


ITC2203 Information Technology in Business

E – COMMERCE




INTRODUCTION

You are welcome to ITC2203: Introduction to E-Commerce.

- This is a 2 credit course for undergraduate that runs for 14 weeks.
 - The course consists of 6 modules which is divided into 20 units.
 - The course introduce you to the concept of E-commerce, types, benefits, e-business, issues, catalog, online shopping, processing order, payment gateways, purchasing, identifying shoppers and security.
 - The course addresses facilities for e-commerce, methodologies for developing e-commerce websites and managing the e-commerce website.
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Course Objectives

The course objectives are to:

- Explain the concept, types and benefits of E-commerce
 - Distinguish between E-commerce and E-business
 - Discuss the development of E-commerce Catalogue
 - Develop E-commerce Website
 - Explain how to Track Shoppers' Information
 - Explain the processes of securing E-commerce system
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Module 1: Introduction to Basic Concepts and Definitions

Module Introduction

This module will introduce learners to concepts of e-commerce, what it entails be it is regarded as e-commerce, types and benefits of e-commerce system and key areas to which ecommerce can function. This module has three (3) units:

- Unit 1: Basic Definition of E-Commerce
- Unit 2: Types of E-Commerce
- Unit 3: Benefits and Key Ideas in E-Commerce

In each of these units, I will go through a topic and give a self-assessment exercise(s) at the end of the unit. Then, give resources for further reading at the end of each units.




Definition of E-commerce

E-Commerce simply means Electronic Commerce;

A more complete definition of e-commerce is:

“e-commerce is the use of electronic communications and digital information processing technology in business transactions to create, transform, and redefine relationships for value creation between or among organizations, and between organizations and individuals.”



E-commerce

- ❑ E-commerce is the buying and selling of goods, products, or services using the internet as a medium whereby the buyer gets to see the products online, order it and make payment through the mode accepted by the seller.
- ❑ The seller then delivers these products to the consumer via available and accepted means. E-commerce is also known as internet commerce. Online stores like Amazon, Shopify, Jumia, AliExpress, Ebay, Olx are examples of E-commerce websites.
- ❑ E-commerce concept is a fast rising one, gaining steady popularity as there is Increased accessibility and availability of Internet access which is making many small and medium and even large-scale businesses to be considering e-commerce as a valid and more profitable sales channel.

E-commerce 5C Models

Ecommerce is better understood with the concepts of the 5Cs, the 5C model consists of:

- ❑ Commerce which is like a market place that consist of the buyers and sellers, transaction terms and facilities to perform business transactions. This helps create and strengthen a universal supply chain.
- ❑ Collaboration: the internet being a network of networks supports interrelationships among businesses and individuals in a manner that is not limited by space, time, national or organizational constraints.

E-commerce 5C Models...

- ❑ Communication: the internet technology and the world wide web provides a great interactive medium for self-expression (as in reviews or comments of clients) and self-presentation (as a means for businesses to showcase their products or services; a kind of marketing)
- ❑ Connection: it is likely that different businesses use different software platforms to run their business processes, leveraging on the advantages of the internet, it is achievable to incorporate the different software platforms of different businesses that want to collaborate.
- ❑ Computation: large scale sharing of resources is paramount to a successful business transaction. The internet technology facilitates this to ease successful completion of business processes.

Features of E-commerce


- ❑ Wider range of audience: with the internet as the backbone of ecommerce, business transactions can take place across national boundaries in a more convenient and cost-effective form.
- ❑ Universal standard: internet technology has a universal standard, its not a different one in UK and a different one in Nigeria.
- ❑ Rich content: ecommerce allows for integration of the various forms of content, one can use video, audio, combination of two or all three.
- ❑ Ease of interaction: Clients interact with businesses from the comfort of their homes. There is no need to physically visit a store as in the place of the traditional commerce.

Features of E-commerce ...

- ❑ Personalization or customization: The various technologies integrated to the internet allows businesses to send personalized/customized messages that can be delivered to individuals or even groups.
- ❑ Ubiquity: The internet technology is widely available and accessible from anywhere at any time; be it at home, at work via mobile devices like a mobile phone, ipad, and even PCs.
- ❑ Business digitalization: this involves comprehensively using the internet and other tools of information and communication technologies to link information and cooperate seamlessly every stakeholder of the business.
- ❑ Automation of business processes to increase delivery speed

Types of E-commerce

E-commerce can be divided into different types, these are:

- 1) Business to Business (B2B)
 - 2) Business to Customer (B2C)
 - 3) Customer to Customer (C2C)
 - 4) Consumer to Business (C2B)
 - 5) Business to Government (B2G)
 - 6) Consumer to Government (C2G)
 - 7) Mobile Commerce(M-Commerce)
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1. Business to Business (B2B):

- ❑ **Business to Business (B2B):** only the companies are doing business with each other. Here, the final consumers are not involved. Therefore, the online transactions that are carried out in a business to business e-commerce transaction involve parties like the manufacturers, wholesalers, retailers etc.
- ❑ B2B e-commerce is simply the electronic exchange of products, services or information between businesses rather than between businesses and consumers as expected.
- ❑ Business to business ecommerce is the largest form of ecommerce and it requires high level of security in exchanging data.

2. Business to Customer (B2C):

- ❑ **Business to Customer (B2C):** here, the business sells directly to customers. The customers can browse the website, see reviews and order directly from the business.
- ❑ After the order, the good is shipped directly to them (the customers). Some of the most popular business to customer websites are; Amazon, Jumia and Konga.
- ❑ The businesses strive to reach individuals and not businesses as in business to business type. Various means are employed for this purpose like newsletters, email list, instant messaging and the likes


3. Customer to Customer (C2C):

- ❑ **Customer to Customer (C2C):** for this model, the consumers are in direct contact with one another and they can buy or sell freely without any middleman.
- ❑ This model enables the consumers to buy and sell used goods like furniture, mobile phones or electrical appliances. Examples of websites that use this model are: OLX and Jiji.
- ❑ Consumer to consumer ecommerce presents a means for consumers to set their rules for the business transaction, they set their prices as well and the buying party checks for themselves if the set prices and rules are favorable before making a deal with the selling party.

4. Consumer to Business (C2B):

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- ❑ **Consumer to Business (C2B):** this model is the inverse of business to consumer because here, as the name implies, it's the consumers that sell to the business.
 - ❑ Freelancers and businesses that buy from them are a perfect example for this model of E- Commerce. Here, individuals (that is, consumers) create value (could be goods or services) that businesses consume.
 - ❑ A programmer for instance can give his/her service and abilities to utilize and maintain the online resources of a system as a specialist in the programming field. A platform known as "fiver" works on this model.

