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Introduction to Information Systems

ITISA1

Disclaimer

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What will be covered in the rest of today's session?

What will be covered in the lecture-led session:

- Introduction to e-Commerce
- Types of e-commerce
- E-Government



Why e-commerce ?

e-Commerce has transformed many areas of our lives and careers.

- One fundamental change has been the way organizations interact
- Most organizations today have set up business on the Internet



What is e-Commerce

- E-commerce: conducting business activities electronically over computer networks
- Business activities proven to be strong candidates for conversion to e-commerce:
 - Paper based
 - Time-consuming
 - Inconvenient for customers



E-Commerce Types



E-commerce categories

- Business-to-business (B2B)
- Business-to-consumer (B2C)
- Consumer-to-consumer (C2C)
- Mobile commerce (m-commerce)
 - Many benefits: smartphone Internet access
 - Some limitations: small display space



Business-to-Business (B2B)



Subset of e-commerce

- All participants are organizations
- Useful for connecting business partners in a virtual supply chain to cut resupply times and reduce costs

Many organizations use both buy-side and sell-side e-commerce

- Buy-side e-commerce: purchase goods and services from suppliers
- Sell-side e-commerce: sell products to customers

Buy-Side (company is goods)



1. Identifying and comparing Suppliers and products
- Request a quote
- Negotiate & Establish Terms and prices
- Place Order
- Tracking Shipments



Sell-side

- Enable the purchase of goods online
- Information about Product & Price
- Delivery terms/free, duration
- Cancellation Policy
- return policy
- Easy Access to Inform
- Review feature.
- User Interface easy to navigate
- Link to Social Media



Business-to-Consumer (B2C)

- Customers deal directly with an organization
 - Producers and providers of consumer products can eliminate middlemen
- Steady growth
 - Cheaper goods and services online
 - Online shoppers can design a personalized product
 - Use of social media networks to promote products and reach customers



Consumer-to-Consumer (C2C)

Involves electronic transactions between consumers facilitated by a third party

- Popular sites: eBay, eBid, Etsy, Fiverr, Ibidfree, Kijiji, Ubid, Facebook Marketplace, and Taobao

Companies and individuals involved in C2C must be careful

- Sales must not violate the rules of various county, state, and country legal jurisdictions



Comparison..

Factors	B2B	B2C	C2C
Typical value of sale	Thousands or millions of dollars	Tens or hundreds of dollars	Tens of dollars
Length of sales process	Days to months	Days to weeks	Hours to days
Number of decision makers involved	Several people to a dozen or more	One or two	One or two
Uniformity of offer	Typically a uniform product offering	More customized product offering	Single product offering, one of a kind
Complexity of buying process	Extremely complex; much room for negotiation on quantity, quality, options and features, price, payment, and delivery options	Relatively simple; limited negotiation on price, payment, and delivery options	Relatively simple; limited negotiation on payment and delivery options; negotiations focus on price
Motivation for sale	Driven by a business decision or need	Driven by an individual consumer's need or emotion	Driven by an individual consumer's need or emotion



E-Government

Use of information and communications technology to:

- Simplify information sharing
- Speed formerly paper-based processes
- Improve relationships between citizens and government

Forms of e-government:

- Government-to-consumer (G2C)
- Government-to-business (G2B)
- Government-to-government (G2G)



M-Commerce

Concepts and strategies are the same, but tactics of e-commerce had to change

- Smaller-sized user interface

Mobile commerce (m-commerce) relies on use of wireless devices to place orders and conduct business

- Smartphones and tablets



Advantages of E-Commerce

Conversion to an e- or m-commerce system enables organizations to:

- Reach new customers
- Reduce costs
- Speed the flow of goods and information
- Increase the accuracy of orders
- Improve customer service



