POLYTECHNIC EDITION

INTERNET & E-COMMERCE

WORKBOOK

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INTERNET & E-COMMERCE WORKBOOK

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Preface

Welcome to the exciting world of Information Technology! This workbook has been carefully designed to accompany your journey for Information Technology in Logistics and Supply Chain course, serving as a guide to enhance your skills, deepen your understanding, and empower you to thrive in the digital era.

As we embark on this learning adventure together, it's essential to recognize the profound impact that technology has on every aspect of our lives. From the way we communicate and collaborate to the innovations shaping our future, IT is the driving force behind unprecedented opportunities and challenges.

This workbook is not just a collection of exercises; it's a toolkit crafted to foster hands-on experience and critical thinking for Internet and e-Commerce topic.

Key features of this workbook:

1. **Practical Approach:** Dive into real-world scenarios and practical exercises that mirror the challenges faced by IT professionals daily.
2. **Interactive Learning:** Explore a variety of activities fostering an interactive and engaging learning experience.
3. **Holistic Understanding:** Gain a comprehensive perspective on IT, covering areas in IT and e-commerce.
4. **Problem-Solving Emphasis:** Sharpen your analytical skills by tackling problems and finding innovative solutions, mirroring the fast-paced nature of the IT field.

Remember, the IT landscape is ever-evolving, and the skills you acquire here will serve as valuable tools in adapting to the constant changes. Embrace the challenges, celebrate the victories, and enjoy the process of growth as you progress through the activities in this workbook.

Wishing you a rewarding and enlightening learning experience!

The Author:
Ts. Norshima Binti Shaari

Dedications

I would like to convey my utmost gratitude to the Department of Polytechnic and Community College Education especially to Politeknik Nilai in helping and supporting me along my writing journey to ensure the success of this e-book.

This workbook is dedicated to Diploma in Logistics and Supply Chain Management students' that took Information Technology in Logistics and Supply Chain course – this is for you.

May this workbook serves as a compass on your diploma journey, guiding you through challenges, sparking your creativity, and fueling your passion for learning. Your dedication to mastering the course is the driving force behind progress, and this workbook is a tribute to your commitment to excellence.

In the spirit of continuous learning and growth, may you find inspiration within these pages, turning each activity into a stepping stone towards greater expertise and accomplishment.

Happy learning!

Abstract

This Internet & E-commerce workbook activity is a comprehensive guide designed with essential skills and knowledge in the field of Information Technology. The workbook encompasses a diverse range of activities aimed at fostering practical expertise and a deep understanding of IT concepts. This workbook has seven activities that covers the topic of Internet & E-commerce in Information Technology in Logistics and Supply Chain course. Let's embark on this journey, and let the book be your guide to fulfill the tasks given in the topic.

TABLE OF CONTENT

NAME:

MATRIKS NUM:

CLASS:

Assessment

LABORATORY REPORT

TOPIC: INTERNET & E-COMMERCE

This topic displays the impact of Internet on SCM, the used of e-commerce in supply chain and performing electronic transaction system and order fulfillment in e-commerce.

LEARNING OUTCOME: (FOCUS ON PSYCHOMOTOR)

Upon the completion of this topic, students should be able to:

CLO3: Apply effectively the concepts & techniques of information technology (IT) systems in logistics and supply chain (P4, PLO5)

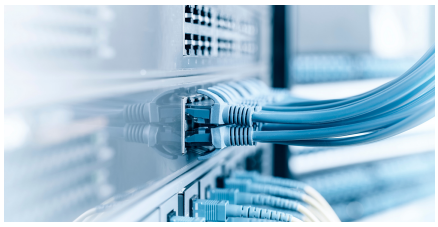
LO 1: Display the impact of Internet on SCM

LO 2: Make use of e-commerce in supply chain

LO 3: Perform electronic transactions system and order fulfillment in e-commerce

INTERNET ON SUPPLY CHAIN MANAGEMENT

The internet has had a significant impact on supply chain management (SCM). It has enabled companies to improve their efficiency and performance by making real-time information available and enabling collaboration between trading partners.



A computer network is a set of interconnected computers and devices that are capable of sharing data and resources. This connectivity can occur through both wired and wireless means. Computer networks are fundamental to modern communication, enabling the seamless exchange of information on a global scale.

INTERNET ON SCM

The Internet of Things (IoT) is widely used to track and monitor the processes in the supply chain, which has further improved SCM. IoT has enable companies to improve their factory workflow, increase material tracking, and optimize distribution to maximize revenues. Blockchain, IoT and analytics are beginning to offer dramatic advances in SCM.

They are making it easier to improve customer fulfilment, achieve profitability targets, and make supply chains more resilient and sustainable in terms of the environment and the treatment of stakeholders.

WHAT IS NETWORK?

A network, in a broad sense, is a collection of interconnected entities or nodes that are linked together to facilitate communication, interaction, or the exchange of information, resources or services. Networks can take various forms and serve diverse purposes across different domains.

INTERNET ON SUPPLY CHAIN MANAGEMENT

The key components of a computer network include:

NODES

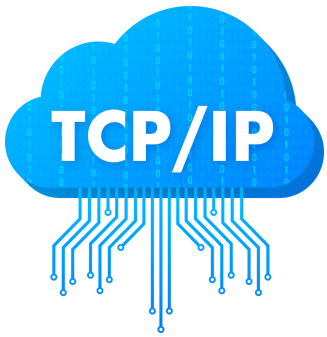
Nodes are the individual devices or computers connected within the network. These can include personal computers, servers, printers, routers, and other devices capable of sending or receiving data.

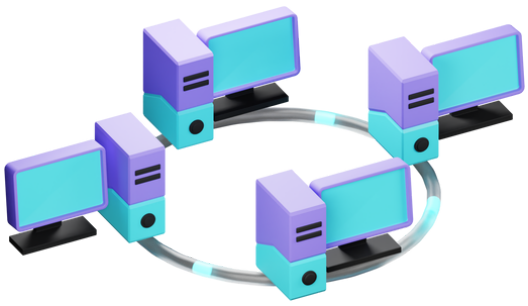
LINKS

Links are the pathways that connect nodes in a network. These pathways can be physical, such as Ethernet cables or fiber optics, or wireless, using technologies like Wi-Fi.

PROTOCOLS

Protocols are a set of rules and conventions that govern how data is transmitted and received within the network. Common network protocols include TCP/IP (Transmission Control Protocol/Internet Protocol), which is the foundation of the internet.





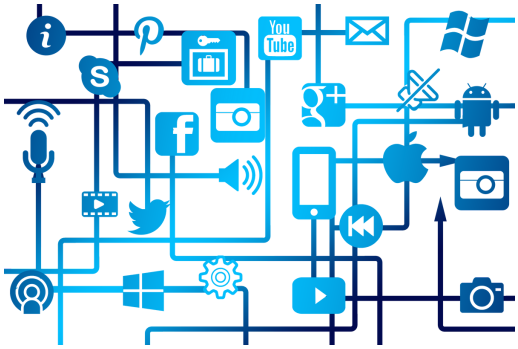
TOPOLOGY

Network topology refers to the physical or logical arrangement of nodes and links in a network. Common topologies include star, bus, ring, and mesh, each with its own advantages and disadvantages.