5. Business to Government B2G:

- ❑ **Business to Government B2G:** This usually involve exchange of data between businesses and the government via the internet, an example is when a business wants to advertise its product or service at the government level.
 - ❑ Business to administration type of ecommerce includes different services like legal documents, social security, fiscal measures and the likes.
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6. Consumer to Government C2G:


- ❑ **Consumer to administration:** also known as consumer to government entails electronic transaction between individuals (consumer) and the government.
- ❑ When an individual makes a request or a query from the government, it works on the model of consumer to administration type of ecommerce. It creates a way that is easy for communication between governments and individuals.
- ❑ Examples include payment of health services, distance learning, information dissemination and so on.

7. Mobile Commerce(M-Commerce)

- ❑ **M-Commerce** (mobile commerce) is the buying and selling of goods and services through wireless technology-i.e., handheld devices such as cellular telephones and personal digital assistants (PDAs).
- ❑ It does not always require internet, such as mobile banking. It is also referred to as next generation e-commerce. Japan is seen as a global leader in m-commerce.
- ❑ As content delivery over wireless devices becomes faster, more secure, and scalable, some believe that m-commerce will surpass wireline e-commerce as the method of choice for digital commerce transactions. Industries affected by m-commerce include: financial services, telecommunications, service/retail, and information services.

Summary

The unit shows that, e-commerce business to business involves only companies doing business together. Business to consumer sells directly to consumer, consumer to consumer have direct contact with one another while consumer to business allows consumer to sell to business and mobile commerce encourages buying and selling through wireless technology.



Benefits of E-Commerce


E-commerce has come with some benefits, which are:

- ❑ Cheaper cost: E-Commerce is usually much cheaper than because a physical store is not necessary. Businesses that have a physical store in a popular location will have higher cost of operation and maintenance.
- ❑ Wider reach: with e-commerce, there is no restriction, no limitation to how large the audience to reach will be. People from different countries who are willing and able to patronize an ecommerce business can contact the business, place orders and the business works out delivery to them. With ecommerce, businesses can have as many clients as possible.

Benefits of E-Commerce Contd..

- ❑ Direct (face to face) interaction is not needed: unlike the traditional means of commerce which is based on face to face interaction for when clients have an enquiry and for the business's response too; ecommerce does not need this. The electronic channels like email, live chats and the likes are used for these purposes and more.
- ❑ E-Commerce removes geographical barriers. Which means you can buy and sell from any part of the world.
- ❑ E-Commerce enables sellers to lower transaction cost as they don't need to pay rent for a physical store. This will enable them to maximize their profit.
- ❑ Goods are delivered quickly and easily with little efforts on the side of the consumer

Benefits of E-Commerce Contd..

- ❑ Complaints are addressed quickly and consumers can see reviews of other consumers before purchasing an item.
 - ❑ E-Commerce saves time, effort and energy of the consumers and of the seller.
 - ❑ With E-Commerce, customers get to shop any day at any time as there is no closing hour like physical stores.
 - ❑ E-Commerce enables the buyer and seller to be in direct contact with no intermediary. This gives room for personal touch and quick transaction.
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Disadvantages of E-commerce

- ❑ Security: The platform being used for the ecommerce can be hacked which can lead to client's details being compromised and used for illegal and fraudulent purposes.
- ❑ Trust: It might take time for the ecommerce to get clients that will actually patronize it. People have trust issues to entrust their money or details via the internet as ecommerce usually has no physical store which makes tracing very difficult or even impossible.
- ❑ Credit card fraud is another security threat that ecommerce is exposed to and this is like the most common and most accepted means of payment for ecommerce transactions.


Key Ideas in E-commerce

- ❑ **D2C:** means direct to consumer. Middle men are cut off and business deliver their product or services directly to the consumer without wholesalers or retailers. It is direct!
- ❑ **White labelling:** when a business applies its brand name to a generic product after purchasing from a distributor. If a food business buys snacks from a distributor of food company and then applies its own business brand name on the snacks it has purchased, that is white labelling.
- ❑ **Private labelling:** a business makes a deal with the manufacturer directly to create a unique product specially for the business with an exclusive right for them as the sole seller. If a food business approaches the manufacturers of “minimie-chinchin” to exclusively start producing say chips for them with an exclusive right that only this business can sell the chips, this is private labelling.

Key Ideas in E-commerce

- ❑ **Wholesaling:** wholesaling involves a retailer carrying out the business process like a wholesaler by offering a discount in price when its products are sold in bulk. The business will have piece prices and bulk prices so they can sell in bit and also in bulk but there will be a discount in price for bulk purchase.
- ❑ **Drop-shipping:** is a way of marketing and selling items that will be delivered by a third party (manufacturer or supplier). Consumers pay the drop-shipper, drop-shipper pays the supplier for the good or service to be delivered to the consumer. Drop-shippers are like middle men that connect suppliers to consumers. Shopify is a good example of drop-shipping platform.
- ❑ **Subscription:** consumers pay certain agreed amount to business and business delivers the equivalent good or service to consumer regularly at scheduled intervals. A good example is DSTV subscription.


E-Commerce vs E-Business

- ❑ Despite that some individuals interchangeably use e-commerce and e-business, both are clearly different.
 - ❑ In e-commerce, ICT is used to enable the external activities and relationships of the business with individuals, groups and other businesses.
 - ❑ While e-business is the transformation of an organization's processes to deliver additional customer value through the application of technologies, philosophies, and computing paradigm of the new economy. That is, e-commerce is a particular form of e-business.
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E-Business


- ❑ Compared to e-Commerce, e-Business is a more generic term because it refers not only to information exchanges related to buying and selling but also servicing customers and collaborating with business partners, distributors and suppliers.
- ❑ Interestingly, in e-business, there are three primary processes:
 - ❑ 1. **Production processes:**
 - ❑ 2. **Customer-focused processes:**
 - ❑ 3. **Internal management processes:**

E-Business Processes

1. **Production processes:** These include procurement, ordering and replenishment of stocks; processing of payments; electronic links with suppliers; and production control processes, among others;
 2. **Customer-focused processes:** These include promotional and marketing efforts, selling over the Internet, processing of customers' purchase orders and payments, and customer support, among others; and
 3. **Internal management processes:** These include employee services, training, internal information-sharing, video-conferencing, and recruiting. Electronic applications enhance information flow between production and sales forces to improve sales force productivity.
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KEY ELEMENTS OF AN E-BUSINESS SOLUTION

The key elements of an e-Business solution are:

