

## E-COMMERCE

### MODULE-1.

#### Introduction .

→ Introduction to E-Commerce .

→ Introduction to E-commerce Technologies .

→ The Differences Between E-commerce and E-Business, Major trends in E-commerce .

→ Types of E-Commerce .

→ Understanding E-commerce: Organizing Themes .

#### Introduction to E-Commerce :-

→ E-commerce or electronic commerce, refers to the buying and selling of goods and services over the internet .

→ It involves online transactions between businesses, consumers or both .

→ With just a few clicks, customers can purchase products from anywhere in the world without visiting a physical store .

E-commerce includes various models such as .

→ B2C

→ B2B

→ C2C

→ C2B .

Limitations of E-commerce .  
→ Website Downtime  
→ Crashes  
→ Security Issues  
→ Limited Internet Access  
→ Payment Failures  
→ Technology Rep

→ the growth of mobile devices, digital payments and global logistics has further accelerated the expansion of e-commerce .

→ It offers benefits like convenience, broader reach, 24/7 availability and often lower prices ,

#### Introduction to E-commerce

#### Technologies .

→ E-commerce technologies are the tools and systems that enable online buying and selling of goods and services .

→ These technologies support various functions such as website development, online payment processing, digital marketing, inventory management .

→ It ensures smooth, secure and efficient transactions .

#### Key e-commerce technologies like

Web Technologies:- HTML, CSS, JavaScript and web frameworks are used to build interactive and user friendly online store front .

E-commerce Platforms or Software solutions like Shopify, Magento and BigCommerce allow business

to create and manage their online stores.

### Payment Gateways:-

Services like Paypal, Razorpay securely process online payments through credit cards, debit cards and digital wallets.

**Data Base Systems** :- Database such as MySQL, MongoDB store product information, user data and transaction history.

**Security Technologies** :- SSL certificates, firewalls and encryption protocols protect customer data and ensure secure online transactions.

### Mobile Commerce [M-Commerce] :-

Mobile apps and responsive web design enable customers to shop using smartphones.

### Difference Between E-commerce and E Business.

#### E-Commerce

→ E-commerce refers specifically to the buying and selling of goods and services over the internet.

#### E-Business .

→ E-Business includes all business activities conducted online, including e-commerce

### E-Commerce

→ Narrower - Focused mainly on online transactions (sales/purchases)

→ Online shopping, digital payments, online auctions.

→ Amazon selling products, eBay auction  
Flipkart Shopping.

Interaction type  
→ Mostly external [with customers and vendors]

### E-Business

→ Broader - Includes e-commerce plus other online activities like customer service, supply chain, HR etc..

→ Online marketing, inventory management, CRM, ERP system etc..

→ Amazon's supply chain management, customer service via chatbot, internal data analytics.

→ Interaction type is both internal and external [includes internal business process]

### Note :-

→ E-commerce is just one part of e-business.

→ If a company sells products online that's e-commerce.

→ If a company also uses digital tools to manage inventory, handle customer service or run internal operations that is e-business

## Major Trends in E-Commerce :-

↳ <sup>second</sup> changes from longer time and increases product and sales.

before buying.

↳ Enhances online shopping experience by reducing uncertainty.

### 1) Mobile Commerce [M-Commerce] :-

- More people are shopping using smartphones and tablets.
- Mobile optimized websites and shopping apps are becoming essential.

### 2) Social Commerce :-

- Shopping directly through social media platforms like Instagram, Facebook etc..
- Influencer marketing and live-stream

### 3) AI and Personalization :-

- Use of AI to recommend products based on browsing and purchase history.
- Chatbots and virtual assistants improve customer service and engagement.

### 4) Voice Commerce :-

- Shopping using voice commands through smart devices like Amazon Alexa or Google Assistant.
- Voice search optimization is becoming more important for online stores.

### 5) Augmented Reality (AR) and Virtual Try-Ons :-

- AR lets customers visualize products

### 6) Sustainable and Ethical Shopping

- Consumers are prioritizing eco-friendly branding and ethical sourcing.

- E-commerce stores are adopting sustainable packaging and carbon-neutral shipping.

### 7) Faster and Flexible Delivery Options

- Same-day, next-day and scheduled deliveries are becoming standard.
- Use of drones and automated delivery systems is on the rise.

### 8) Cross-Border E-Commerce.

- Consumers increasingly shop from international websites.
- Global shipping and multi-currency support are expanding.

