

Information Systems and E-Commerce

Unit IV

Concept of E-commerce

The term electronic commerce (ecommerce) refers to a business model that allows companies and individuals to buy and sell goods and services over the Internet. Ecommerce operates in four major market segments and can be conducted over computers, tablets, smartphones, and other smart devices.

Types of e-commerce and examples

Following are the most traditional types of e-commerce models and examples of what they mean:

1. Business to Consumer (B2C)
2. Business to Business (B2B)
3. Consumer to Consumer (C2C)
4. Consumer to Business (C2B)

Digital Markets

Digital marketing, also called online marketing, is the promotion of brands to connect with potential customers using the internet and other forms of digital communication. This includes not only email, social media, and web-based advertising, but also text and multimedia messages as a marketing channel.

Essentially, if a marketing campaign involves digital communication, it's digital marketing.

Types of digital marketing

There are as many specializations within digital marketing as there are ways of interacting using digital media. Here are a few key examples.

1. Search Engine Optimization
2. Content Marketing
3. Social Media Marketing
4. Pay-per-click marketing
5. Affiliate Marketing
6. Native Advertising
7. Marketing automation
8. Email marketing

The benefits of digital marketing

- A broad geographic reach
- Cost efficiency
- Quantifiable results
- Easier personalization
- More connection with customers
- Easy and convenient conversions

Digital Goods

Digital goods refer to any goods that are sold, delivered and transferred in digital form. Many of the most common examples of digital goods are media files, including music files, video files containing movies or television programming, branded multimedia files and other similar types of products.

Digital goods are intangible goods that exist in digital form. Examples of such goods include digital media, such as e-books, downloadable music, internet radio, internet television and streaming media, fonts, logos, photos and graphics, digital subscriptions, online ads, and many more.

Advantages and Disadvantages of transacting online

Online payments let your customers pay for your goods and services through your website. Here are some of the top advantages, disadvantages and other tips for using online payments.

Benefits of online payments

As well as disadvantages, online payment methods have several advantages. Read these examples:

- Low labour costs. Since online payments are usually automatic, they have lower labour costs than manual payment methods, such as cheque, money order, cash and EFTPOS.
- Convenience for online sales. Online payment methods allow conveniently selling goods and services online.
- Automatic Online payments can be automatic, which can be convenient for you and your customers.
- Fast transaction speed. Online transactions quickly provide feedback to you and your customers.
- Low risk of theft After processing delays, online payments generally go straight into your bank account, so they have a low risk of theft.

Disadvantages of online payments

Online payment methods have several disadvantages. Check out these examples:

- Service fees Payment gateways and third-party payment processors charge service fees.
- Inconvenient for offline sales Online payment methods are inconvenient for offline sales.
- Vulnerability to cybercriminals Cyber criminals can disable online payment methods or exploit them to steal people's money or information. Visit the Australian Cybercrime Reporting Network's Learn about cybercrime page to learn more about cybercrime.
- Reliance on telecommunication infrastructure Internet and server problems can disable online payment methods.
- Technical problems Online payment methods can go down due to technical problems.

E-commerce

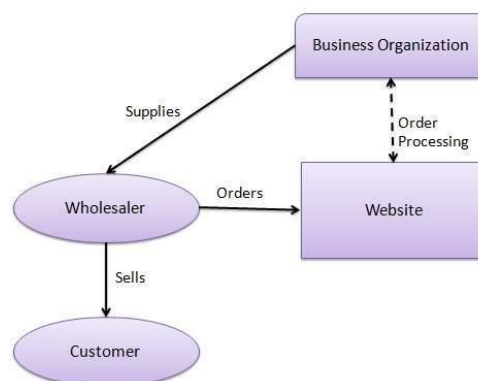
E-commerce is a popular term for electronic commerce or even internet commerce. The name is self-explanatory, it is the meeting of buyers and sellers on the internet. This involves the transaction of goods and services, the transfer of funds and the exchange of data.

