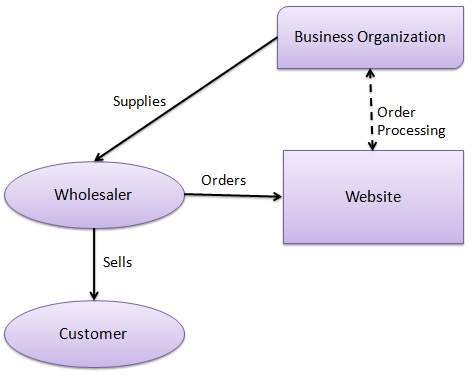
**E-Commerce - Business Models**

E-commerce business models can generally be categorized into the following categories.

* Business - to - Business (B2B)
* Business - to - Consumer (B2C)
* Consumer - to - Consumer (C2C)
* Consumer - to - Business (C2B)
* Business - to - Government (B2G)
* Government - to - Business (G2B)
* Government - to - Citizen (G2C)

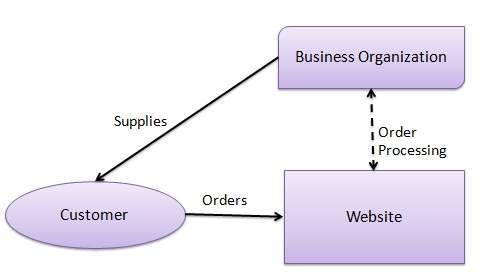
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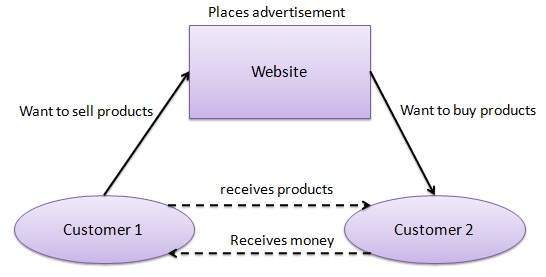
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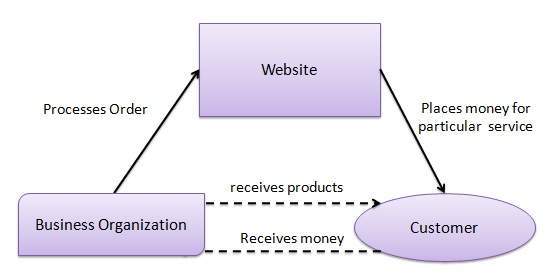
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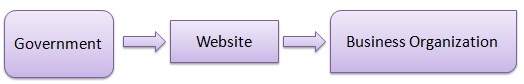
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**Government - to - Business**

Governments use B2G model websites to approach business organizations. Such websites support auctions, tenders, and application submission functionalities.



**Government - to - Citizen**

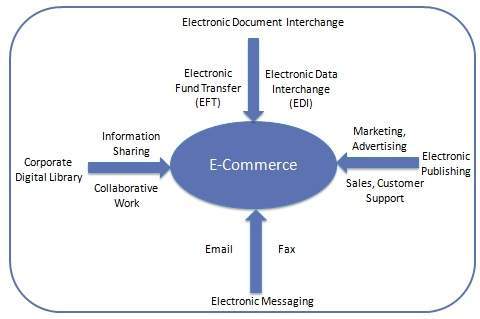
Governments use G2C model websites to approach citizen in general. Such websites support auctions of vehicles, machinery, or any other material. Such website also provides services like registration for birth, marriage or death certificates. The main objective of G2C websites is to reduce the average time for fulfilling citizen’s requests for various government services.