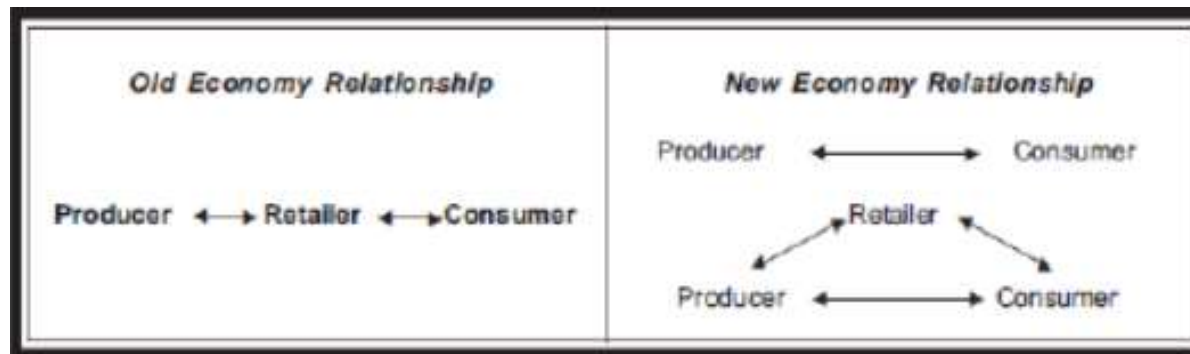
1. Customer Resource management(CRM)
 2. Enterprise resource planning (ERP)
 3. Supply Chain Management (SCM)
 4. Knowledge Management
 5. e-Markets
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Facilities that Support E-Commerce and E-Business Systems

- ❑ Various applications of e-commerce are continually affecting trends and prospects for business over the Internet, including e-banking, e-tailing and online publishing/online retailing.
- ❑ A more developed and mature e-banking environment plays an important role in e-commerce by encouraging a shift from traditional modes of payment (i.e., cash, checks or any form of paper-based legal tender) to electronic alternatives (such as e-payment systems), thereby closing the e-commerce loop.

Facilities that Support E-Commerce and E-Business Systems

The traditional mode relationship and electronic alternatives are diagrammatically represented in Figure 2. below;




- Figure 2: Traditional economy system vs Electronic economy system..

Payment Methods

To achieve the mandates of the **E-Commerce and E-Business Systems**, the following payment methods have been found to be supported facilities. However, two payment methods have been found effectively.


These payment methods are as follow:

Traditional Payment Methods

- **Cash-on-delivery:** Many online transactions only involve submitting purchase orders online. Payment is by cash upon the delivery of the physical goods.
 - **Bank payments:** After ordering goods online, payment is made by depositing cash into the bank account of the company from which the goods were ordered. Delivery is likewise done the conventional way.
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Payment Methods

Electronic Payment Methods

- **Innovations affecting consumers**, include credit and debit cards, automated teller machines (ATMs), stored value cards, and e-banking.
 - **Innovations enabling online commerce** are e-cash, e-checks, smart cards, and encrypted credit cards. These payment methods are not too popular in developing countries. They are employed by a few large companies in specific secured channels on a transaction basis.
 - **Innovations affecting companies** pertain to payment mechanisms that banks provide their clients, including inter-bank transfers through automated clearing houses allowing payment by direct deposit.
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Incorporated facilities to support e-commerce and e-business

Some of the incorporated facilities to support e-commerce and e-business systems are highlighted below:

- 1. Mobile (smart) phones
 - 2. Website
 - 3. Ecommerce shopping cart
 - 4. Social media
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Relevant Components Of An E-business Model

- ❑ A **shared digital business infrastructure**, including digital production and distribution technologies (broadband/wireless networks, content creation technologies and information management systems), which will allow business participants to create and utilize network economies of scale and scope
- ❑ A **sophisticated model for operations**, including integrated value chains-both supply chains and buy chains;
- ❑ An **e-business management model**, consisting of business teams and/or partnerships; and
- ❑ **Policy, regulatory and social systems**-i.e., business policies consistent with e-commerce laws, teleworking/virtual work, distance learning, incentive schemes, among others.


Issues and Problems that affects E-Commerce and E-Business Development

- ❑ It is crystal clear that the present transaction systems have greatly changed the manner and approach of transaction.
- ❑ This is in line with the 21st century global economic agenda. However, as much beneficial as e-commerce and e-business are, there are some outstanding issues affecting this novel direction of transactions.
- ❑ These challenges would undoubtedly mitigate the exponential growth of the system as well as down-speeding the take-over of these transactions over the traditional means.
- ❑ The issues affecting these systems could be majorly classified into two, namely: technical and economic challenges.

Technical Challenges

- ❑ ICT systems which remain paramount in these systems have to be effective not only within the boundaries of an organisation, rather synergise with ICT systems of other organisations. This synergy rests on user-centred design (UCD) interfaces.
- ❑ Therefore, the issues and problems under this technical challenges are the responses to the following questions:
 - ❑ How heterogeneous are the involved ICT systems allowed to be?
 - ❑ Is the present IT infrastructure, in developing countries and Nigeria in particular, fit for e-commerce?
 - ❑ How to protect the ICT system to prevent its destruction, damage, or manipulation?

Technical Challenges

- ☐ Are the present ICT systems for e-commerce secure?
 - ☐ Are payment procedures and modules secure enough?
 - ☐ How guaranteed is the protection of personal data of involved people, especially customer data?
 - ☐ Having realised that e-commerce depends on people, are the IT personnel qualified enough?
 - ☐ How updated are the available technical support?
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Economic challenges

- ❑ E-Commerce is primarily a concept of management and organization. It is not solely a matter of technology. Some of the lingering issues confronting e-commerce and e-business development under guise economic perspectives are highlighted below.
 - ❑ Are the business protocols and procedures acceptably standardised among the actors?
 - ❑ Is the participation open to all? Who makes and how the decision of participation is made?
 - ❑ How to adopt or change the business model?
 - ❑ What might happen after e-sales channel is opened? Will traditional sales channel suffer from it?
 - ❑ How can we measure the success of our e-commerce activities? Will costs be compensated through revenues?

Economic challenges

- ❑ How do we build relationship with customers, suppliers, and other business partners to realise the merits of e-commerce?
- ❑ How to redesign the business processes – in terms of employees change?
- ❑ All aforelisted issues have been found in literature to be the problems affecting the e-commerce and e-business development. And until the necessary remedies are provided, e-commerce and e-business would continue to witness snail development.

E-commerce Website

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- ❑ Recently, e-commerce has emerged as a new way of performing business transactions between buyers and sellers.
 - ❑ It offers several benefits and opportunities, and as such can help to boost the business turnover.
 - ❑ E-commerce has changed the narratives of transacting as a lot of people prefer to shop or buy online and this has brought about a lot of competitors online.
 - ❑ Thereby, to have an edge ahead of competitors there is a need to have a website that is interactive with good layouts, reliable information, great payment options, and excellent customer service

Benefits of E-commerce Website

- ❑ Ease and convenience: one of the major factors to be considered when designing the e-commerce website is accessibility. The website has to be easily accessible by potential customers. Effects such as hyperlinks, mouse hover, and some other attributes can be part of the features on the website for ease of use.
- ❑ Products and services promotion: when a website is easily accessible and usable, it will be easier to manage the target audience or anyone visiting the page. E-commerce enhances interaction and directs connect with customers, which can bring about various promotion strategies about their products and services and thereby enhance the popularity of the brand.