Types of E-Commerce Models

Electronic commerce can be classified into four main categories. The basis for this simple classification is the parties that are involved in the transactions. So the four basic electronic commerce models are as follows,

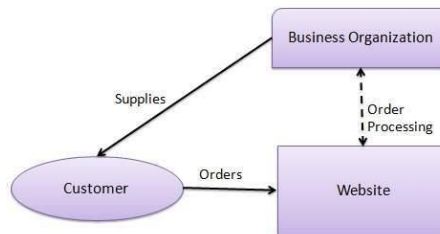
1. Business to Business

This is Business to Business transactions. Here the companies are doing business with each other. The final consumer is not involved. So the online transactions only involve the manufacturers, wholesalers, retailers etc.



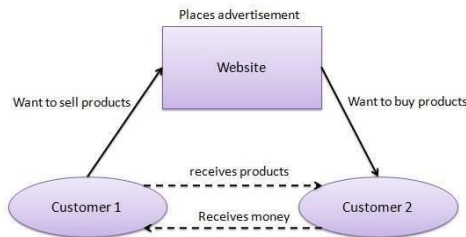
2. Business to Consumer

Business to Consumer - Here the company will sell their goods and/or services directly to the consumer. The consumer can browse their websites and look at products, pictures, read reviews. Then they place their order and the company ships the goods directly to them. Popular examples are Amazon, Flipkart, Jabong etc.



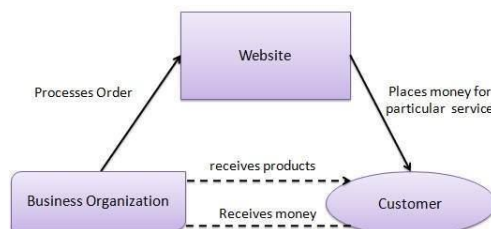
3. Consumer to Consumer

Consumer to Consumer is where the consumers are in direct contact with each other. No company is involved. It helps people sell their personal goods and assets directly to an interested party. Usually, goods traded are cars, bikes, electronics etc. OLX, Quikr etc follow this model.



4. Consumer to Business

This is the reverse of B2C, it is a consumer to business. So the consumer provides a good or some service to the company. Say for example an IT freelancer who demos and sells his software to a company. This would be a C2B transaction.



Advantages of E-Commerce

- E-commerce provides the sellers with a global reach. They remove the barrier of place (geography). Now sellers and buyers can meet in the virtual world, without the hindrance of location.
- Electronic commerce will substantially lower the transaction cost. It eliminates many fixed costs of maintaining brick and mortar shops. This allows the companies to enjoy a much higher margin of profit.
- It provides quick delivery of goods with very little effort on part of the customer. Customer complaints are also addressed quickly. It also saves time, energy and effort for both the consumers and the company.
- One other great advantage is the convenience it offers. A customer can shop 24×7. The website is functional at all times; it does not have working hours like a shop.
- Electronic commerce also allows the customer and the business to be in touch directly, without any intermediaries. This allows for quick communication and transactions. It also gives a valuable personal touch.

Disadvantages of E-Commerce

- The start-up costs of the e-commerce portal are very high. The setup of the hardware and the software, the training cost of employees, the constant maintenance and upkeep are all quite expensive.
- Although it may seem like a sure thing, the e-commerce industry has a high risk of failure. Many companies riding the dot-com wave of the 2000s have failed miserably. The high risk of failure remains even today.
- At times, e-commerce can feel impersonal. So it lacks the warmth of an interpersonal relationship which is important for many brands and products. This lack of a personal touch can be a disadvantage for many types of services and products like interior designing or the jewelry business.
- Security is another area of concern. Only recently, we have witnessed many security breaches where the information of the customers was stolen. Credit card theft, identity theft etc. remain big concerns with the customers.
- Then there are also fulfillment problems. Even after the order is placed there can be problems with shipping, delivery, mix-ups etc. This leaves the customers unhappy and dissatisfied.

M-commerce

Very simply put M-commerce entails the e-commerce transactions done with a mobile phone. So M-commerce is the use of mobile phones to conduct any type of business transaction. It takes the help of the e-commerce background and WAP technology.