**E-Commerce - Overview**

E-Commerce or Electronics Commerce is a methodology of modern business, which addresses the need of business organizations, vendors and customers to reduce cost and improve the quality of goods and services while increasing the speed of delivery. Ecommerce refers to the paperless exchange of business information using the following ways −

* Electronic Data Interchange (EDI)
* Electronic Mail (e-mail)
* Electronic Bulletin Boards
* Electronic Fund Transfer (EFT)
* Other Network-based technologies



**Features**

E-Commerce provides the following features −

* **Non-Cash Payment** − E-Commerce enables the use of credit cards, debit cards, smart cards, electronic fund transfer via bank's website, and other modes of electronics payment.
* **24x7 Service availability** − E-commerce automates the business of enterprises and the way they provide services to their customers. It is available anytime, anywhere.
* **Advertising / Marketing** − E-commerce increases the reach of advertising of products and services of businesses. It helps in better marketing management of products/services.
* **Improved Sales** − Using e-commerce, orders for the products can be generated anytime, anywhere without any human intervention. It gives a big boost to existing sales volumes.
* **Support** − E-commerce provides various ways to provide pre-sales and post-sales assistance to provide better services to customers.
* **Inventory Management** − E-commerce automates inventory management. Reports get generated instantly when required. Product inventory management becomes very efficient and easy to maintain.
* **Communication improvement** − E-commerce provides ways for faster, efficient, reliable communication with customers and partners.



**Traditional Commerce v/s E-Commerce**

|  |  |  |
| --- | --- | --- |
| **Sr. No.** | **Traditional Commerce** | **E-Commerce** |
| 1 | Heavy dependency on information exchange from person to person. | Information sharing is made easy via electronic communication channels making little dependency on person to person information exchange. |
| 2 | Communication/ transaction are done in synchronous way. Manual intervention is required for each communication or transaction. | Communication or transaction can be done in asynchronous way. Electronics system automatically handles when to pass communication to required person or do the transactions. |
| 3 | It is difficult to establish and maintain standard practices in traditional commerce. | A uniform strategy can be easily established and maintain in e-commerce. |
| 4 | Communications of business depends upon individual skills. | In e-Commerce or Electronic Market, there is no human intervention. |
| 5 | Unavailability of a uniform platform as traditional commerce depends heavily on personal communication. | E-Commerce website provides user a platform where al l information is available at one place. |
| 6 | No uniform platform for information sharing as it depends heavily on personal communication. | E-Commerce provides a universal platform to support commercial / business activities across the globe. |

**E-Commerce - Advantages**

E-Commerce advantages can be broadly classified in three major categories −

* Advantages to Organizations
* Advantages to Consumers
* Advantages to Society



**Advantages to Organizations**

* Using e-commerce, organizations can expand their market to national and international markets with minimum capital investment. An organization can easily locate more customers, best suppliers, and suitable business partners across the globe.
* E-commerce helps organizations to reduce the cost to create process, distribute, retrieve and manage the paper based information by digitizing the information.
* E-commerce improves the brand image of the company.
* E-commerce helps organization to provide better customer services.
* E-commerce helps to simplify the business processes and makes them faster and efficient.
* E-commerce reduces the paper work.
* E-commerce increases the productivity of organizations. It supports "pull" type supply management. In "pull" type supply management, a business process starts when a request comes from a customer and it uses just-in-time manufacturing way.

**Advantages to Customers**

* It provides 24x7 support. Customers can enquire about a product or service and place orders anytime, anywhere from any location.
* E-commerce application provides users with more options and quicker delivery of products.
* E-commerce application provides users with more options to compare and select the cheaper and better options.
* A customer can put review comments about a product and can see what others are buying, or see the review comments of other customers before making a final purchase.
* E-commerce provides options of virtual auctions.
* It provides readily available information. A customer can see the relevant detailed information within seconds, rather than waiting for days or weeks.
* E-Commerce increases the competition among organizations and as a result, organizations provides substantial discounts to customers.

**Advantages to Society**

* Customers need not travel to shop a product, thus less traffic on road and low air pollution.
* E-commerce helps in reducing the cost of products, so less affluent people can also afford the products.
* E-commerce has enabled rural areas to access services and products, which are otherwise not available to them.
* E-commerce helps the government to deliver public services such as healthcare, education, social services at a reduced cost and in an improved manner.