## Types of E-commerce :-

### B2C [Business to Consumer].

- ⇒ Businesses sell products or services directly to consumers.

- ⇒ Common products like Clothing, electronics, groceries.

- ⇒ Ex :- Amazon, Flipkart, Myntra.

## B2B [Business to Business] :-

- ⇒ Businesses sell products or services to other businesses.
- ⇒ Common products like Raw materials, wholesale goods, software, equipment.
- ⇒ Ex:- alibaba, IndiaMART, Salesforce.

## C2C [Consumer to Consumer] :-

- ⇒ Consumers sell products or services directly to other consumers.
- ⇒ Common transactions like Used goods, collectibles, personal items.
- ⇒ OLX, eBay, Facebook Marketplace.

## C2B [Consumer to Business] :-

- ⇒ Individuals offer products or services to businesses.
- ⇒ Common services like Graphic design, content writing, photography.
- ⇒ Ex:- freelancers on Fiverr or Upwork, influencer marketing deals.

## Social Commerce :-

- ⇒ Buying and selling products through social media apps.
- ⇒ It happens on apps like Instagram, Facebook, TikTok.

### Example :-

If you see a t-shirt on Instagram and buy it directly without leaving the app

## M Commerce [Mobile Commerce]

- ⇒ shopping and paying using your mobile phone or tablet.
- ⇒ In shopping apps, mobile websites, or through payment apps.
- ⇒ Ex:- Ordering food on swiggy using phone

## Local E-Commerce :-

- ⇒ Buying things online from nearby shops in your city or area.
- ⇒ It happens on apps or websites that connect you with local stores.
- ⇒ Ex:- Ordering vegetables from your nearby grocery store using an app like Big Basket.

## Understanding E-commerce

### Through Three Key Themes.

#### Technology :-

- ⇒ The tools and systems that make e-commerce possible.

#### Includes :-

- ⇒ Internet & websites.
- ⇒ Mobile apps.
- ⇒ Payment systems [UPI, PayPal]
- ⇒ Security [Encryption, SSL]
- ⇒ AI, chatbots, recommendation systems.

→ Without technology, e-commerce wouldn't exist. It powers everything from browsing products to paying and delivering them.

### Business :-

⇒ How companies use e-commerce to make money and serve customers.

### Includes:-

→ Business Models [B2C, B2B, C2C, etc].

→ Marketing and sales strategies.

→ Customer service.

→ Supply chain and logistics.

→ Data analytics.

⇒ E-commerce helps businesses reach more customers, reduce costs and improve efficiency.

### Society :-

⇒ It is about how e-commerce affects people, communities and everyday life.

### Includes:-

→ Online shopping habits.

→ Privacy and security concerns.

→ Job creation or loss.

→ Digital divide. [access to technology]

→ Environmental impact [packaging, delivery].

⇒ E-commerce changes people's life, shop, work and interact, it brings both benefits and challenges in society.

## Business Basic Concepts in E-Commerce

### 1) Digital Market:-

→ A digital market is an online space where buyers and sellers meet via the internet to exchange goods, services or information.

⇒ Ex:- Amazon, Flipkart, Google Play Store.

### Key features .

→ Lower costs for sellers.

→ 24/7 access for consumers.

→ Global reach.

→ More competition and transparency.

### 2) Digital Goods:-

→ Products that are delivered digitally, not physically.

⇒ Ex:- eBooks, music, software, online courses, video games.

### Characteristics :-

→ Can be copied easily.

→ Low marginal cost.

→ Delivered instantly online.

### 3) Business Models in E-Commerce .

→ B2C

→ B2B

→ C2C

→ C2B

→ Social Commerce

→ M-Commerce

→ Local E-Commerce .

## 1) Value Chain & Value Web.

**Value Chain:-**

A step by step process that businesses follow to deliver a product or service and add value at each stage.

**Example Steps:-**



**Value Web:-**

Persons involved in manufacturing of product.

→ A network of businesses working together through the internet to create value for customers.

## 2) Industry Structure:-

**Monopoly:-**

→ One seller controls the market.

Ex:- Google in search ads.

**Duopoly:-**

→ Two major firms dominate.

Ex:- Android vs iOS

**Oligopoly:-**

→ Few large firms control the market.

Ex:- Amazon, Flipkart, Snapdeal

**Perfect Competition:-**

→ Many small sellers, none can control the market.

