal?**

   a) A social media page for individual consumers

   b) A centralized platform for suppliers and buyers to manage transactions

   c) A website for personal blogging

   d) A discount coupon website for retail customers

   **Answer: b) A centralized platform for suppliers and buyers to manage transactions**

**Small Questions – LOCF Mapping Table**

| S.No | Small Question | CO | Bloom's Level | PO |
|---|---|---|---|---|
| 1 | What is E-Marketing? | CO1 | Remembering | PO1 |
| 2 | Name any three E-Marketing strategies. | CO2 | Understanding | PO2 |
| 3 | List two advantages of online advertising and promotion. | CO2 | Understanding | PO3 |
| 4 | What is B2C e-commerce and its purchasing strategies? | CO3 | Understanding / Applying | PO4 |
| 5 | Define B2B web portal and its benefits. | CO4 | Understanding / Analyzing | PO5 |

Big Questions – LOCF Mapping Table

| S.No | Big Question | CO | Bloom's Level | PO |
|---|---|---|---|---|
| 1 | Explain the concept of E-Marketing and discuss its importance in modern business. | CO1 | Understanding / Analyzing | PO1 |
| 2 | Describe various E-Marketing strategies and techniques with examples. | CO2 | Understanding / Applying | PO2 |
| 3 | Explain the advantages of online advertising and promotion for businesses. | CO2 | Analyzing / Evaluating | PO3 |
| 4 | Discuss B2C strategies for purchasing and customer support activities with examples. | CO3 | Understanding / Applying | PO4 |
| 5 | Explain B2B web auctions and web portals, including their types and advantages. | CO4 | Understanding / Analyzing | PO5 |

## UNIT – V

**Structure:**

**5.1 Introduction to Marketing of Services**

**5.2 International Issues in E-Business**

**5.3 Legal Issues in E-Business**

**5.4 Ethical Issues in E-Business**

**5.5 Tax Issues in E-Business**

**5.6 Business Plan for Implementing E-Business**

### 5.1 Introduction to Marketing of Services

The E-Business environment refers to all internal and external factors that influence how a business operates online. It is broader than traditional business because digital commerce depends heavily on technology, law, international factors, and social trends.

**Key Components of the E-Business Environment:**

**i) Technological Environment**

- ✓ The backbone of E-Business, including high-speed internet, mobile apps, cloud computing, cybersecurity, and digital payment systems.
- ✓ Rapid changes require businesses to continuously update technology to remain competitive.
- ✓ **Example:** E-commerce platforms like Amazon and Alibaba continuously upgrade servers, apps, and payment security.

**ii) Economic Environment**

- ✓ Includes market conditions, consumer spending behavior, global trade dynamics, inflation, and currency fluctuations.

- ✓ Affects pricing strategies, purchasing power, and sales.
- ✓ **Example:** During festive seasons, online retailers increase promotions because consumer spending rises.

**iii) Social and Cultural Environment**

- ✓ Customer preferences, culture, online behavior, and lifestyle trends shape the products, marketing, and delivery methods.
- ✓ **Example:** Netflix adapts content offerings in different countries according to local culture and languages.

**iv) Legal and Regulatory Environment**

- ✓ Laws and regulations affecting digital commerce, consumer protection, contracts, privacy, and taxation.
- ✓ Compliance is essential to avoid penalties.

**v) Global / International Environment**

- ✓ Includes cross-border trade regulations, currency exchange, international shipping, language, and culture.
- ✓ Companies must adapt their strategies for each market.
- ✓ **Example:** Amazon offers country-specific websites with local currency, tax compliance, and shipping.

## 5.2 International Issues in E-Business

When a business expands its operations across countries, the online environment introduces several challenges and considerations. International E-Business is not just about selling products globally; it involves navigating legal, cultural, technological, financial, and operational issues to operate successfully.

i) Cross-Border Trade and Regulations

**Challenge:** Each country has its own rules for importing and exporting goods and services. Online businesses must comply with international trade laws, customs duties, tariffs, licensing requirements, and product standards.

**Considerations:**

- ✓ Import/export restrictions on certain goods (e.g., pharmaceuticals, electronics).
- ✓ Customs duties and tariffs that affect product pricing.
- ✓ Compliance with international contracts and e-commerce regulations.