Benefits of E-commerce Website Cntd...

- ❑ Time and Cost saving: once the website is created rightly, it will be instantaneous and this will put a lot of things in order, there will be more time to manage the customers, products, services, and promotions. Also, customers will enjoy the use of the website more as they can easily view various available products, place orders, make payments, and get their goods as soon as possible. Website maintenance or updates to be carried out on it will be done at a low cost.
- ❑ Consistency of Information: consistency and accuracy of information are ensured in an e-commerce website. This will be possible because all information will be updated and shared at once on the same platform.

Techniques for Designing E-Commerce Website

❑ It is essential to master the tricks involved in designing an exceptional website, to stand out amongst competitors. To have a responsive and interactive e-commerce web design that will benefit both parties (buyers and sellers) visiting the website as well as increase traffic. There are certain steps or techniques in setting up a website, these include:

- ❑ Domain Name Selection or Registration
- ❑ Web Hosting
- ❑ Communication Strategy

Techniques for Designing E-Commerce Website Cntd...

- ❑ **Domain name selection or registration:** To set up a website, the basic step to be taken is the domain name registration. This should be carefully done and uniquely selected (). This will rightfully guide whoever wants to access the website with any search engine via the internet.
- ❑ **Web hosts:** are computers or organizations that render services with technologies to host websites on the internet. Some people outsource their website to a company or organization for hosting while few others have their servers to manage their hosting in-house, which tends to save time and reduce cost.
- ❑ **Communication strategy:** It is no doubt that e-commerce has modernized the way business are been done, this has been made possible with effective and efficient communication strategy which includes marketing, advertising, and search engine use.

Managing and Methodologies for Developing E-Commerce Websites

1.0 Introduction

In this unit, you will acquire knowledge on managing website, customer service, communication and methodologies for developing websites.

2.0 Intended Learning Outcomes (ILOs)

By the end of this unit, you will be able to:

- Manage website
 - Develop methodologies for e-commerce website
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Managing E-commerce Website

- ❑ To manage a website, it is very important to place customer service into high consideration.
- ❑ Customer service will bring about satisfaction to potential customers or associated organizations and this will automatically boost business sales and improve the business turnover.
- ❑ Since products and services can only be viewed online, it is therefore essential for an e-commerce website to have a good customer and communication service strategy.

Roles of Customer Service

- ❑ Some of the roles of customer service include:
 - ❑ Identity maintenance: It is important to maintain the company or organization's originality and a true picture of what the organization sells to enable buyers to have a true perception of their products and services as well as build trust in them
 - ❑ Relationship maintenance: A strong professional skill is required to be nice and friendly, as well as build a good customer and communication relationship. This will bring about a good relationship and trust in the brand.

Customer and Communication Service Strategy for Pre-sales and After-sales

- ❑ The customer and communication service strategy for pre-sales and after-sales cannot be overemphasized, some of them are:
 - ❑ Sound and improved communication and technical skill.
 - ❑ A clear understanding of the organization and the customer needs.
 - ❑ Maintenance of the relationship between the old and new customers, as well as frequently reminding them about the organization's sales and promotion activities.
 - ❑ Always keep in touch with customers by calling or chatting to remind them of a new product and ensure they drop a review on every purchase as this will help in ensuring standards of products and services.
 - ❑ Effective and efficient product and service delivery after purchase.

E-Commerce Website Development Methodologies

- ❑ The E-Commerce website methodology is a methodology that has been in use over the years and proved successful. It is made up of five main phases which include:
 - ❑ Analysis/Planning:
 - ❑ Design:
 - ❑ Building the Website:
 - ❑ Testing the System:
 - ❑ Implementation and Maintenance:


Analysis/Planning Phase

- ❑ In this phase, the aim and objectives of the business are being identified. This is an important phase to plan, gather all essential information, and determine solutions to the business challenges.
- ❑ The analysis and planning will lead an organization to certain functionalities that will help in achieving the vision and mission of the business.
- ❑ This phase investigates the order flow, recommended features, and direction on the overall e-commerce website development.
- ❑ The purpose and content of the website should be carefully handled here, as this is what the target audience shall look out for as well as trigger traffic on the site.

Design Phase:

- ❑ This stage is about the logical and physical design of the website. It is a stage that describes the website result, the system components, functionalities, and relationships between all components.
- ❑ This phase also handles the type of database management system software to be used, the security mechanisms, and control measures to be put together for the development.
- ❑ It is crucial at this stage to have an outstanding and well-captured logo with colors depicting what the business represents, as this will attract the target audience.
- ❑ It is therefore important to include any addition or changes and remove any unnecessary functionality.

Building the Website Phase:

- ❑ This involves prototype design and system application building.
 - ❑ This phase should be handled with care as it will display the final look of the website.
 - ❑ Good knowledge of Web Development Technologies is needed because all coding will be performed at this stage.
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Testing the System Phase

- ❑ As soon as the coding and building of the system are completed, the system needs to be tested.
- ❑ At this point, there is a need to check that all the HTML and CSS code used for designing meets the latest web development standards.
- ❑ This stage also includes the website delivery (the point at which website can be uploaded to the server) once all the requirements have been met, the account has been set up, all files rightly uploaded and website SEO performed.

Implementation and Maintenance Phase:

- ❑ Implementation occurs after the website design and development; it is the final phase after which you began to use the website.
- ❑ Maintenance is another crucial thing, just like any other software, it is very important to ensure continuous technical checking, testing, and repair of any faults as soon as possible to avoid the website break down.

Creating and Maintaining a Successful Web Presence

- ❑ **Introduction** This unit highlight steps used to create and successfully maintain a website.
- ❑ **2.0 Intended Learning Outcomes (ILOs):** By the end of this unit, you will be able to:
 - ❑ Create a website
 - ❑ Maintain a website

Creating and Maintaining Website

- ❑ The steps to create and maintain a successful website includes:
 - ❑ Setting the website goals:
 - ❑ Target audience:
 - ❑ Be consistent:
 - ❑ Branding:
 - ❑ Website style:

Setting The Website Goals:

- ❑ From the onset, every website should set its aim and objectives.
- ❑ This will guide them through making decisions, reaching their goals, and maximizing their web presence.
- ❑ Some of the goals to set include; information about the organization, information about products and services, how to sell the products, and of course customer service.
- ❑ From time to time all the goals should be measured, such as; checking the number of old and new visitors on the website, number of phone calls, the feedback being received, etc.