The use of wireless technology (WAP) to conduct sales of goods, provide services, make payments and other financial transactions, the exchange of information etc. is the basis of mobile commerce.

M-commerce is actually a rapidly growing sector of e-commerce. Nearly 70% of the online transactions that occur in India happen from mobile phones. Globally it is a 700 billion dollar industry.

E-payment systems

An e-payment or Electronic Payment system allows customers to pay for the services via electronic methods.

They are also known as online payment systems. Normally e-payment is done via debit, credit cards, direct bank deposits, and e-checks, other alternative e-payment methods like e-wallets, bitcoin, crypto currencies, bank transfers are also gaining popularity.

Types of e-payment system

E-payments can be done in the following ways,

Internet banking – In this case, the payment is done by digitally transferring the funds over the internet from one bank account to another. Some popular modes of net banking are, NEFT, RTGS, IMPS.

Card payments – Card payments are done via cards e.g. credit cards, debit cards, smart cards, stored valued cards, etc. In this mode, an electronic payment accepting device initiates the online payment transfer via card

Credit/ Debit card – An e payment method where the card is required for making payments through an electronic device.

Smart card – Also known as a chip card, a smart card, a card with a microprocessor chip is needed to transfer payments.

Stored value card – These types of cards have some amount of money stored beforehand and are needed to make funds transfer. These are prepaid cards like gift cards, etc.

Direct debit – Direct debit transfers funds from a customer’s account with the help of a third party

E-cash – It is a form where the money is stored in the customer’s device which is used for making transfers.

E-check – This is a digital version of a paper check used to transfer funds within accounts.

Alternate payment methods – As technology is evolving, e-payment methods kept evolving with it (are still evolving.) These innovative alternate e-payment methods became widely popular very quickly thanks to their convenience.

E-wallet – Very popular among customers, an E-wallet is a form of prepaid account, where customer’s account information like credit/ debit card information is stored allowing quick, seamless, and smooth flow of the transaction.

Mobile wallet – An evolved form of e-wallet, mobile wallet is extensively used by lots of customers. It is a virtual wallet, in the form of an app that sits on a mobile device. Mobile wallet stores card information on a mobile device.

The user-friendly nature of mobile wallets makes them easier to use. It offers a seamless payment experience making customers less dependent on cash.

QR payments – QR code-enabled payments have become immensely popular. QR code stands for ‘Quick Response’ code, a code that contains a pixel pattern of barcodes or squares arranged in a square grid.

Each part of the code contains information. This information can be merchant’s details, transaction details, etc. To make payments, one has to scan the QR code with a mobile device.

Contactless payments – Contactless payments are becoming popular for quite some time. These payments are done using RFID and NFC technology.

The customer needs to tap or hover the payment device or a card near the payment terminal, earning it a name, ‘tap and go’.

UPI payments – NPCI (National Payment Corporation of India) has developed an instant real-time payment system to facilitate interbank transactions.

This payment system is titled UPI (Unified Payment Interface). Payments via UPI can be made via an app on a mobile device.

Biometric payments – Biometric payments are done via using/scanning various parts of the body, e.g. fingerprint scanning, eye scanning, facial recognition, etc.

These payments are replacing the need to enter the PIN for making transactions making these payments more accessible and easy to use.

Payments are done via Wearable devices – Wearable devices are rapidly becoming popular among customers. These devices are connected to the customer's bank account and are used to make online payments. An example of a wearable used for making an online payment is a smart watch.

AI-based payments – As machine learning and Artificial Intelligence is creating a revolution all around the world, AI-based solutions are becoming more popular.

Payments based on AI such as speakers, chatbots, ML tools, deep learning tools, etc., are making it easier for businesses to maintain transparency.

Digital signatures

A digital signature is an electronic, encrypted, stamp of authentication on digital information such as email messages, macros, or electronic documents. A signature confirms that the information originated from the signer and has not been altered.

A digital signature is an advanced alternative of electronic signatures used for signing documents. It uses cryptographic technology to ensure the authenticity of documents and digital communication happening over the internet.

Digital signature uses a unique mathematical technique that verifies if the document has been forged or modified in any manner.