**E-Commerce - Disadvantages**

The disadvantages of e-commerce can be broadly classified into two major categories −

* Technical disadvantages
* Non-Technical disadvantages



**Technical Disadvantages**

* There can be lack of system security, reliability or standards owing to poor implementation of e-commerce.
* The software development industry is still evolving and keeps changing rapidly.
* In many countries, network bandwidth might cause an issue.
* Special types of web servers or other software might be required by the vendor, setting the e-commerce environment apart from network servers.
* Sometimes, it becomes difficult to integrate an e-commerce software or website with existing applications or databases.
* There could be software/hardware compatibility issues, as some e-commerce software may be incompatible with some operating system or any other component.

**Non-Technical Disadvantages**

* **Initial cost** − The cost of creating/building an e-commerce application in-house may be very high. There could be delays in launching an e-Commerce application due to mistakes, and lack of experience.
* **User resistance** − Users may not trust the site being an unknown faceless seller. Such mistrust makes it difficult to convince traditional users to switch from physical stores to online/virtual stores.
* **Security/ Privacy** − It is difficult to ensure the security or privacy on online transactions.
* Lack of touch or feel of products during online shopping is a drawback.
* E-commerce applications are still evolving and changing rapidly.
* Internet access is still not cheaper and is inconvenient to use for many potential customers, for example, those living in remote villages.

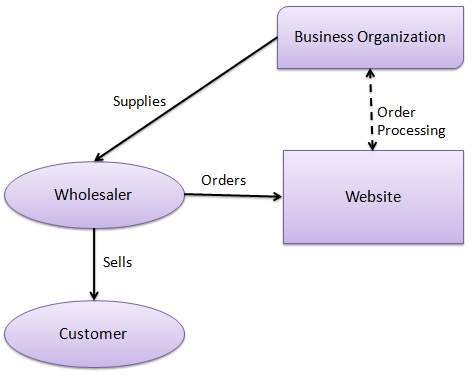
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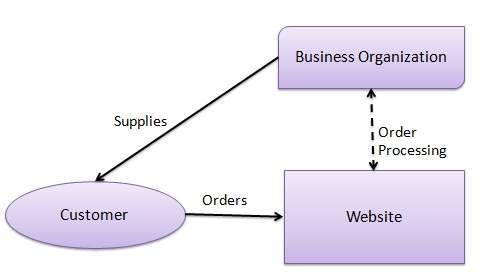
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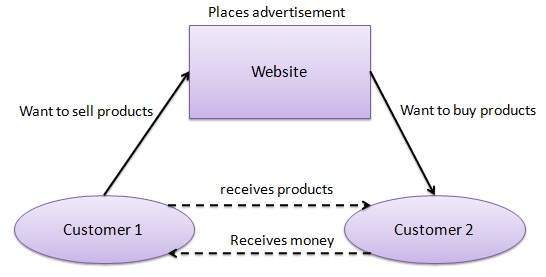
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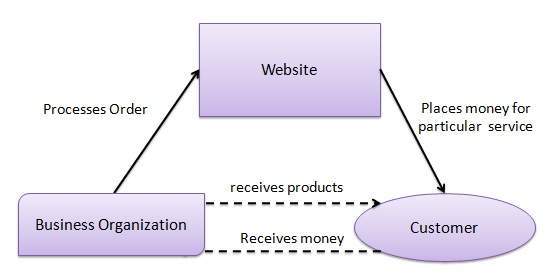
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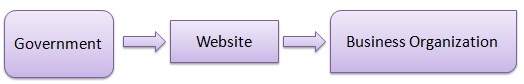
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**E-Commerce - Payment Systems**