Target audience:

- ❑ After setting the goals, the next question to ask and answer is „who is the target audience“.
- ❑ Once the audience is known, you can easily set priorities and make decisions for website relevancy.
- ❑ You have to find out why the customers visit the website, the kind of information they are looking for and most important things to do to protect the site content and make it more appealing

Be consistent:

- ❑ It is essential to focus on the website's content, meeting customer's needs and making the needed information available will greatly enhance the web presence and improve productivity.


Branding:

- ❑ The web presence is a true reflection of the website, and as such it has to be well branded because this is likely the only information the website visitors know about the seller or the organization.
 - ❑ The brand is a way the organization or company is perceived by the customers (a true picture of who or what the organization is) which has to do with the overall packaging from the product quality to the customer service.
 - ❑ It can also involve having a consistent logo and printed materials like a shirt, cap, business cards, or writing materials that has the company name and logo boldly written.
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Website style:

- ❑ The website should be accessible and usable.
- ❑ The site design should have a good interface, a responsive design; that can easily be used on a smaller or large screen, graphics with adobe fireworks, adobe flash, or photoshop should be optimally used to ensure easy navigation and a GUI environment to users

Product Catalogue and Processing Orders


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- ❑ **Definition:** A product catalogue is a document that lists the details of the products or services offered by a business that aids the purchase decision of buyers.
 - ❑ A catalogue shows the features, descriptions, availability, size, price, and even reviews of the business“ products and services.
 - ❑ Product catalogue is useful not only for the customers but for the business stakeholders like the sales representatives, store managers and even for the business owner or decision-makers
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Product Catalogue and Processing Orders

- ❑ A good product catalogue presents clear and concise information, enhances branding and smooth flow of information, ensures positive user experience and makes the whole business procedure generally easier.
- ❑ An order is a request by a person to another who is to deliver the product or service that is being ordered.
- ❑ When a customer places an order for a product or service, then a sales rep for a business receives the order, gets additional needed information from the customer to ensure smooth delivery of their product or service to satisfy the customer's order, that is order processing.

E-Commerce Catalogue Development


❑ E-commerce catalogue development is a process that requires a lot of planning because you don't want to piss off your customers with unordered or irrelevant information that can make them not to end up patronizing you. The following are some things to note in developing a good e-commerce catalogue:

- ❑ Highlighting Products
 - ❑ Use of Images
 - ❑ Applying Cross selling
 - ❑ Designing Appealing Interface
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Highlighting Products

- ❑ Highlight each product and service with their features, descriptions, availability, size, price, and reviews if available as it convinces people about how genuine a business and its products are.
- ❑ Jumia as an example, has the products properly labelled and described, price is stated, availability status is made known, reviews are also displayed if available.
- ❑ If a customer wants to buy a lady shoe on Jumia, the maker or designer of the shoe is made known, the sizes available, the colours available, type of heels, the material (maybe suede or leather) and other details that is relevant to the purchase decision of the customer.

Create Unique Content

- ❑ Create your own content, do not copy content. Be creative and carve out your own rich, unique and quality keywords as this improves the search engine optimisation of your e-commerce rather than copying content and be in supplemental results of searches.
 - ❑ The content Jumia uses is unique to them, it is original.
 - ❑ If one is starting an e-commerce, a content creator could be outsourced for as it is very essential.
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Use Images

- ❑ Words are good, image is better.
- ❑ Having professional photographs with well-crafted descriptions of your products as well as instructions and manuals can serve as advantages that one can leverage on to generate relevant search engine traffic.
- ❑ Jumia uses clear pictures to describe goods, their pictures are taken from different angles to have a clear view and knowledge of product to be purchased.
- ❑ The picture can aid customer's understanding of the size or colour of the product.

Apply Cross Selling

- ❑ Cross selling is a very important aspect to consider. Identify the Popular products, related products, and purchased.
- ❑ If your customer's search is sweater, various popular sweaters could be returned such as hoodie or knitted sweater as popular products, socks and gloves could be returned as also purchased and turtleneck clothing could be returned as related products.

Design Appealing Interface

- ❑ Let your interface be appealing to sight.
- ❑ Use large font and bold colors, catchy buttons and a generally attractive environment.
- ❑ Ensure simplicity also, customers will get discouraged in using a complicated platform.
- ❑ Jumia.com is quite appealing to sight, the colors used are catchy, the texts are legible, the navigation is understandable, it is easy to use (creating an account, logging in, shopping, adding items to cart, making payment and the likes are all achievable).

Processing Orders in E-Commerce

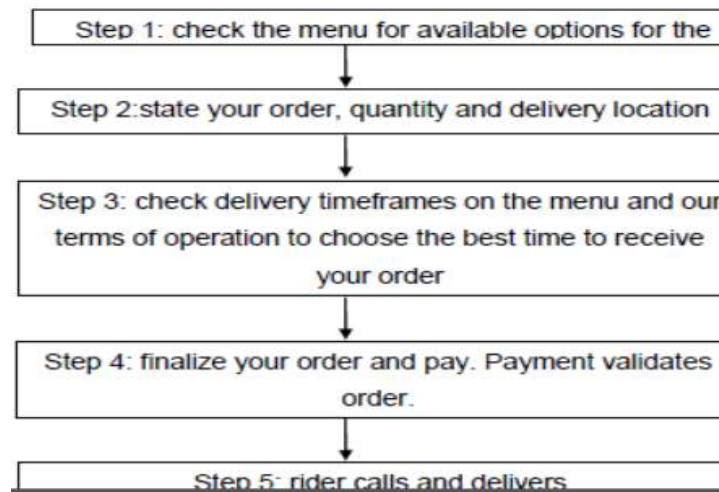
- ❑ **Definition:** Order processing are the activities or procedures that takes place to ensure that placed orders are efficiently sorted so that they reach the customers at the right time and in perfect condition.
- ❑ However, from the time an order is placed by a customer to the time that they receive the order, the business is responsible and held accountable for delivering the ordered product or service within the shortest time frame and in the most efficient way; this activity is called order processing.

Example of Order Processing


- ❑ Hence, Taking a clothing line as an example of the e-commerce to be patronize; their catalog should have provided the customers with relevant information of material of cloth, sizes available, dimension, available colors and the likes.
- ❑ After knowing all these, if the customer decides to eventually place an order, the ecommerce platform should allow the customers to specify their preferences and make payment including specified delivery fee.
- ❑ Finally, the business should make cloths according to the specified preferences of customers and should ensure that they do not deliver later than agreed day of delivery.