INTERNET ON SUPPLY CHAIN MANAGEMENT

LANs and WANs

Local Area Networks (LANs) cover a limited geographic area, such as a home, office, or campus. Wide Area Networks (WANs) span larger distances, connecting LANs across cities, countries, or continents.



INTERNET

The internet is the largest and most well-known computer network globally. It connects millions of networks worldwide, allowing for the exchange of information, online services, and communication through various applications.

SECURITY

Network security is a critical aspect, involving measures to protect data and ensure the integrity, confidentiality, and availability of information. This includes the use of firewalls, encryption, and authentication mechanisms.

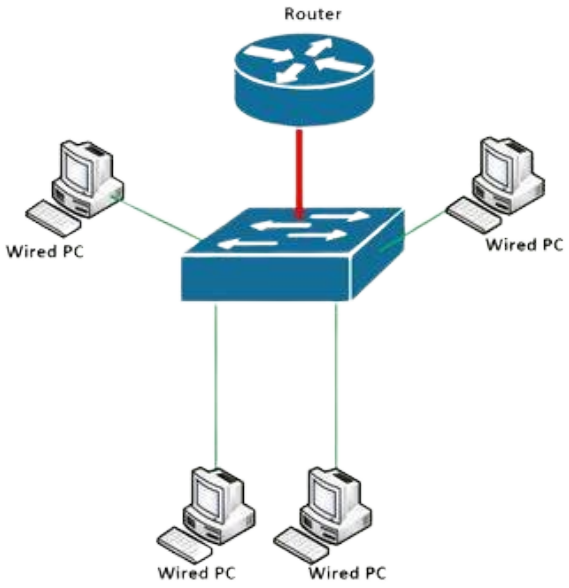
Computer networks play a pivotal role in modern society, facilitating communication, collaboration, and the exchange of information. As technology continues to advance, networks evolve to support new applications, services, and the growing interconnectedness of devices in the digital landscape.

INTERNET ON SUPPLY CHAIN MANAGEMENT

In the current technology, a network can be wireless in which no physical lines or wires are connected.

WIRELESS NETWORK TECHNOLOGY

WIRED NETWORK TECHNOLOGY



INTERNET ON SUPPLY CHAIN MANAGEMENT

HOW DO WE CONNECT TO THE INTERNET?

Things you should know!

- Connect to Wi-Fi by going to your network settings, turning on Wi-Fi, and selecting your network name.
- Connect to ethernet by using an ethernet cable to connect your computer to your router or modem.
- Connect to dial-up by plugging in your modem to the phone jack, then connecting the modem to your computer.

BEFORE CONNECTING..

1

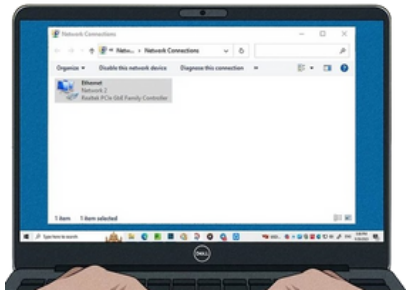
Ensure that the source of the internet is on

Ensure that the source of the internet is on

2

3

Ensure that the source of the internet is on



INTERNET ON SUPPLY CHAIN MANAGEMENT

HOW INTERNET WORKS IN SCM?

The Internet has had a profound impact on Supply Chain Management (SCM), transforming the way businesses plan, execute, and optimize their supply chain processes. Here are some key ways in which the Internet has influenced SCM:

1

Improved Communication and Collaboration

- **Real-Time Communication:** The Internet enables real-time communication among different entities in the supply chain. This facilitates faster decision-making and responsiveness to changes.
- **Collaborative Platforms:** Cloud-based platforms and collaboration tools allow supply chain partners to share information, collaborate on planning, and coordinate activities more efficiently

2

Visibility and Transparency

- **End-to-End Visibility:** The Internet provides the infrastructure for end-to-end visibility across the entire supply chain. Companies can track and monitor inventory, shipments, and production processes in real time, leading to better control and risk management.
- **Data Sharing:** The ability to share data seamlessly allows different stakeholders to access relevant information, reducing uncertainty and enhancing transparency.

3

E-commerce and Direct-to-Consumer (DTC) Channels

- **E-commerce Integration:** The rise of e-commerce has reshaped supply chains, demanding more flexibility and responsiveness. Companies now need to integrate online sales channels with traditional distribution networks to meet customer expectations.
- **DTC Model:** The Internet has enabled more companies to adopt direct-to-consumer models, bypassing intermediaries and establishing a direct link between manufacturers and end customers.

INTERNET ON SUPPLY CHAIN MANAGEMENT

HOW INTERNET WORKS IN SCM?

4

Inventory Optimization

- **Demand Sensing:** Improved connectivity and data analytics enable better demand sensing, helping companies anticipate changes in demand and adjust inventory levels accordingly.
- **Reduced Bullwhip Effect:** The Internet facilitates the sharing of real-time data, reducing the bullwhip effect by minimizing the distortion of information as it moves up the supply chain

5

Advanced Analytics and Big Data

- **Data Analytics:** The Internet allows companies to leverage big data analytics to gain insights into consumer behavior, market trends, and operational performance. Predictive analytics helps in forecasting demand and optimizing inventory levels.
- **Machine Learning:** Advanced technologies like machine learning are used for predictive maintenance, route optimization, and decision support, enhancing overall supply chain efficiency.

6

IoT and Sensor Technologies

- **Connected Devices:** The Internet of Things (IoT) facilitates the connection of devices throughout the supply chain, enabling real-time tracking of assets, monitoring of equipment health, and improving overall operational efficiency.
- **Smart Warehousing:** IoT sensors in warehouses provide visibility into inventory levels, storage conditions, and order fulfillment processes.

INTERNET ON SUPPLY CHAIN MANAGEMENT

HOW INTERNET WORKS IN SCM?

7

Globalization and Networked Supply Chains

- **Global Connectivity:** The Internet has enabled businesses to operate on a global scale, connecting suppliers, manufacturers, and distributors across different regions.
- **Virtual Supply Chain Networks:** Companies can build virtual supply chain networks, allowing them to tap into a broader range of suppliers and partners.

The Internet has revolutionized SCM by enhancing communication, increasing visibility, optimizing inventory, and leveraging advanced technologies. Companies that effectively embrace these changes can gain a competitive edge in today's dynamic business environment.