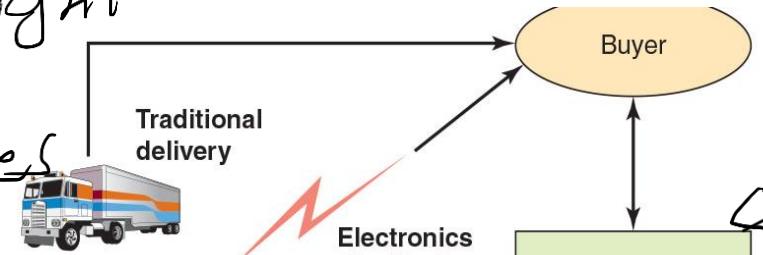


Multistage Model for E-Commerce

Non Digital Product

overnight

- Rail
- Drones



Traditional delivery
Electronics distribution

1. Search and identification

5. After-sales service

4. Product and service delivery

quality, fast products
suppliers

- vendor price
- level service
- speed of delivery
- access catalog

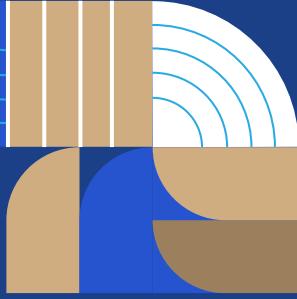
Digital Product

3. Purchasing

2. Selection and negotiation

B2B Negotiate
- Price final
Delivery date
Delivery cost

Purchase order
with agreed terms



Activity

- Which e-commerce model is it, when a student uses the Internet to purchase inventory items from a vendor company.
- Discuss the challenges of e-commerce and m-commerce in South Africa?
- Discuss the impact has Covid 19 on eCommerce and MCommerce?
- In what ways has the eCommerce and MCommerce changed the way businesses operate.
- Discuss why E-Government is important?





Activity

- Visit an e-commerce website like Takealot or Amazon and check for the functionalities that enable a customer to make a purchase.





What will be covered in the rest of today's session?

What will be covered in the lecture-led session:

- Multistage Model for E-Commerce
- Social Media Commerce
- E-Commerce Challenges
- E-Commerce and M-Commerce Applications
- Strategies for Successful E-Commerce and M-Commerce



Multistage Model for E-Commerce

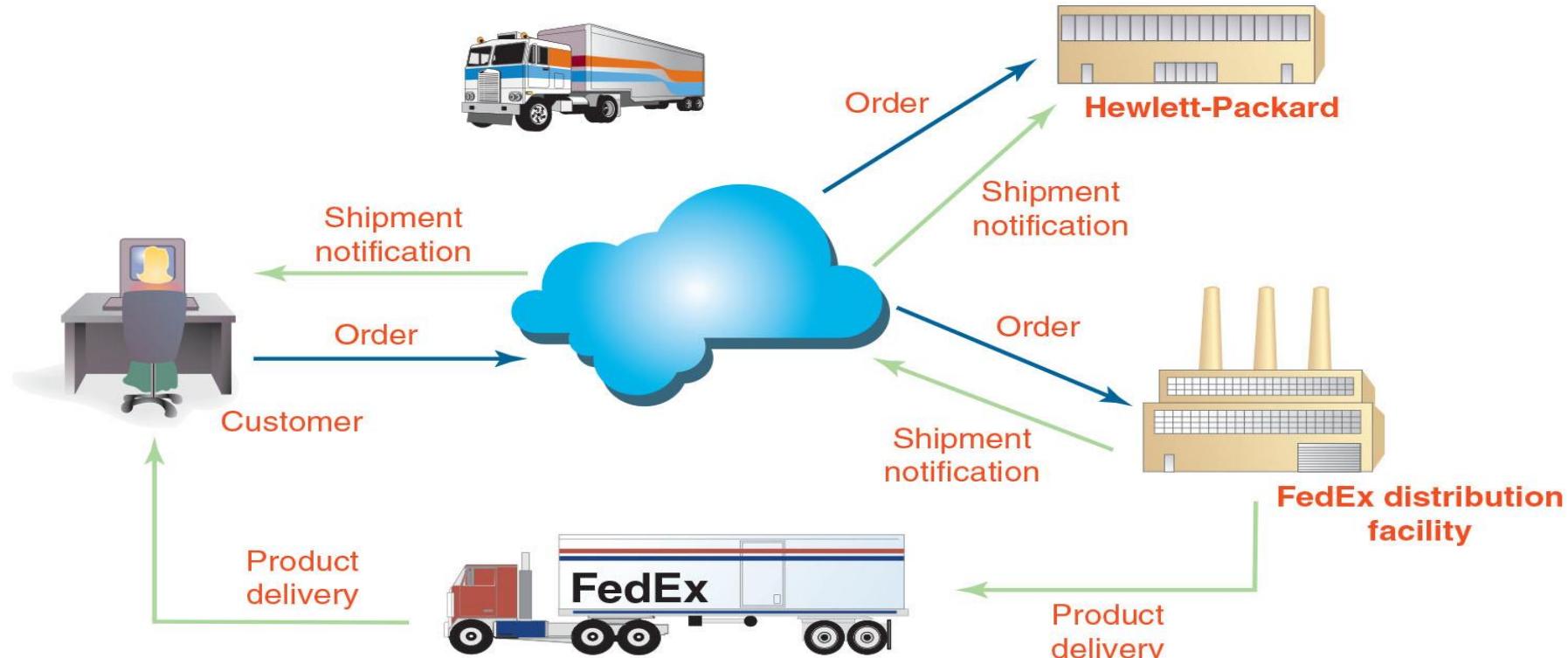
A successful e-commerce system must address the many stages that consumers experience in the sales life cycle:

- Search and identification
- Select and negotiate
- Purchase products and services electronically
- Deliver products and services
- After-sales service





Multistage Model for E-Commerce



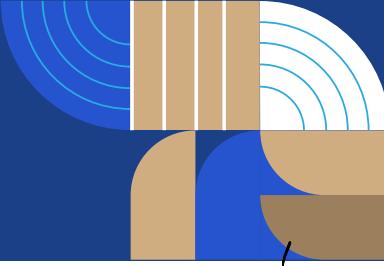
Product and Information flow When a customer orders an HP printer online, the order goes first to FedEx, which ships the order, triggering an email notification to the customer and an inventory notice to HP.



Social Media Commerce

- Social commerce is the buying and selling of goods or services directly within a social media platforms for example Facebook, Twitter, Tiktok, Instagram etc.
- On social media it is easy for the online shop to flight targeted adverts to the audience based on their age, location and other social groups affiliated to them.
- The customers can also share and recommend products to their social circle.





E-Commerce Challenges

Three key challenges to e-commerce

- Dealing with consumer privacy concerns
 - About one-third of all adult Internet users will not buy online due to privacy concerns
- Overcoming consumers' lack of trust
 - Online marketers must create specific trust-building strategies for their Web sites
- Overcoming global issues →
 - Cultural, language, time and distance, infrastructure, currency, and law challenges



E-Commerce and M-Commerce Applications



Areas in which applications are used

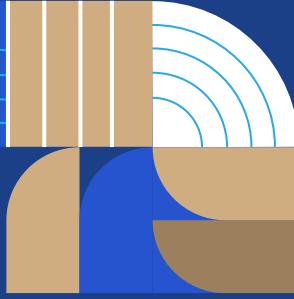
- Wholesale e-commerce
- Manufacturing
- Marketing
- Advertising
- Bartering
 - Retargeting, price comparison, and couponing
- Investment and finance
- Banking
- Online personalized shopping





Companies must develop effective Web sites that include the following characteristics:

- Easy to use
- Accomplish the goals of the company
- Safe and secure
- Affordable to set up and maintain



Defining an Effective E-Commerce Model and Strategy



First major challenge for a successful e-commerce site is the company's decision on the effective e-commerce model it wants to use
Three components of a successful model:

- Community → Discussion Forums, Shopping tools
 - Content → Timely, Useful, Accurate, relevant News → economic, industrial, financial
 - Commerce → buying and selling between the business and consumers
- Build Loyalty*



Defining the Functions of a Web Site

- Decide which tasks the site must accomplish
- Create an attractive presence for the company
- Meet visitor needs
- Redefine the site as needed





Establishing a Web Site

Web site hosting companies

- Set up a Web page and conduct e-commerce within a matter of days
- Little up-front cost

Storefront broker

- Company that acts as an intermediary between your Web site and online merchants who have the products and retail expertise