Process Flow

- ❑ To keep costs as low as possible, it is important that businesses have a clear process flow to follow which will help maintain the smooth running of e-commerce operation.
- ❑ It reduces stress on the business because all the necessary information are put out already rather than telling the same thing to a thousand people in a thousand times.
- ❑ Let's take Lolu's cuisine as an example, this is a catering outlet in Kano, the following steps describes their order processing



ONLINE SHOP

- ❑ **Definition:** An online shop is a website through which customers place orders and makes payment through channels approved by the shop.
 - ❑ It may represent a small local store, a major retailer, an e-commerce store or an individual who sells products through a third-party site, such as e-Bay.
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Online Business Models

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- ❑ The online store can operate under a number of business models such as:
 - ❑ Business-to-consumer: this model allows the final consumer to buy directly from the retailer like a regular physical store.
 - ❑ Business-to business: this model will allow businesses to purchase products from some other businesses.
 - ❑ Examples of online shops include; jumia, Alibaba, kongka and OLX among others. The products in online shops range from physical products like clothes and gadgets to digital products like software and music and even food and beverages.

Advantages of Online Shopping


- ❑ Convenience: the online shop is very convenient for users, it's opened for 24 hours and you can buy anything, from anywhere at any time; especially with the provision of delivery companies everywhere.
- ❑ Online shop also makes it easier to get reviews and enough information products from customers after their patronage as these feedbacks helps to improve the business process.
- ❑ Selection of products is also made easy by online shops by the availability of filters and search engines, hereby saving shopping time. Consumers can easily filter goods based on price, colour, size and delivery in a short period of time.
- ❑ Merchants as well face low risk of robbery as they operate with warehouses instead of having regular shelves and counters with money in drawers

Disadvantages Of Online Shopping

- ❑ **Fraud:** A lot of people are concerned about fraud and security which might be a discouragement for people to actually patronize online shops. Since they haven't been able to inspect the products thoroughly and physically before purchase, customers can only hope to get what they ordered.
- ❑ **Phishing:** Consumers sometimes face the risk of having to deal with fake websites and providing sensitive details to malicious parties.
- ❑ Sometimes, costs and fees are not fully disclosed till checkout point or delivery point.
- ❑ Privacy of personal information is very important to a lot of consumers. Online shops sometimes use these pieces information without the knowledge of the consumers for example, sharing of catalogues by e-mail.

Shopping Cart

Definition: A shopping cart is a piece of software embedded on an online market platform that facilitates the purchase of a product or service. That is, it keeps record of products a buyer has selected for subsequent purchase.

- ❑ The customer typically picks goods for purchase on the online market, the shopping cart then catalogs the items that has been chosen by the customers and then places the items in his or her Shopping cart.
 - ❑ The Shopping cart usually keeps a sum of the items kept therein.
 - ❑ It allows a buyer to gather products, assess the selected items and make changes or add extra items if needed before going on to make purchase immediately or later in the future.
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Types of Shopping Carts

- ❑ There are basically three types of shopping carts:
 - ❑ Open source shopping cart
 - ❑ Licensed shopping cart
 - ❑ Hosted shopping cart

Open Source Shopping Cart

- ❑ This type of shopping cart is easily available, free to own, modify and use. No licensing fee is required in order to gain complete control over the site.
- ❑ It is better to have an open source shopping cart when you intend on setting up and handling a complex large shop with a different variety of products. Developer skills is necessary when using open source software and Customer support is very limited.
- ❑ It has a well-designed user interface and also Numerous integration can be added to it. Open source shopping cart requires Adds on to perform higher level functions.

Licensed Shopping Cart

- ❑ Licensed shopping cart is usually owned by the owner of a business. the owner acquires in order to host on his own server.
- ❑ It is a more direct type compared to open source. It is created by business organizations then they make it accessible for buyer to purchase and use.
- ❑ To use this software a user must acquire license from the organization. All modifications are managed by the organization that created it, although they may create a method for independent developers to create addons.
- ❑ Example of licensed shopping carts include OpenCart, Magento, and Woocommerce .

Hosted Shopping Cart

- ❑ These are standard solutions managed by the company that developed them. Users only need to sign up with the host they have chosen and commence selling immediately. It consists both shopping cart software and web hosting.
- ❑ Unlike the other types hosted software, it provides a web based user interface with which a user can manage his store instead of downloading software which enables them to run their business directly.
- ❑ Most hosted shopping carts are charged on monthly basis depending on your subscription. Costlier plans have more built in features and advantages.

Components Of A Shopping Cart Software

- ❑ The storefront and the administration are the two main components of a shopping cart.
- ❑ **The Store Front:** The store front is the part of the web store that the customers can easily access. These parts include product pages, category navigation, search pages and checkout pages where the customer can complete their transaction after entering the product details. The appearance of the store front can normally be modified the online shop owner in for better customer satisfaction.

Components Of A Shopping Cart Software Cntd...

- ❑ **The Administration:** The administration is the part of the web store which is only accessible to the merchant. Management and maintenance of these web store is done here. On the administration page a merchant is able to remove add or edit product categories, shipping options, currency and sales tax and accounting tools. Orders and inventories can also be managed in administration. The administration area can be web based or desktop based.

Functions of Shopping Cart

- ❑ **Shopping security:** With certain compliance and certification, a shopping cart protect customer's identity and information from theft. The shopping cart secures all credit card and financial information that are used on the site by customers. Ensuring that payment and transactions are enabled and well managed, a shopping cart addresses security issues associated with online shopping.
- ❑ **A solitary hub for data management:** Order and payment history of each costumer are maintained on the shopping cart. credit card information and banking details are also stored with customer's permission which makes subsequent transactions easier. User browsing criteria and activities are monitored and collected, thereby helping them develop more image of what the selling trend is for different periods of time.

Functions of Shopping Cart

Cntd...

- ❑ **An established retail store front** A shopping cart provides easy access to selected products and it also collects other related pages that may interest customer. Shopping cart improves the shopping experience of a customer by keeping track of all the activities of customers. This aids in creating a more professional image of what a shopping cart owner can offer to the customers.
- ❑ **Compatibility of Various Payment Modes** The last step a customer must carry out is paying for a purchase. An important function of a shopping cart is the ability to collect payments in a stress-free way. The shopping cart provides all the necessary tools to charge customers without them needing to abandon their carts. The shopping cart ensures every payment can be processed.

Functions of Shopping Cart

Cntd...

□ **Feedback and Product Review:** According to a study by the Nielsen company in 2009, up to 70% of respondents find “consumers opinion posted online” reliable. Customers are asked to rate the store’s service and give 58 tips on what more can be done to improve the offered services. This ratings and reviews give new customers insight on making better buying choices.

Payment Gateways For Shopping Carts

□ Introduction

- Payment gateway securely authorizes online payment. It allows for the transmission of credit card information, approval code, and any confirmation details back to shopping carts in a secured way. Examples include; Remitta, PayPal, Mollie, Square, Venmo, Apple Pay, Amazon Pay, etc.