ACTIVITY 1

DETERMINE HOW INTERNET WORKS IN SCM

INSTRUCTIONS:
Match **the SCM activity in each SCM platform below:**

ROLE IN SCM	SCM PLATFORM	ROLE IN SCM
ELECTRONIC DATA INTERCHANGE (EDI)	Communication & Collaboration	ONLINE PROCUREMENT
ONLINE MARKETPLACES	Data Exchange & Integration	VISSIBILITY PLATFORMS
CLOUD-BASED INVENTORY SYSTEM	E-commerce & Online Marketplace	APPLICATION PROGRAMMING INTERFACES (APIs)
REAL-TIME TRACKING	Inventory Management & Tracking	EMAIL & MESSAGING
COLLABORATIVE PLATFORMS	Supply Chain Visibility	RFID & IoT

Activity Summary:

The internet plays a crucial role in modern Supply Chain Management (SCM) by providing a platform for communication, collaboration, and information exchange among various stakeholders in the supply chain.

READ MORE

INTERNET ON SUPPLY CHAIN MANAGEMENT

HOW DO WE CONNECT TO THE INTERNET?

Connecting to the internet involves establishing a communication link between your device (such as a computer, smartphone, or tablet) and the global network of interconnected computers and servers. Here are the common methods for connecting to the internet:

CONNECT A COMPUTER WITH DIAL-UP

- ENSURE THAT YOU CAN CONNECT TO DIAL-UP
- PLUG IN THE MODEM TO THE PHONE JACK
- CONNECT THE MODEM TO THE COMPUTER
- ACCESS YOUR COMPUTER'S NETWORK SETTINGS
- CONNECT YOUR COMPUTER'S CONNECTION TO THE MODEM
- TEST OUT YOUR INTERNET CONNECTION
- TROUBLESHOOT IF YOU CAN'T CONNECT

CONNECT WITH ETHERNET

- GET AN ETHERNET CABLE AND ANY NEEDED ADAPTERS
- CONNECT ONE END OF THE ETHERNET CABLE TO THE BROADBAND SOURCE
- CONNECT THE OTHER END OF THE CABLE TO THE COMPUTER
- ACCESS YOUR COMPUTER'S SETTINGS
- TEST OUT YOUR INTERNET CONNECTION
- TROUBLESHOOT IF YOU CAN'T CONNECT

ACTIVITY 2

CONSTRUCT AN INTERNET CONNECTION WITH WIRELESS BROADBAND

INSTRUCTIONS:

Complete the process flow on how internet connection works with wireless broadband

Step 1

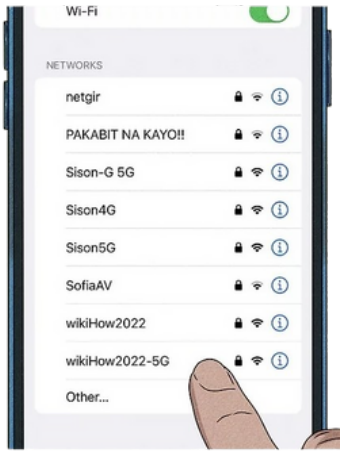
Step 2

Step 3

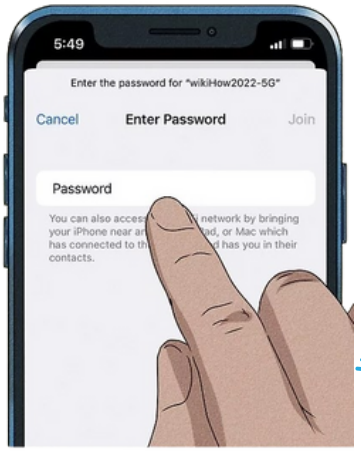
ACTIVITY 2

CONSTRUCT AN INTERNET CONNECTION WITH WIRELESS BROADBAND

Step 4



Step 5



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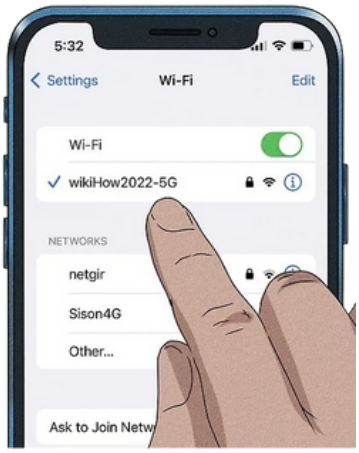
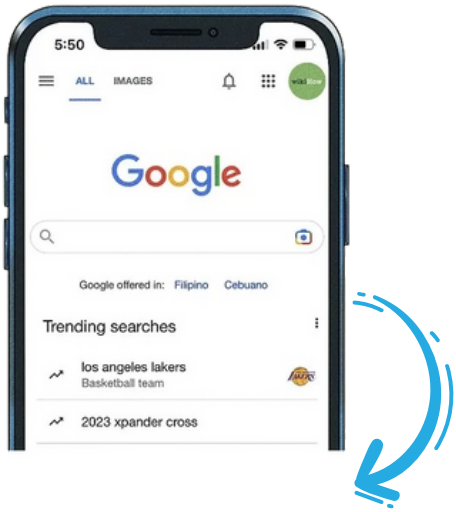


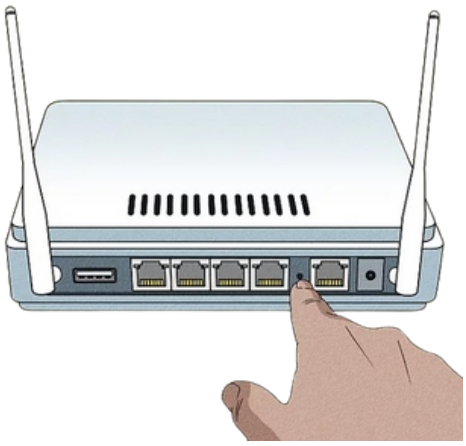
ACTIVITY 2

CONSTRUCT AN INTERNET CONNECTION WITH WIRELESS BROADBAND

Step 7



Step 8



Activity Summary:

The specific method you use to connect to the internet depends on the type of device you have, the available infrastructure in your location, and the services provided by your internet service provider (ISP). It's essential to follow security best practices, such as using encrypted connections and password-protected networks, to ensure a safe and secure internet experience.

READ MORE

INTERNET ON SUPPLY CHAIN MANAGEMENT

IMPLEMENT THE USE OF WORLD WIDE WEB (WWW) IN SCM

The World Wide Web (WWW) is a system of interlinked hypertext documents accessed via the internet using web browsers.

Supply Chain Management (SCM) involves the coordination and integration of various activities across the supply chain, including procurement, production, distribution, and logistics.

The World Wide Web (WWW) plays a crucial role in enhancing communication and information sharing within the supply chain. By leveraging the capabilities of the World Wide Web, organizations can enhance the efficiency, transparency, and collaboration within their supply chains, leading to improved overall SCM performance. Here are several ways in which the WWW can be implemented in SCM:

ONLINE PROCUREMENT AND E-PROCUREMENT SYSTEMS

- Implement online procurement systems that allow organizations to source materials and services electronically.
- Utilize e-procurement platforms where suppliers can submit bids, and procurement processes can be streamlined through online catalogs and purchasing portals.