**Example:** Amazon selling electronics to Europe must comply with EU import regulations, CE certifications, and VAT laws.

ii) Currency and Payment Systems

**Challenge:** International transactions involve multiple currencies, exchange rates, and cross-border payment systems. Businesses must ensure secure, convenient, and cost-effective payment methods**.**

**Considerations:**

- ✓ Accepting multiple currencies through payment gateways.
- ✓ Handling currency conversion rates and transaction fees.
- ✓ Managing fraud and security risks for international payments.

**Example:** Shopify allows merchants to sell in different currencies and supports multiple payment gateways like PayPal, Stripe, and local digital wallets.

iii) Legal and Regulatory Compliance

**Challenge:** E-Businesses must follow the laws of each country in which they operate, including:

- ✓ **Consumer protection laws:** Refunds, warranties, and product labeling.

- ✓ **Data privacy and protection:** Compliance with GDPR in Europe, CCPA in the US, or India's IT Act.
- ✓ **Digital taxation:** VAT, GST, or Digital Services Tax (DST) on online services.
- ✓ **Intellectual property:** Avoiding copyright or trademark violations in foreign markets.

**Example:** Facebook and Google must ensure GDPR compliance for all EU users to avoid hefty fines.

iv) Cultural and Language Differences

**Challenge:** Culture, language, and social behavior significantly impact marketing, communication, and customer experience in international E-Business.

**Considerations:**

- ✓ Translating websites, apps, and product descriptions into local languages.
- ✓ Adapting marketing messages to local culture, traditions, and sensitivities.
- ✓ Offering products that match local preferences and consumption patterns.

**Example:** Netflix localizes its content by providing subtitles, dubbing, and original content for countries like India, Japan, and Brazil.

v) Logistics and Supply Chain Management

**Challenge:** Delivering products across borders involves complex logistics, customs clearance, shipping costs, and delivery times.

**Considerations:**

- ✓ Selecting reliable international shipping partners.
- ✓ Managing inventory across multiple countries.
- ✓ Handling returns and reverse logistics efficiently.

**Example:** Alibaba's cross-border e-commerce connects Chinese manufacturers with global buyers, providing shipping, customs clearance, and tracking support.

vi) Political and Economic Risks

**Challenge:** International E-Business is affected by political instability, trade restrictions, and economic fluctuations**.**

**Considerations:**

- ✓ Sanctions or trade embargoes that restrict certain exports/imports.
- ✓ Currency fluctuations impacting pricing and revenue.
- ✓ Changes in local tax laws or e-commerce regulations.

**Example:** During political tensions, some US tech companies temporarily restrict sales to certain countries to comply with sanctions.

vii) Technology and Infrastructure Differences

**Challenge:** Internet speed, payment infrastructure, mobile usage, and IT security standards vary across countries.

**Considerations:**

- ✓ Optimizing websites and apps for low-bandwidth regions.
- ✓ Integrating local payment gateways.
- ✓ Ensuring cybersecurity to prevent breaches and fraud.

**Example:** Amazon India uses local payment options like UPI and Cash-on-Delivery for customers who may not have credit cards.

viii) Marketing and Branding Challenges

**Challenge:** Marketing strategies that work in one country may fail in another due to cultural, social, or legal differences**.**

**Considerations:**

- ✓ Local social media platforms (e.g., WeChat in China, VK in Russia).
- ✓ Adapting promotional campaigns to local customs and holidays.
- ✓ Maintaining brand consistency while respecting local culture.

**Example:** Coca-Cola runs country-specific campaigns during festivals like Diwali in India or Chinese New Year in China.

9. Risk Management in International E-Business

To handle international challenges, businesses should:

- ✓ Conduct thorough market research and cultural analysis.
- ✓ Partner with local businesses or distributors for smooth operations.
- ✓ Invest in reliable cross-border payment and logistics solutions.
- ✓ Ensure legal and ethical compliance in every target country.
- ✓ Monitor political, economic, and cybersecurity risks.