Ex:- Freelancers, handmade goods

## 3) Digital Disruption:-

→ When new digital technologies drastically change or replace traditional business models.

**Ex :-**

→ Netflix disrupted cable TV

→ Uber disrupted taxi services.

→ Online shopping disrupted physical retail.

## 4) Consumer Behaviour in Digital Market.

→ Read reviews

→ Compare prices quickly.

→ Prefer fast delivery.

→ Expect personalization.

→ More informed due to access to information.

## 5) Types of Purchases in E-Commerce.

Type	Meaning	Example
Specially planned	Customer knows exactly what to buy	Buying a specific phone model.
Generally planned	Knows the category not the exact item	Wants to buy a laptop browser options.
Reminder Purchase	Reminder-based or seen earlier, now decides to buy	Buys a shirt seen earlier in a cart.
Entirely Unplanned	No intention to buy, but buys after seeing it	Impulse buying a random things on Amazon.

## MODULE - 2

### E-COMMERCE BUSINESS MODELS

- ⇒ How E-commerce Changes Business:
  - Structure and Process.
  - ⇒ How E-commerce Changes Business:
    - Strategy.
  - ⇒ Introduction to Commerce.
  - ⇒ Key Elements of a Business Model
  - ⇒ Major Business-To-Business [B2B] Business Models.
  - ⇒ E-Commerce Payment Systems. → M-5
  - ⇒ Security Threats in the E-commerce Environment. → M-5
  - ⇒ The E-commerce Security Environment → M-5

### Business Model:-

It states or represents all the planned activities that are required to successfully run a business and get profits in the market.

### Business plan/document :-

It is a document that gives the clear explanation of all the planned activities.

### Basic Elements Of Business Models:

- A business model explains how a company creates, delivers and captures value.

1) Value Proposition :-  
It is about how the user gets benefits by products

Ex :-  
Amazon offers convenience, low prices and fast delivery.

2) Revenue Model :-  
→ Describes the way the business earns income.

→ Common e-commerce revenue models:

- Sales
- Subscription
- Commission
- Advertising
- Freemium .

Ex :-  
Netflix earns money through monthly subscriptions.

### 3) Market Opportunity:-

→ Identifies the target market and its size .

→ Identifies who are the customers?  
How much demand is there?

### Ex :-

A food delivery app may target young professionals in urban areas.

### 4) Competitive Environment :-

→ Analyzes existing competitors and their strengths/weaknesses

→ Helps to understand the level of competition.  
Ex:-

Swiggy and Zomato compete in the Indian food delivery market.

④ Competitive Advantage :-

→ The unique feature or strength that helps you stand out

→ Could be: price, speed, quality, innovation brand, etc..

Example:-

Amazon's competitive advantage is its logistics and fast delivery network.

⑤ Market Strategy :-

→ Focuses on branding, marketing and sales tactics.

→ Includes: SEO, ads, social media, email marketing etc..

Ex:-

Nike uses influencer marketing and social media campaigns to promote its brand.

⑥ Organizational Development.

→ It is about how the company is set up and grows.

→ Roles, teams, departments, workflow and scaling plans.

Ex:-

A startup may start small, then

add departments for tech, marketing and support.

⑦ Management Team:-

→ Describes the experience and skills of the leadership team.

→ Includes policies, requirements, Terms & Conditions.

→ Strong teams increases investor confidence.

Ex:- Founders, executives, advisors.  
<sup>digit.</sup> How E-Commerce Changes Business Structure and Processes.

1. Changes in Business Structure.

Traditional Business      E-Commerce Business

physical stores → Online storefront (websites/apps)

Local customer base → Global customer base.

Many physical departments → More digital functions (IT, digital marketing)

Larger staff for in-store operations → Smaller teams with more tech focus.

Inventory kept in stores → Centralized or out sourced warehouses.

## Examples:-

- A retail business may no longer need multiple stores across cities - just one central warehouse and a website.
- Some companies outsource logistics or customer service to tech platforms.

Data Use :- Businesses track customer behavior and personalize services.

## Benefits of These Changes:-

- Lower operational costs.
- Faster service.
- Global reach.
- Better data and customer insight.
- Easier scalability.

~~How E-commerce changes Business Strategy :-~~

~~How E-commerce changes Business Structure :-~~

## Industry Structure :-

- I) Rivalry Among Competitors :-
  - Competition becomes global not just local.
  - Price comparison is easy, so businesses must differentiate with service brand or speed.