SUPPLIER PORTALS

- Develop supplier portals on the web to facilitate real-time communication and collaboration between suppliers and the organization.
- Share important information such as product specifications, demand forecasts, and order status through secure online portals.

INTERNET ON SUPPLY CHAIN MANAGEMENT

IMPLEMENT THE USE OF WORLD WIDE WEB (WWW) IN SCM

ELECTRONIC DATA INTERCHANGE (EDI)

- Use the WWW to implement EDI, a standardized electronic format for exchanging business documents such as purchase orders and invoices.
- This enables seamless and automated communication between different supply chain partners, reducing manual data entry and processing errors.

COLLABORATIVE PLANNING, FORECASTING, AND REPLENISHMENT (CPFR)

- Implement web-based CPFR systems that enable collaborative planning between suppliers and customers.
- Share demand forecasts, inventory levels, and production plans in real-time through web interfaces, fostering better coordination and reducing stockouts or overstock situations.

INVENTORY MANAGEMENT SYSTEMS

- Implement web-based inventory management systems that provide real-time visibility into inventory levels across the supply chain.
- Utilize the web to automate inventory replenishment processes and trigger orders based on predefined thresholds.

LOGISTICS AND TRANSPORTATION MANAGEMENT

- Use the WWW to track shipments, monitor transportation routes, and optimize logistics operations.
- Implement web-based tracking systems that provide stakeholders with real-time information on the status and location of shipments.

INTERNET ON SUPPLY CHAIN MANAGEMENT

IMPLEMENT THE USE OF WORLD WIDE WEB (WWW) IN SCM

ONLINE COLLABORATION AND COMMUNICATION TOOLS

- Utilize web-based collaboration tools and platforms for efficient communication among supply chain partners.
- Platforms such as shared document repositories, video conferencing, and messaging systems can enhance communication and foster collaboration.

DATA ANALYTICS AND BUSINESS INTELLIGENCE

- Implement web-based analytics tools to analyze supply chain data and derive actionable insights.
- Use the WWW to share key performance indicators (KPIs) and dashboards with stakeholders for better decision-making.

CUSTOMER RELATIONSHIP MANAGEMENT (CRM)

- Use the web to implement CRM systems that enable organizations to manage and analyze customer interactions and data throughout the supply chain.
- Improve customer satisfaction by providing visibility into order status, delivery times, and product availability.

SECURE INFORMATION EXCHANGE

- Implement secure web protocols and encryption to ensure the confidentiality and integrity of sensitive supply chain information exchanged over the WWW.

ACTIVITY 3

IDENTIFY THE BENEFITS OF THE INTERNET ON SCM

INSTRUCTIONS:
Write the benefits of the Internet on SCM

1

2

3

4

5

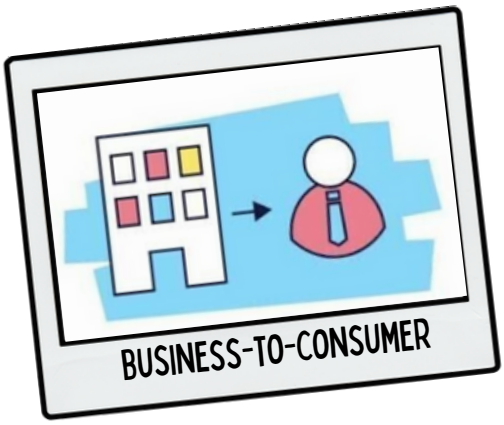
Activity Summary:

The Internet has had a profound impact on Supply Chain Management (SCM), bringing about numerous benefits that enhance efficiency, visibility, and collaboration throughout the supply chain.

E-COMMERCE IN SUPPLY CHAIN

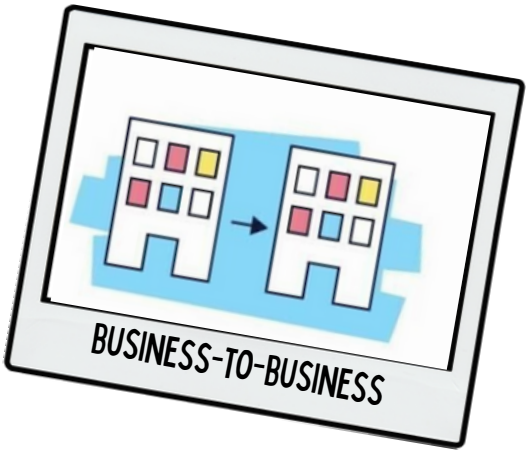
TYPES OF E-COMMERCE

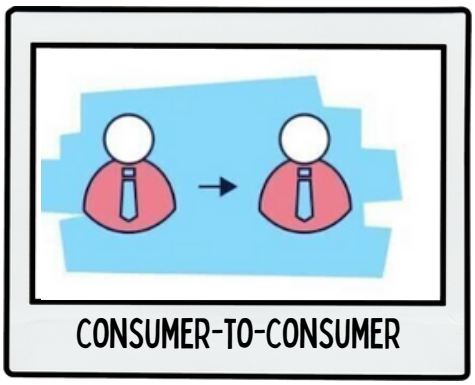
E-commerce, or electronic commerce, refers to the buying and selling of goods and services over the internet. There are several types of e-commerce, each catering to different business models and consumer needs. The main types of e-commerce are:



- In B2C e-commerce, businesses sell products and services directly to consumers.
- Examples include online retailers like Amazon, Alibaba, and traditional retailers with an online presence.

- B2B e-commerce involves transactions between businesses, where one business sells products or services to another.
- Examples include manufacturers selling products to wholesalers, or a software company providing services to another business.

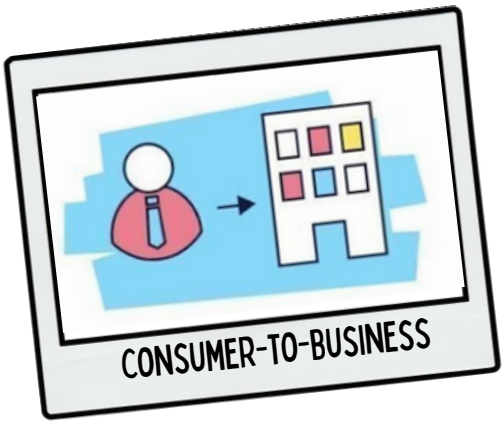




- C2C e-commerce involves transactions between individual consumers. Online platforms facilitate these transactions.
- Examples include online auction sites like eBay or classified ads websites like Craigslist.