**5.3 Legal Issues in E-Business**

E-Business operates in a digital environment where transactions, communication, and data are conducted online. Legal issues are critical because violating laws can lead to financial penalties, lawsuits, and reputational damage**.** The legal environment governs contracts, intellectual property, privacy, taxation, and consumer protection in online business.

i) Contract and Agreement Laws

E-Business relies heavily on online contracts**,** also known as electronic contracts. These include agreements between businesses, suppliers, and customers.

**Key Points:**

- ✓ **Enforceability:** Electronic contracts are legally binding under laws like the E-Sign Act (US) **or** IT Act 2000 (India)**.**
- ✓ **Terms and Conditions:** Websites must provide clear terms regarding purchases, delivery, refunds, and liabilities.
- ✓ **Digital Signatures:** Digital or electronic signatures are often used to validate agreements.

**Example:**

- ✓ When a customer buys a software subscription from Microsoft online, they accept the Terms of Service**,** which forms a legally binding digital contract.

ii) Intellectual Property (IP) Laws

E-Business involves digital content, software, logos, trademarks, and patents, all of which are protected under IP law.

**Key Areas:**

- ✓ **Copyrights:** Protect creative content like software code, blogs, images, videos, and e-books.
- ✓ **Trademarks:** Protect logos, brand names, and symbols used in digital marketing.
- ✓ **Patents:** Protect unique inventions or technologies used in e-commerce platforms.

**Example:**

- ✓ Shopify ensures that third-party app developers do not infringe on trademarks or copyrighted code while integrating into their platform.

**Risk:** Selling counterfeit products online can lead to lawsuits and financial penalties.

iii) Consumer Protection Laws

E-Business must comply with laws that protect online consumers from fraud, unfair practices, or misleading claims.

**Key Aspects:**

- ✓ **Transparent Pricing:** Clearly mention taxes, shipping charges, and final costs.
- ✓ **Return and Refund Policies:** Provide fair and accessible return procedures.
- ✓ **False Advertising:** Avoid deceptive claims about products or services.

**Example:**

- ✓ Amazon must provide accurate descriptions and handle refund requests according to consumer protection laws in each country.

iv) Data Privacy and Security Laws

Data is a critical asset in E-Business. Misuse or theft of data can result in serious legal issues.

**Key Laws and Regulations:**

- ✓ **GDPR (General Data Protection Regulation – EU):** Protects personal data of EU residents. Businesses must obtain explicit consent for data collection and allow users to request deletion of their data.
- ✓ **CCPA (California Consumer Privacy Act – USA):** Gives California residents rights to know, delete, and opt-out of personal data sale.
- ✓ **IT Act, 2000 (India):** Governs electronic transactions, digital signatures, and cybercrime in India.

**Legal Requirements:**

- ✓ Secure storage and processing of sensitive customer data.

- ✓ Transparent privacy policies explaining data usage.
- ✓ Reporting data breaches to authorities and users.

**Example:**

- ✓ Facebook and Google must comply with GDPR when processing EU users' personal data, or face fines of up to 4% of global revenue.

v) E-Commerce Taxation Laws

E-Businesses must comply with tax laws for online transactions, including sales tax, VAT, and digital services tax.

**Key Points:**

- ✓ Collect applicable GST, VAT, or sales tax depending on buyer location.
- ✓ File tax returns according to jurisdictional rules.
- ✓ Avoid tax evasion to prevent penalties.

**Example:**

- ✓ Amazon collects VAT for European customers and GST for Indian customers when selling online.

vi) Cybercrime and Online Fraud Laws

E-Businesses face risks such as hacking, phishing, and identity theft. Legal frameworks define penalties for cybercrimes and protect businesses and consumers.

**Key Considerations:**

- ✓ Secure e-commerce platforms with SSL encryption.
- ✓ Implement anti-fraud measures in payments.
- ✓ Comply with cybercrime regulations in each country.

**Example:**

- ✓ Payment gateways like PayPal and Stripe comply with PCI DSS (Payment Card Industry Data Security Standard) to prevent credit card fraud.

vii) Jurisdictional Challenges in E-Business

Because the Internet is global, legal jurisdiction becomes complex:

**Challenges:**

- ✓ Which country's laws apply in case of disputes?
- ✓ How to enforce contracts internationally?
- ✓ Compliance with multiple countries' data protection, tax, and consumer laws.