## R) Threat of Substitutes :-

- More alternatives available online [e.g., eBooks vs. printed books, streaming vs DVDs]

## Key Changes:-

Automation :- Tasks like billing, tracking and marketing are now automated.

Speed :- Orders, payments and customer queries are handled much faster.

→ Customers can switch easily, so businesses need to add value to keep them.

### 3) Barriers to Entry:-

- Lower costs for starting a business [no physical shop needed, cheaper marketing].
- New competitors can enter the market quickly.

### 4) Bargaining Power of Suppliers.

- Usually decreases because buyers can find many suppliers online.
- Only remains strong if the product is rare or specialized.

### 5) Bargaining Power of Buyers:-

- Increases as customers can compare prices, read reviews and switch brands instantly.
- Forces businesses to focus on loyalty programs, personalization and unique efforts.

### Business Operation/ process :-

#### 1. Suppliers

Before:- Communication with suppliers was slower [phone, fax, inperson meetings].

After E-Commerce:- Orders, payments and tracking happen online instantly.

Impact:- Lower costs, faster procurement, wider choice of suppliers worldwide.

#### 2. Manufacturers:-

Before:- Produced based on forecasts and bulk orders.

After E-Commerce:- Can produce based on real-time customer demand.

Impact:- Reduced inventory, faster product changes, better customization.

#### 3. Distribution:-

Before:- Traditional warehouses and local shipping.

After E-Commerce:- Automated warehouses, global logistics partners, real-time tracking.

Impact:- Faster delivery, lower handling costs, more flexible shipping options.

#### 4. Retailers:-

Before:- Physical stores and limited working hours.

After E-commerce:- Online storefronts open 24/7 can reach customers anywhere.

Impact:- Reduced need for physical space, more focus on digital marketing and online customer service.

#### 5. Consumers:-

Before:- Limited choice, had to visit stores physically.

After E-commerce: Can shop from anywhere, compare prices instantly, read reviews.

Impact:- More power, more convenience and personalized recommendations.

### How E-Commerce Changes Business Strategy .

#### 1) Differentiation :-

Definition:-

→ The strategy of making a product or service standout from competitors by offering unique features, quality, brand image or customer service .

Before E-commerce:- Business differentiated mainly through physical store location in-person service and product variety .

After E-commerce:-

→ Need to stand out online with branding, website experience, personalization, faster delivery and unique offers.

→ Digital marketing, social media presence and customer reviews become key to differentiation .

#### 2) Commoditization:-

Definition:-

When products from different sellers become so similar that customers see little difference between them, leading to competition mainly on price -

Before E-commerce:-

Many products retained brand loyalty because customers had fewer ways to compare .

After E-commerce

→ Price comparison websites and market places make products look interchangeable

→ Businesses must fight price wars unless they add extra value .

#### 3) Scope Structure :-

The range or extent of markets, products or services a business operates in local, regional or global

Before E-commerce :-

→ Business operated mainly within local or regional markets .

After E-commerce :-

→ The market scope becomes global

→ Strategy shifts to managing multiple markets, currencies, languages and cultures .

#### 4) Focus Structure:-

A strategy where a business targets a specific niche market or customer segment instead of serving the entire market .

Before E-commerce :- Many businesses tried to serve broad markets due to local competition limits .

## A) After E-commerce:-

→ Easier to focus on niche markets (e.g.: handmade jewelry, eco-friendly gadgets) and still reach enough customers globally.

→ Strategies shift toward deep specialization rather than broad generalization.

## Business to Consumer E-Commerce Models :-

### 1) E-tailers :-

→ Online retailers that sell products directly to consumers through websites or apps.

→ Operates like a virtual store with product listings, carts and payment gateways.

Ex :- Amazon, Flipkart.

### 2) Community Providers :-

→ Online platforms that create a community for people with shared interests, where interaction and networking can lead to product or service sales.

→ Builds a network and engages members sometimes monetized via ads or products.

Ex :- Facebook groups, Reddit communities.

### 3) Content Providers :-

→ Offer digital content (text, audio, video, images) for consumers, either free with ads or via subscription.

→ Revenue from subscriptions, pay-per-view or ad placement.  
Ex :- Netflix, YouTube Premium.

### 4) Portals :-

→ Websites that provide a gateway to other services or resources, often integrating, search, news, email and shopping links.

→ Acts as an entry point to many types of content and services.