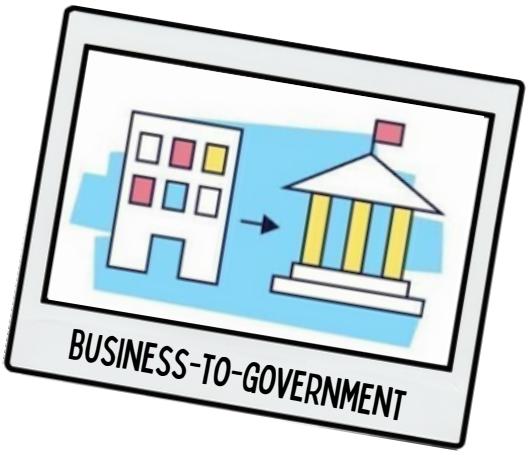
E-COMMERCE IN SUPPLY CHAIN

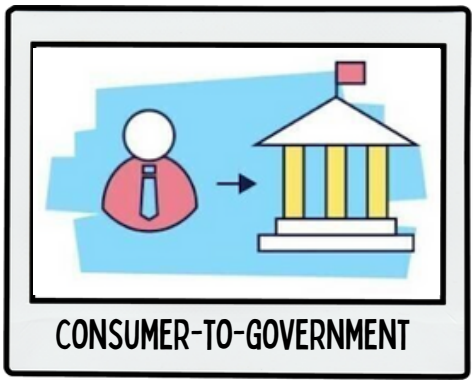
TYPES OF E-COMMERCE



- In C2B e-commerce, individual consumers sell products or services to businesses.
- Examples include freelance platforms where individuals offer their services to businesses or individuals selling their creative work to companies.

- B2G e-commerce involves transactions between businesses and government entities.
- Examples include businesses bidding on government contracts or providing services to government agencies.





- C2G e-commerce refers to transactions where individual consumers sell products or services to government entities.
- Examples include individuals paying taxes or fees online

These types of e-commerce can sometimes overlap, and businesses may engage in multiple forms of e-commerce to reach a broader audience and meet diverse consumer needs.

E-COMMERCE IN SUPPLY CHAIN

PERFORM THE E-COMMERCE CONCEPT

The concept of e-commerce, or electronic commerce, involves the buying and selling of goods and services over the internet. It encompasses a wide range of online activities, including online shopping, electronic payments, online banking, and more. Here is an overview of the processes involved in the e-commerce concept:

1.Product Display:
Businesses showcase their products or services on their online storefronts, providing detailed descriptions, images, and pricing information.

2. Shopping Cart:
Customers add desired items to a virtual shopping cart, where they can review and modify their selections before proceeding to checkout.

3. Checkout and Payment:
Customers enter their shipping information and choose a payment method. Secure payment gateways facilitate the electronic transfer of funds.

4. Order Processing:
Once payment is confirmed, the e-commerce platform processes the order, updating inventory and generating an order confirmation for the customer.