E-commerce sites use electronic payment, where electronic payment refers to paperless monetary transactions. Electronic payment has revolutionized the business processing by reducing the paperwork, transaction costs, and labor cost. Being user friendly and less time-consuming than manual processing, it helps business organization to expand its market reach/expansion. Listed below are some of the modes of electronic payments −

* Credit Card
* Debit Card
* Smart Card
* E-Money
* Electronic Fund Transfer (EFT)

**Credit Card**

Payment using credit card is one of most common mode of electronic payment. Credit card is small plastic card with a unique number attached with an account. It has also a magnetic strip embedded in it which is used to read credit card via card readers. When a customer purchases a product via credit card, credit card issuer bank pays on behalf of the customer and customer has a certain time period after which he/she can pay the credit card bill. It is usually credit card monthly payment cycle. Following are the actors in the credit card system.

* **The card holder** − Customer
* **The merchant** − seller of product who can accept credit card payments.
* **The card issuer bank** − card holder's bank
* **The acquirer bank** − the merchant's bank
* **The card brand** − for example , visa or Mastercard.

**Credit Card Payment Process**

|  |  |
| --- | --- |
| **Step** | **Description** |
| Step 1 | Bank issues and activates a credit card to the customer on his/her request. |
| Step 2 | The customer presents the credit card information to the merchant site or to the merchant from whom he/she wants to purchase a product/service. |
| Step 3 | Merchant validates the customer's identity by asking for approval from the card brand company. |
| Step 4 | Card brand company authenticates the credit card and pays the transaction by credit. Merchant keeps the sales slip. |
| Step 5 | Merchant submits the sales slip to acquirer banks and gets the service charges paid to him/her. |
| Step 6 | Acquirer bank requests the card brand company to clear the credit amount and gets the payment. |
| Step 6 | Now the card brand company asks to clear the amount from the issuer bank and the amount gets transferred to the card brand company. |

**Debit Card**

Debit card, like credit card, is a small plastic card with a unique number mapped with the bank account number. It is required to have a bank account before getting a debit card from the bank. The major difference between a debit card and a credit card is that in case of payment through debit card, the amount gets deducted from the card's bank account immediately and there should be sufficient balance in the bank account for the transaction to get completed; whereas in case of a credit card transaction, there is no such compulsion.

Debit cards free the customer to carry cash and cheques. Even merchants accept a debit card readily. Having a restriction on the amount that can be withdrawn in a day using a debit card helps the customer to keep a check on his/her spending.

**Smart Card**

Smart card is again similar to a credit card or a debit card in appearance, but it has a small microprocessor chip embedded in it. It has the capacity to store a customer’s work-related and/or personal information. Smart cards are also used to store money and the amount gets deducted after every transaction.

Smart cards can only be accessed using a PIN that every customer is assigned with. Smart cards are secure, as they store information in encrypted format and are less expensive/provides faster processing. Mondex and Visa Cash cards are examples of smart cards.

**E-Money**

E-Money transactions refer to situation where payment is done over the network and the amount gets transferred from one financial body to another financial body without any involvement of a middleman. E-money transactions are faster, convenient, and saves a lot of time.

Online payments done via credit cards, debit cards, or smart cards are examples of e-money transactions. Another popular example is e-cash. In case of e-cash, both customer and merchant have to sign up with the bank or company issuing e-cash.

**Electronic Fund Transfer**

It is a very popular electronic payment method to transfer money from one bank account to another bank account. Accounts can be in the same bank or different banks. Fund transfer can be done using ATM (Automated Teller Machine) or using a computer.

Nowadays, internet-based EFT is getting popular. In this case, a customer uses the website provided by the bank, logs in to the bank's website and registers another bank account. He/she then places a request to transfer certain amount to that account. Customer's bank transfers the amount to other account if it is in the same bank, otherwise the transfer request is forwarded to an ACH (Automated Clearing House) to transfer the amount to other account and the amount is deducted from the customer's account. Once the amount is transferred to other account, the customer is notified of the fund transfer by the bank.