Ex :- Yahoo, MSN.

### 5) Transaction Brokers :-

→ Online platforms that process transactions for customers, usually in travel, finance or ticketing.

→ Earn commission or service fees on completed transactions.

Ex :- MakeMyTrip, Booking.com.

### 6) Market Creators :-

→ Build digital platforms where buyers and sellers can meet, list products and transactions.

→ Facilitate peer to peer or business to consumer sales.

Ex :- eBay, OLX

### 7) Service Providers:-

- ⇒ Offer online services such as cloud storage, web hosting or software tools directly to consumers.
- ⇒ Often subscription based or pay-per-use model.
- Ex:- Google, Drive, Zoom.

### 8) Subscription based Model:-

- Provide ongoing products or services for a recurring fee.
- Monthly/annual subscription.
- Ex:- Spotify, Amazon prime.

## Major BtoB Business Models.

### 1. Net Marketplace :-

- ⇒ Online platforms where multiple buyers and sellers in a particular industry can meet and conduct transactions.
- ⇒ Opens to many participants; often industry focused.

Ex:- Alibaba.com.

### 2. E-Distributor:-

- ⇒ A company that sells goods and services directly to businesses through an online catalog.
- ⇒ Standardized products, bulk orders, immediate ordering.

Ex:- Epainager.com.

### 3. E-Procurement:-

- ⇒ Digital systems that help businesses purchase goods/services from approved suppliers.
- ⇒ Focused on streamlining purchasing and supplier management.
- Ex:- Ariba Network.

### 4. Exchange:-

- ⇒ An online marketplace where multiple buyers and sellers trade commodities or goods, often in real time.
- ⇒ Dynamic pricing, often used for commodities and bulk goods.
- Ex:- Global Food Exchange.

### 5) Industry Consortium:-

- ⇒ A collaborative online marketplace owned by a group of major companies in an industry to serve their supply chain needs.

Ex:- Chem connect.

- ⇒ Jointly owned, promotes standardization and efficiency in an industry.

### 6) Private Industrial Network:-

- ⇒ A private platform set up by a large company to manage procurement, supply chain and communications with its suppliers and partners.

⇒ Access is restricted to selected suppliers and partners; focused on long-term relationships.

Ex:- Walmart's Retail Link.

### 1) Value-Added Network :-

⇒ A private, hosted network service that enables secure electronic data interchange (EDI) between businesses.

⇒ Secure, reliable communication for documents like invoices, purchase orders and contracts.

Ex:- OpenText Trading Grid.

### 2) Managed Services Marketplace :-

⇒ An online platform that connects businesses with providers of professional or operational services.

⇒ Focused on outsourcing business functions rather than selling physical goods.

## Unique Features of E-commerce Technology.

### 1) Ubiquity :-

⇒ Available everywhere, anytime.

⇒ Reduces transaction costs and removes location barriers.

Ex:- You can shop online from home, work or even while travelling.

### 2) Global Reach :-

⇒ The technology works across national boundaries.

⇒ Expands market size from local to global.

⇒ Ex:- A seller in India can sell products to customers in the USA instantly.

### 3) Universal Standards :-

⇒ Common technology standards [like the internet] are used worldwide.

⇒ Lowers entry barrier and costs for businesses.

⇒ Ex:- All web browsers can open the same website using standard HTML.

### 4. Richness :-

⇒ Ability to deliver complex and detailed messages using text, images, video and sound.

⇒ Improves marketing effectiveness

⇒ Ex:- A product page with 3D images, videos and customer reviews.

### 5. Interactivity :-

⇒ Allows two way communication between businesses and customers

⇒ Increases customer engagement

and feedback.

- ⇒ Ex: Live chat on an e-commerce site
- ⇒ or comments on product pages.

### 6) Information Density:-

- ⇒ Large amounts of accurate, detailed information available to all market participants.

- ⇒ Improves decision making and transparency.

Ex: Price comparison sites like

RiceGrabber or Google Shopping.

### 7) Personalization/Customization:-

- ⇒ Tailoring products, services or marketing to individual preferences.

- ⇒ Increases customer satisfaction and loyalty.

Ex: Amazon recommending products based on your past purchases.

### 8) Social Technology.

- ⇒ Enables social interaction and sharing of content online.

- ⇒ Turns customers into brand promoters through sharing and reviews.

- Ex: Instagram allowing product tagging and shopping through posts.