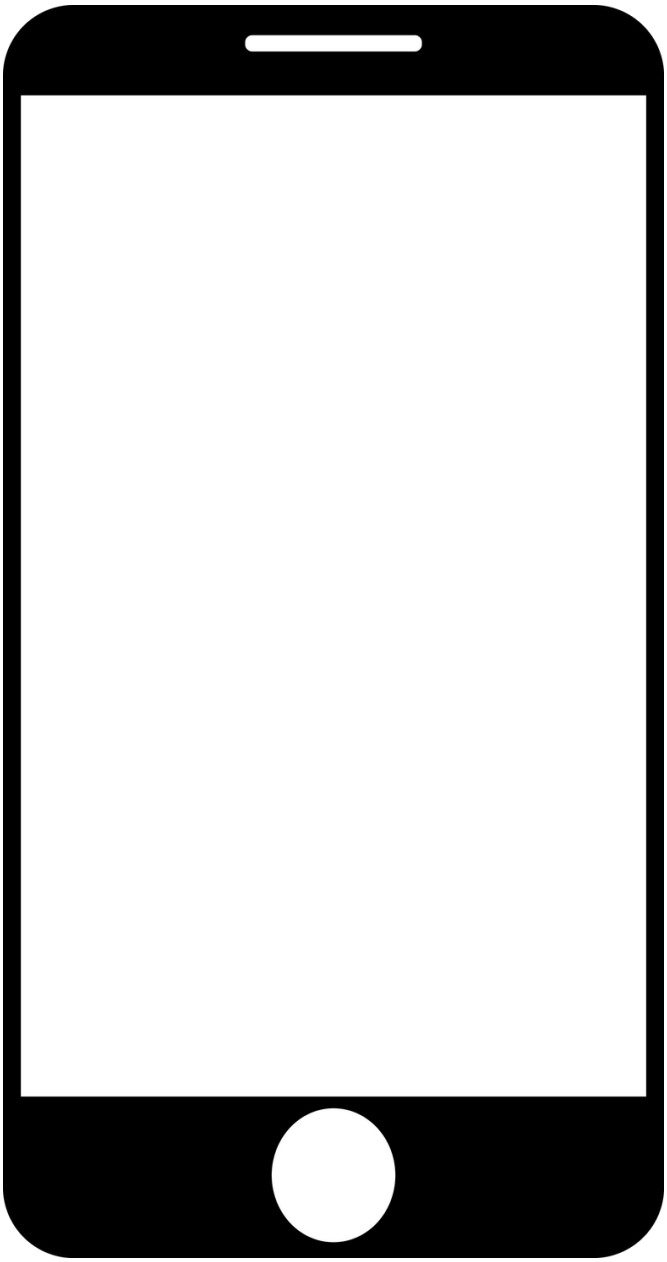
ACTIVITY 4

PERFORM THE E-COMMERCE CONCEPT

INSTRUCTIONS:
Construct one example of activity to show an e-commerce concept

TYPES OF E-COMMERCE: _____

HOME SCREEN

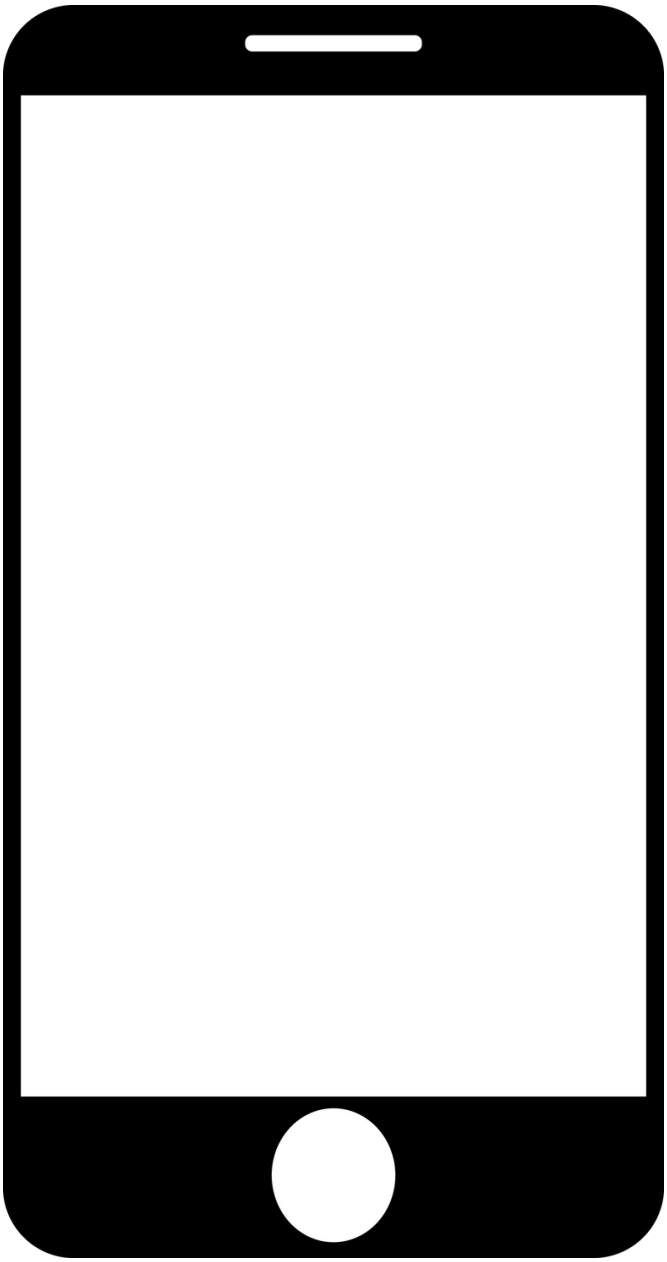


STEP 1

ACTIVITY 4

PERFORM THE E-COMMERCE CONCEPT

SECOND SCREEN

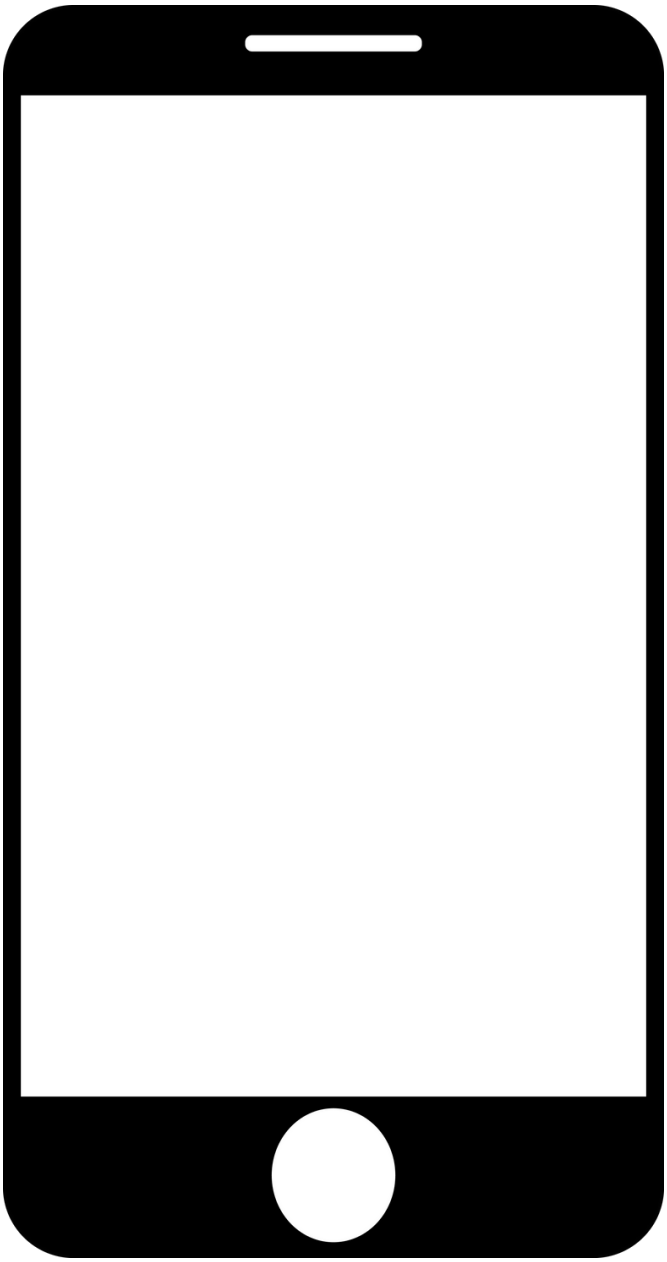


STEP 2

ACTIVITY 4

PERFORM THE E-COMMERCE CONCEPT

THIRD SCREEN

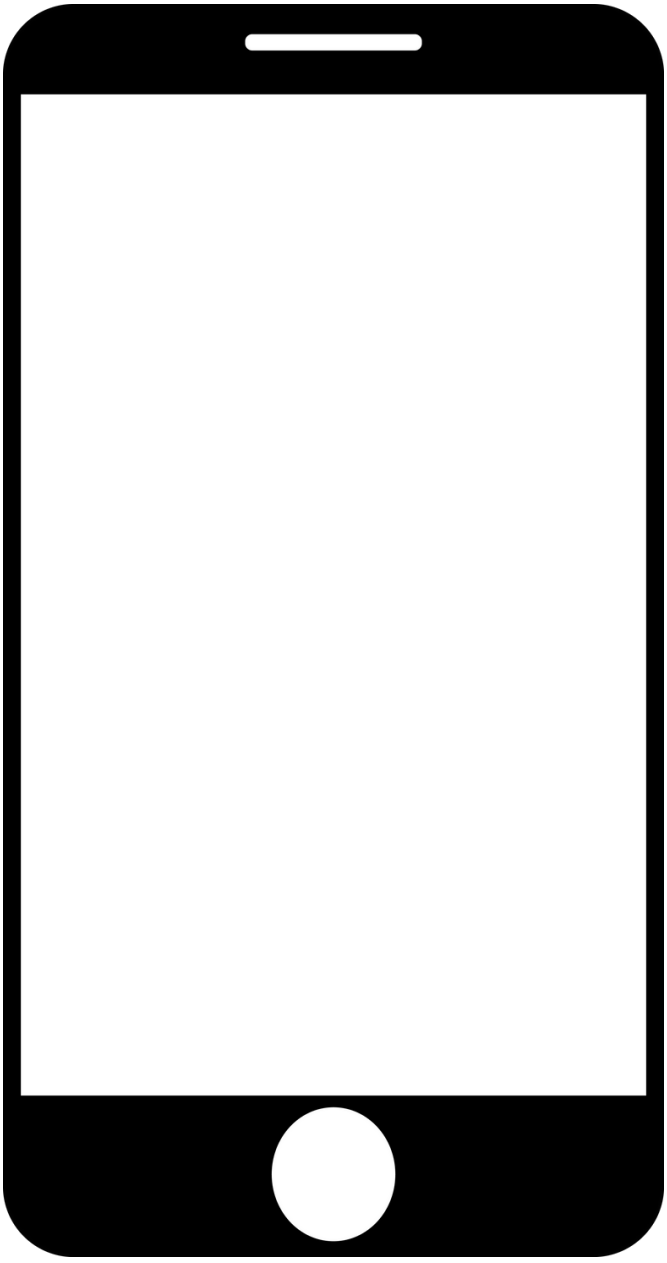


STEP 3

ACTIVITY 4

PERFORM THE E-COMMERCE CONCEPT

FOURTH SCREEN



STEP 4

Activity Summary:

E-commerce plays a crucial role in supply chain management (SCM) by leveraging digital technologies to streamline and enhance various processes within the supply chain.