**E-Commerce - Security Systems**

Security is an essential part of any transaction that takes place over the internet. Customers will lose his/her faith in e-business if its security is compromised. Following are the essential requirements for safe e-payments/transactions −

* **Confidentiality** − Information should not be accessible to an unauthorized person. It should not be intercepted during the transmission.
* **Integrity** − Information should not be altered during its transmission over the network.
* **Availability** − Information should be available wherever and whenever required within a time limit specified.
* **Authenticity** − There should be a mechanism to authenticate a user before giving him/her an access to the required information.
* **Non-Repudiability** − It is the protection against the denial of order or denial of payment. Once a sender sends a message, the sender should not be able to deny sending the message. Similarly, the recipient of message should not be able to deny the receipt.
* **Encryption** − Information should be encrypted and decrypted only by an authorized user.
* **Auditability** − Data should be recorded in such a way that it can be audited for integrity requirements.

**Measures to ensure Security**

Major security measures are following −

* **Encryption** − It is a very effective and practical way to safeguard the data being transmitted over the network. Sender of the information encrypts the data using a secret code and only the specified receiver can decrypt the data using the same or a different secret code.
* **Digital Signature** − Digital signature ensures the authenticity of the information. A digital signature is an e-signature authenticated through encryption and password.
* **Security Certificates** − Security certificate is a unique digital id used to verify the identity of an individual website or user.

**Security Protocols in Internet**

We will discuss here some of the popular protocols used over the internet to ensure secured online transactions.

**Secure Socket Layer (SSL)**

It is the most commonly used protocol and is widely used across the industry. It meets following security requirements −

* Authentication
* Encryption
* Integrity
* Non-reputability

"https://" is to be used for HTTP urls with SSL, where as "http:/" is to be used for HTTP urls without SSL.

**Secure Hypertext Transfer Protocol (SHTTP)**

SHTTP extends the HTTP internet protocol with public key encryption, authentication, and digital signature over the internet. Secure HTTP supports multiple security mechanism, providing security to the end-users. SHTTP works by negotiating encryption scheme types used between the client and the server.

**Secure Electronic Transaction**

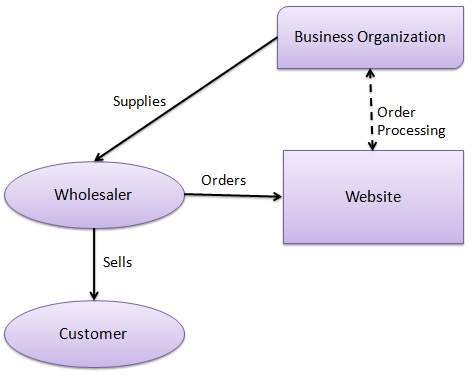
It is a secure protocol developed by MasterCard and Visa in collaboration. Theoretically, it is the best security protocol. It has the following components −

* **Card Holder's Digital Wallet Software** − Digital Wallet allows the card holder to make secure purchases online via point and click interface.
* **Merchant Software** − This software helps merchants to communicate with potential customers and financial institutions in a secure manner.
* **Payment Gateway Server Software** − Payment gateway provides automatic and standard payment process. It supports the process for merchant's certificate request.
* **Certificate Authority Software** − This software is used by financial institutions to issue digital certificates to card holders and merchants, and to enable them to register their account agreements for secure electronic commerce.

**E-Commerce - B2B Model**

Advertisements

A website following the B2B business model sells its products to an intermediate buyer who then sells the products to the final customer. As an example, a wholesaler places an order from a company's website and after receiving the consignment, it sells the product to the final customer who comes to buy the product at the wholesaler's retail outlet.



B2B identifies both the seller as well as the buyer as business entities. B2B covers a large number of applications, which enables business to form relationships with their distributors, re-sellers, suppliers, etc. Following are the leading items in B2B eCommerce.

