

Introduction to E-commerce

Introduction to E-Commerce

(A concise, easy-to-read guide for students, entrepreneurs, or anyone new to online business)

1. What Is E-Commerce?

Aspect	Description
Definition	Buying and selling goods or services over electronic networks, primarily the Internet.
Key Elements	- Digital storefront (website, app, marketplace) - Electronic payment processing - Logistics & fulfillment - Customer relationship management
Scope	B2C, B2B, C2C, C2B, and government-to-consumer (G2C) transactions.

2. Types of E-Commerce Models

Model	Primary Participants	Typical Platforms
B2C (Business-to-Consumer)	Companies ? Individual shoppers	Amazon, Shopify stores, brand websites
B2B (Business-to-Business)	Companies ? Companies	Alibaba, industry portals, wholesale platforms
C2C (Consumer-to-Consumer)	Individual ? Individual	eBay, Craigslist, peer-to-peer marketplaces
C2B (Consumer-to-Business)	Individual ? Company (e.g., freelancers)	Upwork, 99designs, influencer marketing
D2C (Direct-to-Consumer)	Manufacturer ? End-user, bypassing intermediaries	Warby Parker, Glossier
M-Commerce (Mobile Commerce)	Any model accessed via smartphones/tablets	Apps, mobile-optimized sites
Social Commerce	Shopping directly within social networks	Instagram Shopping, Facebook Marketplace

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3. Core Components of an E-Commerce System

1. **Website / Mobile App** – User interface, product catalog, search, and navigation.
 2. **Shopping Cart & Checkout** – Session management, order summary, tax & shipping calculations.
 3. **Payment Gateway** – Secure processing of credit cards, digital wallets, bank transfers, and alternative methods (e.g., crypto).
 4. **Inventory & Order Management** – Real-time stock tracking, order routing, fulfillment status.
 5. **Logistics & Delivery** – Warehousing, shipping carriers, last-mile delivery, returns handling.
 6. **Customer Service** – Live chat, help desks, FAQs, self-service portals.
 7. **Analytics & Reporting** – Traffic, conversion, average order value (AOV), customer lifetime value (CLV).
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4. Technology Stack Overview

Layer	Common Tools / Services
Frontend	HTML5, CSS3, JavaScript frameworks (React, Vue, Angular), responsive design
Backend	Node.js, PHP (Laravel), Python (Django), Ruby on Rails, Java (Spring)
Database	MySQL, PostgreSQL, MongoDB, DynamoDB
Payment Integration	Stripe, PayPal, Square, Adyen, Braintree
Hosting / Cloud	AWS (EC2, S3, RDS), Google Cloud, Azure, Netlify, Vercel
CMS / Platforms	Shopify, Magento, WooCommerce, BigCommerce, custom headless CMS
Security	SSL/TLS, PCI-DSS compliance, tokenization, 2FA, WAF (Web Application Firewall)
Analytics	Google Analytics, Mixpanel, Hotjar, custom dashboards (Tableau, Power BI)

5. Key Success Factors

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| Factor | Why It Matters | Practical Tips | |