READ MORE

E-COMMERCE IN SUPPLY CHAIN

BENEFITS & LIMITATIONS OF E-COMMERCE

BENEFITS	LIMITATIONS
GLOBAL REACH: Benefit: E-commerce allows businesses to reach a global audience, breaking down geographical barriers. This opens up new markets and customer segments.	**DEPENDENCE ON TECHNOLOGY:** Limitation: E-commerce is highly dependent on technology and internet connectivity. Technical issues, server downtimes, or internet outages can disrupt business operations.
CONVENIENCE: Benefit: Customers can shop 24/7 from the comfort of their homes, providing unparalleled convenience. This flexibility is a significant advantage for both consumers and businesses.	**SHIPPING COSTS AND DELAYS:** Limitation: While e-commerce offers convenience, shipping costs and delays can be a drawback. Customers may have to wait for their products to be delivered, and shipping expenses can affect the overall cost.
EASE OF COMPARISON SHOPPING: Benefit: Consumers can easily compare prices, features, and reviews of products online, leading to more informed purchasing decisions.	**RETURNS AND PRODUCT QUALITY CONCERNS:** Limitation: Customers may hesitate to buy products without physically examining them. The process of returning items purchased online can be cumbersome, and concerns about product quality may arise.

E-COMMERCE IN SUPPLY CHAIN

BENEFITS & LIMITATIONS OF E-COMMERCE

BENEFITS	LIMITATIONS
COST REDUCTION: Benefit: E-commerce can reduce the costs associated with traditional brick-and-mortar stores, such as rent, utilities, and in-store personnel. This can lead to lower prices for consumers.	**MARKET SATURATION:** Limitation: In some markets, there may be intense competition, leading to price wars and reduced profit margins for businesses.
INCREASED CUSTOMER BASE: Benefit: Online businesses have the potential to attract a larger customer base compared to physical stores, as they are not limited by the capacity of a physical space.	**DIGITAL DIVIDE:** Limitation: Not everyone has equal access to the internet or technology, creating a digital divide that can exclude certain demographics from participating in e-commerce.
DIVERSE PAYMENT OPTIONS: Benefit: E-commerce facilitates various payment options, making it convenient for customers to choose their preferred payment method, including credit cards, digital wallets, and more.	**SECURITY CONCERNS:** Limitation: Security issues, such as data breaches and online fraud, can be a significant concern for both businesses and consumers, potentially eroding trust.

ACTIVITY 5

RECOGNISE THE USE OF E-COMMERCE IN SCM

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Activity Summary:

The integration of e-commerce in supply chain management brings about increased efficiency, visibility, and collaboration throughout the supply chain, ultimately contributing to better customer satisfaction and competitive advantage for businesses.

ELECTRONIC TRANSACTIONS SYSTEM & ORDER FULFILLMENT IN E-COMMERCE

Electronic transactions and order fulfillment are critical components of the e-commerce ecosystem. Let's explore each of these aspects in more detail:

ELECTRONIC TRANSACTION SYSTEM:

PAYMENT GATEAWAY

- Definition: A payment gateway is a technology that facilitates the processing of online transactions by securely connecting the website or mobile app with the payment processor.
- Functionality: It authorizes the payment, encrypts sensitive information, and ensures the funds are transferred securely between the buyer and seller.

SECURITY MEASURES

- SSL Encryption: Secure Socket Layer (SSL) encryption is essential to protect sensitive data, such as credit card information, during transmission.
- Tokenization: It involves replacing sensitive data with a unique identifier (token) to enhance security during transactions.

MULTIPLE PAYMENT OPTIONS

- Credit/Debit Cards: Still the most popular method.
- Digital Wallets: Like PayPal, Apple Pay, Google Pay.
- Bank Transfers: Direct bank transfers or automated clearing house (ACH) payments.
- Cryptocurrencies: Some e-commerce platforms accept cryptocurrencies like Bitcoin.

ELECTRONIC TRANSACTIONS SYSTEM & ORDER FULFILLMENT IN E-COMMERCE

MOBILE RESPONSIVENESS

- Ensure the electronic transactions system is optimized for mobile devices to accommodate the growing number of users who shop using smartphones and tablets.

FRAUD PREVENTION

- Implement fraud detection tools and algorithms to identify and prevent fraudulent transactions.

ORDER FULFILLMENT:

INVENTORY MANAGEMENT

- Track and manage product inventory in real-time to avoid overselling or stockouts.
- Utilize inventory management software to streamline operations.

ORDER PROCESSING

- Automate order processing to reduce manual errors and increase efficiency.
- Implement order management systems to track orders from placement to delivery.

WAREHOUSE MANAGEMENT

- Efficiently organize and manage warehouse operations for picking, packing, and shipping.
- Use barcode scanning and RFID technology to enhance accuracy.

ELECTRONIC TRANSACTIONS SYSTEM & ORDER FULFILLMENT IN E-COMMERCE

SHIPPING & DELIVERY

- Offer multiple shipping options such as standard, expedited, or express.
- Provide real-time shipment tracking for customers.

RETURNS MANAGEMENT

- Establish a clear and customer-friendly return policy.
- Implement a streamlined process for handling product returns.

CUSTOMER COMMUNICATION

- Keep customers informed about the status of their orders through automated emails and notifications.
- Provide tracking information and delivery estimates.

INTEGRATION WITH E-COMMERCE PLATFORMS

- Ensure seamless integration between the order fulfillment system and the e-commerce platform to avoid data discrepancies.

CUSTOMER SUPPORT

- Offer responsive customer support to address enquiries, issues, and concerns related to orders and fulfillment.

ELECTRONIC TRANSACTIONS SYSTEM & ORDER FULFILLMENT IN E-COMMERCE

DETERMINE THE PROCESS FOR ONLINE TRANSACTIONS

The process of online transactions typically involves several steps to ensure a secure and smooth exchange of goods, services, or money over the internet. Here's a general overview of the common steps involved:

STEP 1

Selection of Items or Services:
Users browse through an online platform (website or mobile app) to select the items or services they want to purchase.

STEP 2

Adding to Cart:
Users add chosen items to their online shopping cart.

STEP 3

Checkout:
Users proceed to the checkout page to review their selected items and provide necessary details for the transaction.

STEP 4

User Authentication:
Users may need to log in or create an account to complete the transaction. This step helps in identifying and securing the user's personal information.