* Electronics
* Shipping and Warehousing
* Motor Vehicles
* Petrochemicals
* Paper
* Office products
* Food
* Agriculture

**Key Technologies**

Following are the key technologies used in B2B e-commerce −

* **Electronic Data Interchange (EDI)** − EDI is an inter-organizational exchange of business documents in a structured and machine processable format.
* **Internet** − Internet represents the World Wide Web or the network of networks connecting computers across the world.
* **Intranet** − Intranet represents a dedicated network of computers within a single organization.
* **Extranet** − Extranet represents a network where the outside business partners, suppliers, or customers can have a limited access to a portion of enterprise intranet/network.
* **Back-End Information System Integration** − Back-end information systems are database management systems used to manage the business data.

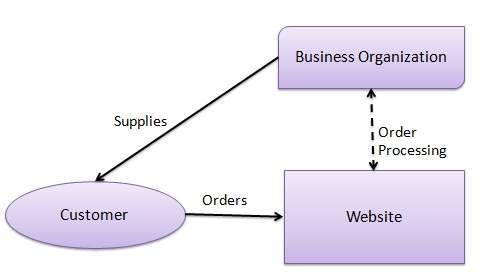
**Architectural Models**

Following are the architectural models in B2B e-commerce −

* **Supplier Oriented marketplace** − In this type of model, a common marketplace provided by supplier is used by both individual customers as well as business users. A supplier offers an e-stores for sales promotion.
* **Buyer Oriented marketplace** − In this type of model, buyer has his/her own market place or e-market. He invites suppliers to bid on product's catalog. A Buyer company opens a bidding site.
* **Intermediary Oriented marketplace** − In this type of model, an intermediary company runs a market place where business buyers and sellers can transact with each other.

**E-Commerce - B2C Model**

In B2C model, a business website is a place where all the transactions take place directly between a business organization and a consumer.



In the B2C model, a consumer goes to the website, selects a catalog, orders the catalog, and an email is sent to the business organization. After receiving the order, goods are dispatched to the customer. Following are the key features of the B2C model −

* Heavy advertising required to attract customers.
* High investments in terms of hardware/software.
* Support or good customer care service.

**Consumer Shopping Procedure**

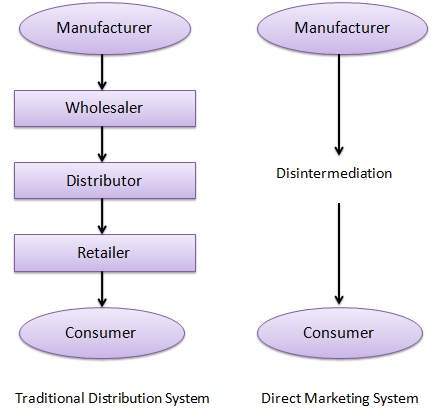
Following are the steps used in B2C e-commerce −

A consumer −

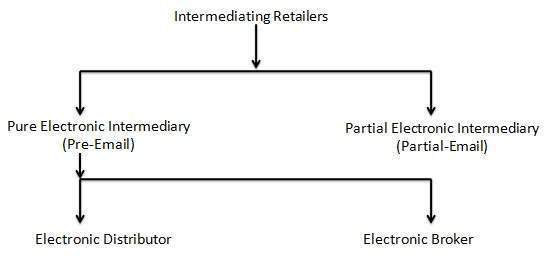
* determines the requirement.
* searches available items on the website meeting the requirement.
* compares similar items for price, delivery date or any other terms.
* places the order.
* pays the bill.
* receives the delivered item and review/inspect them.
* consults the vendor to get after service support or returns the product if not satisfied with the delivered product.

**Disintermediation and Re-intermediation**

In traditional commerce, there are intermediating agents like wholesalers, distributors, and retailers between the manufacturer and the consumer. In B2C websites, a manufacturer can sell its products directly to potential consumers. This process of removal of business layers responsible for intermediary functions is called **disintermediation**.