**Example:**

- ✓ An online retailer in the USA selling to customers in Germany must comply with both US and EU laws for data privacy and taxation.

viii) Other Important Legal Considerations

- ✓ **Domain Names and Cybersquatting:** Avoid registering misleading domain names that infringe trademarks.
- ✓ **Advertising Laws:** Ensure that online promotions comply with local advertising standards.
- ✓ **Accessibility Laws:** Websites must be accessible to people with disabilities (WCAG compliance in many countries).

**5.4 Ethical Issues in E-Business**

Ethics in E-Business refers to the principles and moral values that guide the behavior of online businesses in their interactions with customers, employees, partners, and society. Unlike legal requirements, ethics focus on doing what is right, building trust, and maintaining a positive

reputation. Ethical issues often overlap with legal issues but go beyond compliance to include fairness, transparency, and social responsibility.

i) Data Privacy and Security

**Issue:** Businesses collect massive amounts of data from users, including personal details, browsing habits, and financial information. Ethical problems arise when data is misused or shared without consent.

**Key Ethical Considerations:**

- ✓ Collect only necessary data.
- ✓ Obtain informed consent for data collection.
- ✓ Protect user data from breaches and unauthorized access.

**Example:**

- ✓ Facebook faced ethical scrutiny for allegedly sharing user data without consent in the Cambridge Analytica case.

ii) Intellectual Property and Digital Content

**Issue:** Online businesses often use content, software, images, or videos. Copying or using content without proper permission or credit is unethical.

**Ethical Practices:**

- ✓ Respect copyrights, trademarks, and patents.
- ✓ Give credit to creators when using third-party content.
- ✓ Avoid selling counterfeit or pirated products.

**Example:**

- ✓ Adobe strictly enforces licensing of its software to prevent illegal use or distribution.

iii) Honest Advertising and Marketing

**Issue:** Online businesses may be tempted to exaggerate claims or hide costs to increase sales. Misleading ads are not only illegal in many cases but also unethical.

**Ethical Practices:**

- ✓ Provide accurate product descriptions.
- ✓ Disclose hidden fees or terms.
- ✓ Avoid false claims or unrealistic promises.

**Example:**

- ✓ Amazon ensures product details match what customers receive, including specifications, reviews, and warranty.

iv) Fair Competition

**Issue:** Ethical E-Business practices require fair competition. Unethical practices include predatory pricing, negative advertising, or sabotaging competitors.

**Ethical Practices:**

- ✓ Compete on quality, service, and innovation.
- ✓ Avoid spreading false information about competitors.
- ✓ Respect market regulations and anti-trust laws.

**Example:**

- ✓ eBay encourages fair bidding practices and prohibits shill bidding to manipulate auction outcomes.

v) Transparency in Transactions

**Issue:** Online businesses must maintain honesty in pricing, delivery times, return policies, and service quality. Lack of transparency can erode trust.

**Ethical Practices:**

- ✓ Provide clear terms and conditions.
- ✓ Display refund, cancellation, and return policies prominently.
- ✓ Be upfront about delivery charges and timelines.

**Example:**

- ✓ Flipkart shows GST, shipping fees, and estimated delivery dates before checkout.

vi) Social Responsibility

**Issue:** E-Businesses have a broader responsibility to society and the environment. Ethical businesses contribute positively to communities and avoid harmful practices.

**Key Practices:**

- ✓ Promote sustainable and eco-friendly operations.
- ✓ Ensure accessibility for people with disabilities.
- ✓ Support local communities and fair labor practices.

**Example:**

- ✓ Patagonia emphasizes sustainability and fair labor practices in its online store and supply chain.

vii) Ethical Issues in Artificial Intelligence and Automation

**Issue:** Many E-Businesses use AI for recommendations, pricing, or automated customer service. Unethical practices include bias in algorithms, data misuse, or automated unfair pricing.

**Ethical Practices:**

- ✓ Ensure fairness in AI decisions.
- ✓ Avoid discrimination in automated processes.
- ✓ Monitor AI systems for unintended negative impacts.