ELECTRONIC TRANSACTIONS SYSTEM & ORDER FULFILLMENT IN E-COMMERCE

DETERMINE THE PROCESS FOR ONLINE TRANSACTIONS

STEP 5

Billing and Shipping Information:
Users enter billing and shipping details, including the delivery address and payment information.

STEP 6

Payment Authorization:
Users provide payment details, and the system verifies the transaction by authorizing the payment through various security measures (such as CVV, 3D Secure, etc.).

STEP 7

Payment Processing:
The payment gateway processes the transaction by communicating with the user's bank and the merchant's bank to transfer funds.

STEP 8

Order Confirmation:
After successful payment, users receive an order confirmation with details like the order number, items purchased, and estimated delivery date.

ELECTRONIC TRANSACTIONS SYSTEM & ORDER FULFILLMENT IN E-COMMERCE

DETERMINE THE PROCESS FOR ONLINE TRANSACTIONS

STEP 9

Fulfillment:
The merchant processes the order, and if physical goods are involved, they are prepared for shipment. For digital goods or services, access may be granted immediately.

STEP 10

Shipping and Delivery:
If the transaction involves physical goods, the items are shipped to the provided address. Users may receive tracking information to monitor the delivery progress.

STEP 11

Customer Feedback:
After receiving the order, users may provide feedback or reviews about the products or services.

STEP 12

Returns and Refunds (if necessary):
In case of any issues or dissatisfaction, users may follow the platform's return or refund process.

Throughout this entire process, security measures such as encryption, secure sockets layer (SSL) certificates, and other authentication protocols are employed to protect sensitive user information and financial transactions. Additionally, various payment methods, such as credit/debit cards, digital wallets, and bank transfers may be supported depending on the platform.

ELECTRONIC TRANSACTIONS SYSTEM & ORDER FULFILLMENT IN E-COMMERCE

RECOGNIZE THE SECURITIES OF E-PAYMENT

Electronic payment (e-payment) systems involve the transfer of funds electronically, often over the internet. There are various types of securities associated with e-payment systems to ensure the safety and integrity of transactions. Here are some common security measures and components:

ENCRYPTION

SSL/TLS (Secure Socket Layer/Transport Layer Security): These protocols encrypt the data transmitted between the user's device and the server, preventing unauthorized access or interception.

TWO-FACTOR AUTHENTICATION (2FA)

Two-step verification: This adds an extra layer of security by requiring users to provide two different authentication factors (e.g., password and a temporary code sent to a mobile device).

BIOMETRIC AUTHENTICATION

Fingerprint, facial recognition, or iris scanning: These methods enhance security by using unique biological features for user identification.

FIREWALLS & INTRUSION DETECTION SYSTEM

Network security measures: Protect against unauthorized access, malware, and other cyber threats.

ELECTRONIC TRANSACTIONS SYSTEM & ORDER FULFILLMENT IN E-COMMERCE

RECOGNIZE THE SECURITIES OF E-PAYMENT

END-TO-END ENCRYPTION

Ensures that data is encrypted from the point of origin to the destination: This prevents intermediaries from accessing sensitive information.

SECURE SOCKETS LAYER (SSL) CERTIFICATES

Certificates that validate the authenticity of a website: Users can verify that they are interacting with a legitimate and secure site.

DEVICE AUTHENTICATION

Ensures that only authorized devices can access the payment system: Protects against unauthorized transactions from compromised devices.

FRAUD DETECTION & PREVENTION

Machine learning algorithms: Analyze transaction patterns to identify and prevent fraudulent activities in real-time.

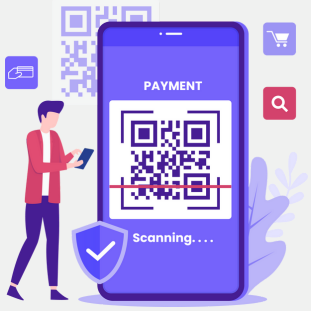
It's important to note that the security landscape is dynamic, and new threats and technologies may emerge. E-payment service providers continuously update their security measures to adapt to these changes and protect users' financial information.

ACTIVITY 6

COMPARE THE DIFFERENCES BETWEEN E-CASH, E-WALLET, STORE VALUE CARDS, CREDIT CARD, FPX. CHARGE CARD, AND PAY-PAL

FUNCTION

E-WALLET



CREDIT CARD

FPX

PAY PAL

READ MORE

ELECTRONIC TRANSACTIONS SYSTEM & ORDER FULFILLMENT IN E-COMMERCE

ONLINE TRANSACTIONS IN THE REAL LIFE

"Online transactions in real life" is a bit of a contradictory phrase since online transactions, by definition, take place in the virtual or digital realm. However, if you mean real-life scenarios where online transactions occur or are influenced, here are some examples:

1 POS SYSTEM

- In physical retail stores, POS systems often handle online transactions. Customers may place orders online and choose to pick up items in-store or make payments at the physical point of sale.

2 MOBILE

- Using mobile payment apps or digital wallets, individuals can make purchases in brick-and-mortar stores by scanning QR codes or using Near Field Communication (NFC) technology.

3 CONTACLESS PAYMENT

- Contactless credit/debit cards allow for quick and secure transactions by tapping the card on a compatible card reader. This technology is widely used in physical stores.

4 EVENT

- Attendees can purchase tickets for concerts, movies, or other events online and then present the digital or printed tickets for entry at the physical venue.

5 TRANSPORTATION SERVICES

- Ride-sharing services and public transportation often use online platforms for booking and payment, with passengers using mobile apps to request rides and make payments.

6 ONLINE-TO-OFFLINE COMMERCE

- Some businesses operate both online and offline. For example, a restaurant may allow customers to place orders online for delivery or pickup, and the payment is made online.

ACTIVITY 7

MAKE AN ONLINE TRANSACTION SYSTEM IN THE REAL LIFE

INSTRUCTIONS:

Construct one example of an online transactions in the real life

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ACTIVITY 7

MAKE AN ONLINE TRANSACTION SYSTEM IN THE REAL LIFE

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ACTIVITY 7

MAKE AN ONLINE TRANSACTION SYSTEM IN THE REAL LIFE

7.

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ACTIVITY 7

MAKE AN ONLINE TRANSACTION SYSTEM IN THE REAL LIFE

10

11.

Activity Summary:

In these scenarios, while the transaction may start online, there is often a real-world component involving physical goods, services, or interactions. The integration of online and offline elements is a common trend in modern commerce.

Assessment

LABORATORY REPORT

TOPIC SUMMARRY

By optimizing the electronic transactions system and order fulfillment processes, e-commerce businesses can enhance customer satisfaction, build trust, and foster long-term relationships with their customers.

EVALUATION METHOD

Student will be assessed through Digital & Numeracy Skills (Cluster CLS3c) attribute which are:

- DATA COLLECTION
- INTERPRETATION
- PROBLEM SOLVING
- FORMAT
- OUTPUT

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notes

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