e.g. Shopify ↪



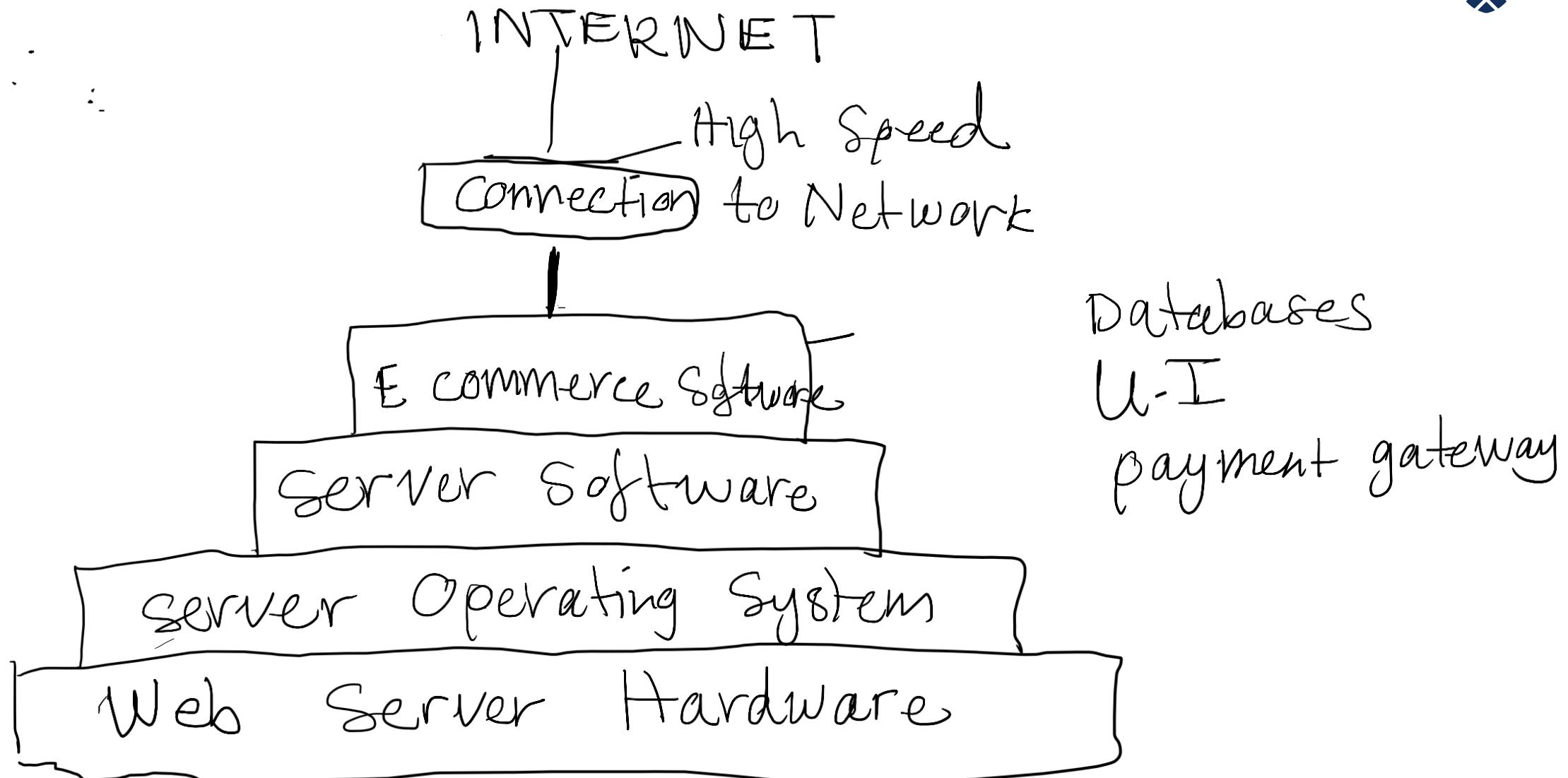


Building Traffic to Your Web Site

Measures to attract customers

- Obtain and register a domain name
- Make your site search-engine friendly
 - Listing link and other resources
 - Use Web site traffic data analysis software – *Google*
 - Provide quality, keyword-rich content
 - Consider paying the search engine companies to include you as a “sponsored” ad
 - Add new content on a regular basis
 - Acquire links to your site from other Web sites

Infrastructure Required To Support E-commerce





Maintaining and Improving Your Web Site

Personalization: process of tailoring Web pages to specifically target individual consumers

- Two types of personalization techniques to capture data and build customer profiles
 - Implicit personalization captures data from customer Web sessions
 - Explicit personalization captures user-provided information





Poor Web site performance drives consumers to abandon some e-commerce sites in favor of those with better, more reliable performance

- ~~Slow response time, inadequate customer support, and lost orders~~



Hardware

The Web server's storage capacity and computing power depend on:

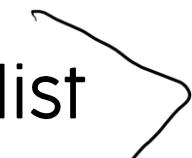
- Software that must run on the server
- Volume of e-commerce transactions to be processed

Successful e-commerce solutions are designed to be highly scalable →

- Can be upgraded to meet unexpected user traffic

Key decision for a new e-commerce company

- Choosing whether to host its own Web site or to enlist a third-party Web service provider





Web Server Software

- Fundamental services performed by Web server software:
 - Security and identification →
 - Retrieving and sending Web pages
 - Web site tracking →
 - web site development, Maintenance, Improvements



E-Commerce Software

- Five core tasks that must be supported by e-commerce software:
 - Catalog management
 - Product configuration
 - Shopping cart facilities
 - E-commerce transaction processing
 - Web traffic data analysis



M-Commerce Hardware and Software



- Limitations of handheld devices that complicate use
 - Screens are small
 - Less processing power and less bandwidth than desktop or laptop computers
 - Operate on limited-life batteries
 - Web developers must often rewrite Web applications so users with mobile devices can access them more efficiently



Electronic Payment Systems

- Authentication technologies
 - Used by many organizations to confirm the identity of a user requesting access
- Digital certificate
 - Attachment to an e-mail message or data embedded in a Web site that verifies the identity of a sender or Web site
- Certificate authority (CA)
 - Trusted third-party organization or company that issues digital certificates



Electronic Payment Systems..

- Various measures are being implemented to increase the security associated with the use of credit cards
 - Address Verification System is a check built into the payment authorization request
 - Compares the address on file with the address provided by the cardholder
 - Card Verification Number
 - Check of the additional digits typically printed on the back of the card



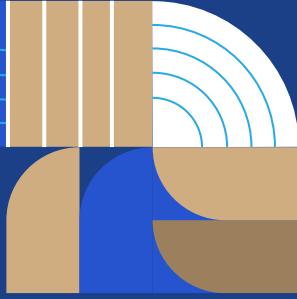
Electronic Payment Systems..

- Transport Layer Security (TLS)
 - Communications protocol that ensures privacy between communicating applications and their users on the Internet
- Electronic cash e.g PayPal, Apple Pay,
 - Amount of money that is computerized, stored, and used as cash for e-commerce transactions
- Credit, charge, debit, and smart cards
 - Many online shoppers use credit and charge cards for most of their Internet purchases



Electronic Payment Systems..

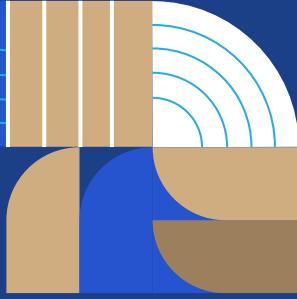
Payment System	Description	Advantages	Disadvantages
Credit card	Carries preset spending limit based on the user's credit history	Each month the user can pay all or part of the amount owed.	The unpaid balance accumulates interest charges—often at a high rate of interest.
Charge card	Looks like a credit card but carries no preset spending limit	Does not involve lines of credit and does not accumulate interest charges	The entire amount charged to the card is due at the end of the billing period or the user must pay a fee.
Debit card	Looks like a credit card or automated teller machine (ATM) card	Operates like cash or a personal check	Money is immediately deducted from user's account balance.
Smart card	Is a credit card device with embedded microchip capable of storing facts about cardholder	Better protected from misuse than conventional credit, charge, and debit cards because the smart card information is encrypted	Slowly becoming more widely used in the United States</TBTX1>



Activity

- Discuss the advantages and disadvantages of Ecommerce and Mcommerce.
- What is identity theft? Provide several tips for online shoppers to avoid identity theft?
- Explain difference type of EC and MC with respect to customer and vendors.
- What is a web server? What is the data held in web server in the context of EC?
- Identify three key challenges that organizations must overcome to convert its business process from the traditional form to e-commerce process?





Activity

- Visit any social media platform of your choice and analyze how businesses make their sales. What are the benefits of social media commerce compared to the general e-commerce platform.





What Happens Next?

In the next session we look at
Enterprise Systems, Chapter 10.



Bibliography

Stair, R. and Reynolds, G. 2020. Principles of Information Systems. 14th edition. Cengage Learning. Chapter 9.