Types of Shopping Carts Payment Gateways

- ❑ There are different ways with which a consumer can pay for items purchased. Each gateway has its peculiarities so, a consumer chooses based on the type of gateway they feel is best.
- ❑ The following are the types of shopping carts payment gateway:
 - ❑ IMA (Internet merchant account)
 - ❑ TTP (Third party payment)
 - ❑ MPP (Manual payment processing)


IMA (Internet Merchant Account)

- ❑ This is an account issued by a financial institution.
- ❑ It enables merchants to accept credit card payment online.
- ❑ Business has to have separate account for every type of credit card they intend to accept (E.G master card, VISA E.T.C).


TTP(Third Party Payment):

- ❑ This involves the introduction of another body that serves as an intermediary between the merchants and the consumers.
 - ❑ The benefit of the third party is that they make selling of goods easier and quicker. Here, the money for the transaction is deposited in a special account that is controlled by the service provider.
 - ❑ In order the merchant to obtain the money, they will make request to the service provider, the service provider will in turn request for the proof of the transaction success,
 - ❑ if they are to provide it, then the funds will be released and if there is a dispute over the transaction, they may withhold the funds for a longer period.
 - ❑ The most common type of the third party payment is the *PAYPAL*.

MPP (Manual Payment Processing)


- ❑ This is the type of gateway option usually employed when there is a limited number of online orders.
 - ❑ Here, users can make orders online but payment will be done manually (i.e. credit cards are processed manually instead of automatic processing).
 - ❑ Credit card information is acquired via a secure server.
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Factors To Consider When Choosing A Payment Gateway

- ❑ Privacy of the transaction data
 - ❑ Credibility of the service provider
 - ❑ Cost associated with payment gateways.
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Shopping Cart Problems

❑ Introduction

- ❑ Shopping carts are widely known for its benefits which is rightly so.
 - ❑ However, there has been a massive drop in the usage of shopping c, arts due to the problems associated with it.
 - ❑ Some of the problems are explained further.
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Security and fraud issue

- ❑ Due to the fact that items bought online cannot be physically inspected, there is always the risk of purchasing substandard or even fake goods.
- ❑ A phenomenon called “ phishing” is also a huge security problem. It’s a situation where by false websites are created with the aim of fooling people in to thinking they are dealing with trustworthy entities.
- ❑ Consumers are required to provide sensitive details such as credit card detail, passwords, username and so on. The provided details can then be used to attack them.
- ❑ Issues of stolen cards being used to purchase goods which leads to repudiation is also rampant.

Confidentiality

- ❑ There are many websites that keep track of consumers shopping habit in order to recommend other items and websites to view.
- ❑ Some keep record of mail addresses and phone numbers and in turn utilizes it to advertise their product which is not something every consumer want.

Lack Of Total Disclosure

- ❑ The lack of full disclosure with respect to the price of items purchase is one of the reasons people abandon the usage of shopping carts.
- ❑ This is so because the total cost of goods cannot be seen until the final stages of the purchasing process as additional fees such as shipping fees are not usually included at the first steps of the purchasing process.
- ❑ This situation is more evident when it involves international purchases where additional fees like brokerages and duties fee are not even included at the final stages of the purchasing process but rather at the delivery point.

Shopping Cart Abandonment

- ❑ After selecting items for purchase on their shopping cart, customers leave the shopping cart for different reasons and fail to complete their purchase i.e. the shopping cart has been abandoned.
- ❑ The most common reason is that most people are just browsing for options. Some of these reasons include:
 - ❑ The checkout process taking too long.
 - ❑ Check outs can be done without creating an account with the merchants.
 - ❑ Crashing during checkout or website interrupted by bugs.
 - ❑ Bad return policies dissuade customers from buying.
 - ❑ Credit card not verified.
 - ❑ Unavailability of mobile-friendly payment options.

Choosing A Payment Option For Online Store

- ❑ Payment processing is an important part of an ecommerce website. Therefore, webstore owners must consider some factors while chosen the payment option for their shop.
- ❑ Some of these factors include but not limited to:
 - ❑ **Associated Cost:** this include the cost for setting up the system and its maintenance e.g monthly; charge back fees, and the fees associated with the various payment options and accounts.
 - ❑ **Security and protection:** ability to ensure secure transaction, provide data privacy and detect fraudulent transaction in a real time
 - ❑ **Credibility of the Service provider:** such as expert staff, user friendly policies, no hidden charges.
 - ❑ **Support Services:** ability to provide support services at any time.

Online Purchasing Process

- ❑ Typically, depending on the method adopted, online purchase process begins with a buyer visiting a seller's website either as a registered customer or a guest. As a registered customer, a buyer will enter the store via buyer's "My Account" and non-register user will enter through the store catalog.
- ❑ Part of the important tools available for buyers is the search engine that can help customers search through the large E-catalog database and present the details of the products related to the used "search terms".
- ❑ Nowadays, some merchants provide features where buyers can compare prices with their competitors

Online Purchasing Process

- ❑ If customer is not satisfied with the price or any other description, the buyer may abandon the site. Otherwise, the buyer may select one or more item as s/he wants and placed it in shopping cart.
- ❑ After the items have been selected for purchase, the buyer moves to a checkout by clicking on “Proceed to checkout”, add address and select a shipping (standard, next day etc) and billing option for delivery such as (first class, express etc).
- ❑ The system calculates the total sum of the selected items including the shipping fee. A payment method is selected such as payment by credit cards, PayPal, check after billing, instalments and so on. Finally, the buyer clicks on “submit” after confirming the accuracy of the ordered items.

Online Purchasing Process

This process can be summarized in the following shopping process flowchart;

Shopping Cart > Checkout >> Billing Information>>> Shipping
Information >>>> Shipping Method>>>>> Preview Order >>>>>>
Payment >>>>>> Confirmation

Tracking Shoppers' Information

- ❑ Customer can be regarded as the most important part of eCommerce ecosystem. In fact, they are the reason for the existence of eCommerce websites in the first place.
- ❑ Therefore, it is very essential for businesses to know their customers (current and potential customers). Customer tracking is a technique for collecting and organizing customer's information.
- ❑ Many businesses collect information about their customers such as name, address, and phone numbers. However, the evolvement of the eCommerce and its related technologies show that there is more to customer tracking than just collecting names.

Techniques for Tracking Customer Information

- ❑ In order to track customer's information, online shop owners use one or more techniques. Some of the popular techniques are as follows:
 - ❑ Cookies
 - ❑ Tracking Pixel
 - ❑ Web Beacons
 - ❑ Browser Fingerprinting
 - ❑ Other Techniques: Other user information tracking techniques are zombie cookies, dynamic cookies, flash cookies, IndexedDB etc.