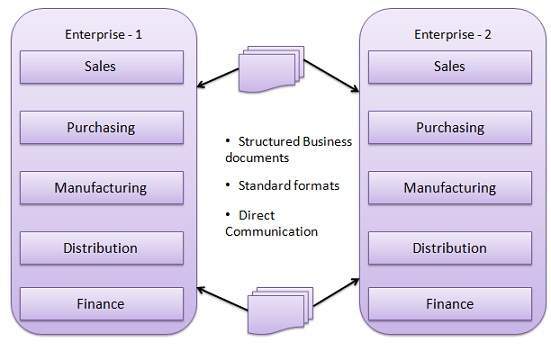


Nowadays, new electronic intermediary breeds such as e-mall and product selection agents are emerging. This process of shifting of business layers responsible for intermediary functions from traditional to electronic mediums is called **re-intermediation**.



**E-Commerce - EDI**

EDI stands for Electronic Data Interchange. EDI is an electronic way of transferring business documents in an organization internally, between its various departments or externally with suppliers, customers, or any subsidiaries. In EDI, paper documents are replaced with electronic documents such as word documents, spreadsheets, etc.



**EDI Documents**

Following are the few important documents used in EDI −

* Invoices
* Purchase orders
* Shipping Requests
* Acknowledgement
* Business Correspondence letters
* Financial information letters

**Steps in an EDI System**

Following are the steps in an EDI System.

* A program generates a file that contains the processed document.
* The document is converted into an agreed standard format.
* The file containing the document is sent electronically on the network.
* The trading partner receives the file.
* An acknowledgement document is generated and sent to the originating organization.

**Advantages of an EDI System**

Following are the advantages of having an EDI system.

* **Reduction in data entry errors.** − Chances of errors are much less while using a computer for data entry.
* **Shorter processing life cycle** − Orders can be processed as soon as they are entered into the system. It reduces the processing time of the transfer documents.
* **Electronic form of data** − It is quite easy to transfer or share the data, as it is present in electronic format.
* **Reduction in paperwork** − As a lot of paper documents are replaced with electronic documents, there is a huge reduction in paperwork.
* **Cost Effective** − As time is saved and orders are processed very effectively, EDI proves to be highly cost effective.
* **Standard Means of communication** − EDI enforces standards on the content of data and its format which leads to clearer communication.

**Online Transactions and Security of e-Transactions**

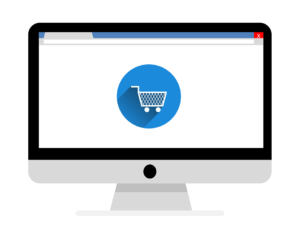
Online transaction is a payment method in which the transfer of fund or money happens online over electronic fund transfer. Online transaction process (OLTP) is secured and password protected. Three steps involved in the online transaction are Registration, Placing an order, and, Payment. Let us learn more about the different stages of Online Transaction in detail.

**Suggested Video**

Classification of business

Basics of starting a business

**Online Transactions**



Online transaction processing (OLTP) is information systems that facilitate and manage transaction-oriented applications, typically for data entry and retrieval transaction processing. So online transaction is done with the help of the internet. It can’t take place without a proper internet connection.

Online transactions occur when a process of buying and selling takes place through the internet. When a consumer purchases a product or a service online, he/she pays for it through online transaction. Let’s find out more about it.

**Browse more Topics under Emerging Modes Of Business**

* [e-Business](https://www.toppr.com/guides/business-studies/emerging-modes-of-business/e-business/)
* [Benefits and Limitations of e-Business](https://www.toppr.com/guides/business-studies/emerging-modes-of-business/benefits-and-limitations-of-e-business/)
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**Stages of Online Transaction**

There are three stages of Online Transactions

* *Pre-purchase/Sale:*In this stage, the product or service is advertised online with some details for the customers.
* *Purchase/Sale:*When a customer likes a particular product or service, he/she buys it and makes the payment online
* *Delivery Stage:*This is the final stage where the goods bought are delivered to the consumer.