Digital signature in e-Commerce ensures the security of online transactions and helps build the trust of buyers. It helps in validating the authenticity of a buyer. Digital signature in e-Commerce provides the evidence to validate any transaction, digital message, or document.

Importance of Digital Signature in e-Commerce

In any mode of e-Commerce business, whether B2B, B2C, C2B, or C2C, there are chances of cyber frauds such as identity theft, payment fraud, etc. Digital Signature in e-Commerce ensures that the parties involved in the transaction are authorized to complete it and are not cybercriminals.

For instance, a customer can steal someone's identity to buy a product online. Here, an e-Commerce digital signature can save the seller from payment fraud.

According to Forbes, in 2019, a rising trend called New Accounts Fraud, a type of payment fraud in e-Commerce scams has been increased by 27.8%. Also, identity theft has been recorded as the second most common e-Commerce scam with a large number of 650,572 cases.

Therefore, e-Signature in e-Commerce has become imperative to safeguard the authenticity and confidentiality of online transactions. Digital signature in e-Commerce ensures that the financial transaction is safe for the buyer as well as the seller.

Advantages of Digital Signature in e-Commerce

However, the fears related to digital signing in e-Commerce still persist. Let's try to overcome those by understanding the different advantages of electronic signature in e-Commerce.

- **Secured Data Sharing:** The security of digital signing in e-Commerce can be verified by multiple methods like public key infrastructure, hash functions, cryptography, and encryption. All these methods create a strong security system for e-Signature in e-Commerce. For example, a seller can share sensitive information about the product or a contract with the buyer by securing it with a digital signature.
- **Generates Workflow Efficiency:** In the case of physical signatures, documents travel from one destination to the other. This involves a lot of additional resources like a courier service to get the document signed. But with the e-Commerce digital signature, the wastage of time and possibilities of human errors can be eliminated. The buyer and seller can exchange documents over the internet, irrespective of their physical location just with a stable internet connection.
- **Elevates User Experience:** This is an underlying advantage of electronic signature in e-Commerce which contributes to the enhanced user experience. Processes related to signing documents and making payments have become convenient, faster, and secure. The entire process is hassle-free and takes only a few minutes.
- **Secured Online Transactions:** Digital Signature in e-Commerce uses multiple authentication methods which ensure a high level of security. It makes sure that there is no digital payment fraud and the anonymous identity is a real and authorized person. This helps in gaining customers' trust and assuring them of a secure and safe transaction.
- **Simplifies B2B Contracts:** Electronic signature in e-Commerce can also be used in financial transactions happening between companies or organizations. The contract in the B2B e-Commerce model is detailed and technical, which requires even the legal teams to sit on board. This process could take days if done physically, especially if the organizations are operating from different cities or countries. So, in this case, digital documents authenticated by e-Signatures can save time and travel and reduce complexities.
- **Legal Validation:** Physical signatures can be very easily challenged in court for any reason. But digital signatures are known for their authenticity and accepted by the law. Digital signatures can be easily tracked with timestamps and presented in case of arguments.

Role of Digital Signature Software in e-Commerce

As e-commerce deals with buying and selling of products online, all the records of these transactions are in the form of digital documents. A digital signature software enables businesses to speed up their processes as they can share invoices, receipts, and other transaction related documents with customers directly. You can use customizable templates for the standard documents and save time.

Most digital signature software solutions support bulk actions like deletion and sharing. You don't have to email these documents separately on a one-by-one basis. Also, digital signatures ensure legal validity of these documents. So, you do not have to spend money on printing hard copies of these documents.

Also, the digital signatures created for the documents using digital signature software come with a tamper evident seal. Every change in activity log is tracked and time stamped so that no alterations can be made without your knowledge. By ensuring data security and privacy, e-commerce businesses can also avoid regulatory penalties.

In shorts, Digital signatures in e-Commerce are beneficial for the parties, the buyer and the seller. It gives confidence by ensuring that the transaction is real and fraud-free.

Many companies hesitate while trying e-Commerce digital signature, but the advantages will make you stick to the decision. Digital signing in e-Commerce enhances customer experience while providing complete security.