**Example:**

- ✓ Netflix uses AI to recommend content ethically without manipulating users unfairly.

viii) Cybersecurity Ethics

**Issue:** Hacking, phishing, malware, and unauthorized surveillance are unethical behaviors that violate trust. Businesses must ethically safeguard themselves and their customers.

**Ethical Practices:**

- ✓ Secure websites and databases.
- ✓ Report breaches promptly.
- ✓ Avoid using customer information for unethical gain.

**Example:**

- ✓ PayPal and Stripe prioritize encryption and fraud detection to protect user accounts and transactions.

**5.5 Tax Issues in E-Business**

Taxation is a critical aspect of E-Business because online transactions often cross national and regional boundaries, making compliance complex. Tax issues in E-Business involve sales tax, VAT, GST, digital services tax, and cross-border taxation. Proper taxation ensures legal compliance and avoids penalties or disputes with authorities.

i) Sales Tax, VAT, and GST

**Issue:** E-Businesses must collect and remit taxes on sales depending on the buyer's location. Unlike traditional businesses, online platforms can sell to customers across cities, states, or countries, creating complex tax obligations.

**Key Points:**

- ✓ **Sales Tax:** Charged on the sale of goods/services in some countries like the USA. Rates vary by state.
- ✓ **VAT (Value Added Tax):** Common in the EU; businesses must charge VAT based on customer location.
- ✓ **GST (Goods and Services Tax):** In countries like India, GST applies to most online sales.

**Example:**

- ✓ Amazon India collects **GST** on all transactions from Indian customers.
- ✓ European online stores must charge **VAT** for customers in EU countries.

ii) Digital Services Tax (DST)

**Issue:** Governments are imposing digital services tax on online services provided by foreign companies, especially tech platforms and streaming services.

**Key Points:**

- ✓ Targets revenue from digital services like software subscriptions, streaming, and online advertising.
- ✓ Ensures that foreign online businesses pay their fair share of taxes even if they don't have a physical presence in the country.

**Example:**

- ✓ Spotify and Netflix pay DST in several European countries where they provide digital streaming services.

iii) Cross-Border Taxation

**Issue:** E-Businesses selling internationally face complex cross-border taxation. This includes import/export duties, customs taxes, and compliance with multiple countries' tax laws**.**

**Considerations:**

- ✓ Determine the country responsible for tax collection.
- ✓ Calculate import/export duties accurately.
- ✓ Handle currency conversions for reporting and tax remittance.

**Example:**

- ✓ Alibaba merchants shipping products from China to Europe must consider customs duties and VAT for EU customers.

iv) Permanent Establishment (PE) and Nexus Issues

**Issue:** Some countries require businesses to establish a tax presence (permanent establishment or "nexus") before collecting taxes.

**Key Points:**

- ✓ PE may occur if a business has an office, server, or employees in the country.
- ✓ Digital businesses without physical offices may still face taxation if revenue thresholds are met.

**Example:**

- ✓ Amazon pays corporate taxes in countries where it has warehouses or meets revenue thresholds under local digital tax laws.

v) Reporting and Compliance

**Issue:** E-Businesses must file taxes accurately and maintain proper accounting for all online transactions.

**Requirements:**

- ✓ Keep detailed records of transactions, taxes collected, and remitted.
- ✓ File tax returns on time according to local regulations.
- ✓ Use accounting software to manage multi-jurisdictional tax compliance.

**Example:**

- ✓ Shopify sellers are provided tools to automatically calculate and collect taxes for different regions.

**vi)** Best Practices for Handling Tax in E-Business

- ✓ **Automate Tax Calculations:** Use software or ERP systems to calculate taxes based on customer location.
- ✓ **Stay Updated:** Follow changes in GST, VAT, sales tax, and digital tax laws.
- ✓ **Record Keeping:** Maintain accurate records for all transactions and tax filings.
- ✓ **Consult Tax Professionals:** Get guidance for cross-border operations.
- ✓ **Transparent Pricing:** Display taxes clearly to customers during checkout.

**5.6 Business Plan for Implementing E-Business**

A business plan is a structured document that outlines a company's strategy, operations, and financial roadmap for launching or running an E-Business. It serves as a blueprint for success, helps attract investors, ensures legal compliance, and guides decision-making.