Cookies:

- ❑ Cookie is a computer program that a website install on user's computer (or browser) and gets loaded whenever the website is visited.
- ❑ Cookie enables websites to identify and remember its users. It is the used online tracking technique used on eCommerce websites.
- ❑ In addition, cookies can also be used to serve the purpose of monitoring users and give insight about user's behaviours.
- ❑ Cookies can also be employed for user profiling as well as a tool to aid targeted marketing. Cookies placed by the website visited is referred to as "first-party cookies", while a cookie placed by someone other the website visited is referred to as "third-party cookies". A third-party cookie may be used to deliver some ads to you, perform analysis or monitor your

TYPES OF COOKIES

- ❑ There exist different kinds of cookies, the most popular ones are analytics, necessary, and marketing cookies.
- ❑ **a) Analytics cookies:** Analytics (or statistics cookies) is (often) a third-part cookies that collects, logs, and analyse user data using advance or statistical techniques to provide insight about the user behaviour to the website owner.
- ❑ **b) Necessary cookies:** This is the basic cookies that allow website performs its normal function.
- ❑ **c) Marketing cookies:** Marketing (or advertisement) cookies are used to target visitors for advertisement purpose. These cookies track user behaviour in order to determine what product customer is likely to buy.


Tracking Pixel:

- ❑ Tracking pixel (or pixel tag) is a user tracking technique that contains invisible and transparent images of a single pixel, usually present on a webpage or an email.
- ❑ The invisible images load when a user loads a webpage or open an email and allows the sender of the tracking pixel (an ad server) to read and record the opening of the webpage or email and monitor the user activities.
- ❑ Information that may be obtained from user include: operating system, browser, Email program, website visitation/loading time, user IP address and location, as well as user behaviour.

Web beacons:

- ❑ Web beacons (or ultrasound beacons) are online user tracking technique that emits high-pitch sounds from the device a user is using to access a webpage that has beacon installed.
- ❑ The sound is inaudible to humans but all the nearby devices can react to it. Web beacons also known as Ultrasound cross-device tracking (uXDT) are technology to bridge the gap between physical world and the digital world.
- ❑ For example, an IT based store with an ultrasound beacon installed on their website may gain insight from the connected devices and probably use it to suggest similar or alternative products to the ones a customer is currently using.

Browser fingerprinting:

- ❑ Browser (or device) fingerprinting is an online user tracking technique that collects user highly specific information about their system and settings.
 - ❑ The collected information is used to create a fingerprint (a unique identification) for the device that can be tracked across the web.
 - ❑ This technique works irrespective of whether cookie is blocked or not.
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Security in E-Commerce

- ❑ Electronic commerce (EC) security refers to the principles that allow buying and selling of goods and services online are conducted in a safe and secure conditions.
- ❑ EC security ensures the protection of E-Commerce assets (including computers, servers, networks, databases and user data) from unauthorized access or use, alteration, or destruction with the use of security protocols and mechanisms.
- ❑ EC security is an integral part of any online business, as it determines the success of online stores. In other words, the level of trust and patronage enjoin by online stores depend on how customers feel safe and secure while performing e-payment or transaction on their platforms.

Security in E-Commerce

- ❑ It is very important for online store owners and customers to be aware of various security threats associated with online transactions.
- ❑ Some common security threats to E-commerce include fraudulent use of credit cards, identity theft, loss or modification of personal information, information leakages or illegal disclosure of personal data, phishing, spam, computer viruses, ransomware and other forms of malware attacks.
- ❑ It is highly important for eCommerce website owners and users to be aware of the various security and privacy issues associated with the platform and ensure that standard security measures are included from the inception of webstores.

Electronic Commerce Security Requirement

- ❑ A good security determines the success of electronic commerce. To provide a safe and secure online transaction, the following security requirements are required to prevent or minimize online transaction risks:
 - ❑ 1) **Confidentiality:** This is the assurance that information is accessed or used only by an authorized person. A good EC webstore must ensure that information is not accessible to an unauthorized individual during the storage, processing, and transmission.
 - ❑ 2) **Integrity:** The assurance that information stored or transmitted over the network is not altered by an unauthorized person (or illegally).
 - ❑ 3) **Availability:** the assurance that information should be available to the authorized users whenever and wherever. It requires that EC transactions are always available to the authorized persons.

Electronic Commerce Security Requirements Contd...

- ❑ 4) **Authenticity:** This requires that a mechanism be put in place to ensure that users are authenticated before granting access to the required information. It ensures that only people with correct credentials get access to the information.
- ❑ 5) **Authorization:** it ensures that an authenticated person has permission to perform a specified operation on a specific system.
- ❑ 6) **Non-Repudiation:** This requires the use of mechanism to protect users against denial of order or denial of payment. The makes sure that sender could not deny sending a message, while the recipient could not deny the receipt either.
- ❑ 7) **Encryption:** This ensures that information is encrypted and decrypted only by an authorized user.
- ❑ 8) **Auditability:** it ensures that data is recorded in a manner that make it possible to conduct auditing for integrity requirement.

Security Protocol for Ecommerce

- ❑ One of the most commonly used protocols for ensuring secure online transactions is secure socket layer (SSL)
- ❑ This is the most commonly used security protocol for online transaction. This protocol encrypts information between user devices and webstore servers. It makes it difficult for an authorized party to decode any information exchange such as credit card number.
- ❑ To identify an EC website with a secure transaction between user's computer and the website, the following measures should be noticed:
 - ❑ a) A URL address that begins with "**https//**" instead of the popular "**http//**".
 - ❑ b) A browser that shows a **lock icon** or a **message** that notifies you that you are on a secure site.

Minimizing Security Threat on EC Website

- ❑ To ensure a secure transaction on electronic commerce website, a great deal of efforts must be put in place to minimize security threats. Some of the processes for minimizing security threats are:
 - ❑ 1. **Security risk assessment:** A security risk assessment must be performed from time to time to identify the level of security required for each of the firm's assets. To do this, the list of information assets must be identified and the security priority level must be ascertained.
 - ❑ 2. **Security policy:** A security policy statement must be developed specifying the responsibility of the stakeholders and how to go about their day to day activities without compromising security standards.

Minimizing Security Threat on EC Website

- ❑ **3. Implementation plan:** A clear plan must be developed to describe the steps to be taken in order to achieve the security goals.
- ❑ **4. Security organization:** A unit or department to be overseeing the administration of security policy needs to be created. This unit is responsible for ensuring that everyone works in
- ❑ **5. Security audit:** A review of policies, security access and procedure need performed in a routine manner. The review process provides an evaluation procedure to uncover the vulnerability in your security architecture. tandem with the developed security policy.