Implementing an E-Business without a plan can lead to operational inefficiency, financial losses, and legal issues.

i) Executive Summary

**Purpose:** Provides an overview of the E-Business, its mission, vision, objectives, and value proposition.

**Key Points:**

- ✓ Brief description of the business idea.
- ✓ Target market and business model (B2C, B2B, C2C).
- ✓ Financial highlights and expected ROI.
- ✓ Competitive advantage and unique selling proposition (USP).

**Example:**

- ✓ A startup launching an online grocery store may summarize: "Providing fresh groceries online in urban areas with same-day delivery, competitive pricing, and a subscription-based loyalty program."

ii) Business Model and Structure

**Purpose:** Defines how the business will make money and its operational framework.

**Components:**

- ✓ **B2C:** Selling directly to consumers (e.g., Flipkart, Amazon).
- ✓ **B2B:** Selling to other businesses (e.g., Alibaba, IndiaMART).
- ✓ **C2C:** Consumer-to-consumer marketplace (e.g., eBay).
- ✓ Revenue streams: sales, subscription fees, advertising, affiliate income.
- ✓ Organizational structure: management team, departments, and roles.

**Example:**

- ✓ Spotify uses a subscription-based B2C model while also generating revenue from ads (B2B partnerships with advertisers).

iii) Market Analysis

**Purpose:** Understand the market, target audience, competition, and trends to position the business effectively.

**Components:**

- ✓ **Target Audience:** Age, gender, location, income, behavior.
- ✓ **Competitor Analysis:** Identify direct and indirect competitors and their strategies.
- ✓ **Market Trends:** Growth in online shopping, mobile commerce, and digital payments.

**Example:**

- ✓ A fashion e-commerce store may identify millennials and Gen Z as primary consumers and analyze competitors like Myntra and Ajio.

iv) Products or Services

**Purpose:** Define what you are selling and why customers will choose your offerings.

**Components:**

- ✓ Product/service description.
- ✓ Pricing strategy.
- ✓ Features, quality, and differentiation.
- ✓ Value proposition.

**Example:**

- ✓ An online electronics store may offer authentic products, warranty, fast delivery, and after-sales support

v) Marketing and Promotion Strategy

**Purpose:** Plan how to reach customers and promote products effectively.

**Techniques Include:**

- ✓ **Search Engine Optimization (SEO):** Improve website visibility on Google.
- ✓ **Social Media Marketing:** Promotions on Facebook, Instagram, LinkedIn.
- ✓ **Email Marketing:** Personalized offers and updates to subscribers.

- ✓ **Online Advertising:** Google Ads, display ads, and influencer marketing.
- ✓ **Content Marketing:** Blogs, videos, and guides to engage customers.

**Example:**

- ✓ A food delivery app may run Instagram campaigns showing dishes, provide discounts, and use influencers to attract urban customers.

vi) Operations and Logistics

**Purpose:** Define how the business will function daily, ensuring timely delivery and customer satisfaction.

**Components:**

- ✓ **Website or App Platform:** User-friendly interface and secure payment gateway.
- ✓ **Inventory Management:** Stock tracking and supply chain integration.
- ✓ **Delivery & Fulfillment:** Partnerships with courier services or in-house logistics.
- ✓ **Customer Support:** Live chat, emails, and call centers.

**Example:**

- ✓ BigBasket uses a network of warehouses, partnered delivery agents, and real-time inventory management to ensure quick delivery.

vii) Legal, Ethical, and Compliance Considerations

**Purpose:** Ensure the business **operates within laws and maintains ethical standards**.

**Components:**

- ✓ Licenses, registrations, and permits.
- ✓ Compliance with data privacy laws (GDPR, CCPA).
- ✓ Intellectual property protection.
- ✓ Ethical advertising and fair competition.

- ✓ Tax compliance (GST, VAT, DST).

**Example:**

- ✓ Flipkart ensures GST compliance for all sellers, maintains user data privacy, and enforces return policies fairly.

viii) Financial Plan

**Purpose:** Plan the funding, costs, and projected revenues to make the business sustainable.

**Components:**

- ✓ Initial investment and startup costs.
- ✓ Revenue projections and break-even analysis.
- ✓ Cost analysis: marketing, operations, salaries, technology.
- ✓ Funding sources: investors, loans, or self-financing.
- ✓ Profit and loss forecasts.

**Example:**

- ✓ A subscription-based online education platform estimates income from monthly plans and budgets for platform development, marketing, and instructor fees.

ix) Risk Analysis and Contingency Plan

**Purpose:** Identify potential risks and plan how to mitigate them.

**Risks Include:**

- ✓ Cybersecurity threats.
- ✓ Supply chain disruptions.
- ✓ Competition and market volatility.
- ✓ Legal or regulatory changes.

**Contingency Strategies:**

- ✓ Backup servers and data security measures.
- ✓ Multiple suppliers for critical products.
- ✓ Insurance for online business operations.

**Example:**

- ✓ Amazon maintains redundant servers, multiple delivery partners, and strong cyber protection to minimize risks.

x) Implementation Timeline

**Purpose:** Create a step-by-step roadmap for launching and scaling the E-Business.

**Components:**

- ✓ Phase-wise launch plan (website, app, marketing campaigns).
- ✓ Milestones for sales, customer acquisition, and revenue targets.
- ✓ Monitoring and evaluation checkpoints.

**Example:**

A new online clothing store may plan:

- ✓ Month 1-2: Website development
- ✓ Month 3: Soft launch with limited inventory
- ✓ Month 4-6: Marketing campaigns and full-scale launch

**Check Your Progress**

**Choose the Correct Answer:**

**1. Which of the following is a major challenge of international E-Business?**

a) Local office space costs

b) Cross-border regulations, customs, and currency issues

c) Hiring employees

d) Buying office furniture

**Answer: b) Cross-border regulations, customs, and currency issues**

**2. Which law protects personal data of EU citizens in online businesses?**

a) IT Act 2000 (India)

b) GDPR (General Data Protection Regulation)

c) Digital Services Tax

d) Companies Act

**Answer: b) GDPR (General Data Protection Regulation)**

**3. Which of the following is an ethical issue in E-Business?**

a) Filing GST on time

b) Misuse of customer data without consent

c) Paying import duties

d) Creating a business plan

**Answer: b) Misuse of customer data without consent**

**4. What is a common tax issue for E-Businesses selling online internationally?**

a) Selecting website design

b) Managing sales tax, VAT, GST, and digital services tax

c) Choosing office location

d) Hiring marketing staff

**Answer: b) Managing sales tax, VAT, GST, and digital services tax**

**5. Which of the following is a key component of an E-Business implementation plan?**

a) Product description and pricing strategy

b) Physical office layout

c) Employee pension plan

d) Local traffic rules

**Answer: a) Product description and pricing strategy**

**Small Questions – LOCF Mapping Table**

| S.No | Small Question | CO | Bloom's Level | PO |
|---|---|---|---|---|
| 1 | What is E-Business and its environment? | CO1 | Remembering | PO1 |
| 2 | Name any two international issues in E-Business. | CO2 | Understanding | PO2 |
| 3 | List two legal issues that E-Businesses must follow. | CO3 | Understanding | PO3 |
| 4 | Mention two ethical issues in E-Business. | CO3 | Understanding | PO4 |
| 5 | What are the key components of a business plan for implementing E-Business? | CO4 | Understanding | PO5 |

Big Questions – LOCF Mapping Table

| S.No | Big Question | CO | Bloom's Level | PO |
|---|---|---|---|---|
| 1 | Explain the environment of E-Business and its components. | CO1 | Understanding / Analyzing | PO1 |
| 2 | Discuss the international issues in E-Business with examples. | CO2 | Understanding / Analyzing | PO2 |
| 3 | Explain the legal issues in E-Business and how businesses can comply. | CO3 | Understanding / Evaluating | PO3 |
| 4 | Analyze the ethical issues in E-Business and their impact on business operations. | CO3 | Analyzing / Evaluating | PO4 |
| 5 | Prepare a detailed business plan for implementing an E-Business with key components. | CO4 | Applying / Creating | PO5 |