**Steps Involved in Online Transaction**

The following are the steps involved in Online Transaction:

**1] Registration**

* The consumer has to register online on the particular website to buy a particular good or service.
* The customer’s email id, name, address, and other details are saved and are safe with the website.
* For security reasons, the buyer’s ‘Account’ and his ‘Shopping Cart’ is password protected.

**2] Placing an Order**

* When a customer likes a product or a service, he/she puts the product in the ‘shopping cart’.
* The shopping cart gives a record of all the items selected by the buyer to be purchased, the  
  number of units or quantity desired to be bought per item selected and the price for each  
  item.
* The buyer then proceeds to the payment option after selecting all the products.

**3] Payment**

The buyer then has to select the payment option, he/she has various payment options. These payment pages are secured with very high-level encryptions so that the personal financial information that you enter (bank/card details) stay completely secure. Some ways in which you can make this payment are:

* *Cash On Delivery:* The Cash on Delivery option lets the buyer pay when he/she receives the product. Here, the payment is made at the doorstep. The customer can pay in cash, or by debit or credit card.
* *Cheque:* In this type of payment, the buyer sends a cheque to the seller and the seller sends the product after the realization of the cheque.
* *Net Banking Transfer:* Here, the payment is transferred from the buyer’s account to the seller’s account electronically i.e. through the internet. After the payment is received by the seller, the seller dispatches the goods to the buyer.
* *Credit or Debit Card:* The buyer has to send his debit card or credit card details to the seller, and a particular amount will be deducted from his/her account.
* *Digital Cash:*Digital Cash is a form of electronic currency that exists only in cyberspace and has no real physical properties. Here the money in buyer’s bank account is converted into a code that is saved on a microchip, a smart card or on the hard drive of his computer. When he makes a purchase, he needs to mention that particular code to the website and thereafter the transaction is duly processed.

**Solved Example For You**

Q. What is e-commerce?

1. it refers to the use of the computer network
2. it refers to the idea of extracting business intelligence
3. both a and c
4. it refers to the buying and selling of goods and services

Sol. The correct answer is the option ”D”. E-commerce is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet.

Q. In which of the following, personal digital assistants (PDAs) are used for buying and selling of goods and services?

1. E-commerce
2. M-commerce
3. V-commerce
4. All of the above

Sol. The correct answer is the option ”B”. M-commerce (Mobile Commerce) is the buying and selling of goods and services through wireless handheld devices such as cellular telephone and personal digital assistants (PDAs)

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**Introduction to E-Commerce Technology in Business**

**1.0 E-Commerce (Electronic Commerce)**

Electronic commerce, commonly known as E-commerce or e-commerce, is trading in products or services conducted via computer networks such as the Internet. Electronic commerce draws on technologies such as mobile commerce, electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange (EDI), inventory management systems, and automated data collection systems. Modern electronic commerce typically uses the World Wide Web at least at one point in the transaction's life-cycle, although it may encompass a wider range of technologies such as e-mail, mobile devices, social media, and telephones as well.

Electronic commerce is generally considered to be the sales aspect of e-business. It also consists of the exchange of data to facilitate the financing and payment aspects of business transactions. This is an effective and efficient way of communicating within an organization and one of the most effective and useful ways of conducting business. It is a Market entry strategy where the company may or may not have a physical presence.

**2.0 E-Business**

E-Business is the term used to describe the information systems and applications that support and drive business processes, most often using web technologies.

E-Business allows companies to link their internal and external processes more efficiently and effectively, and work more closely with suppliers and partners to better satisfy the needs and expectations of their customers, leading to improvements in overall business performance.

While a website is one of the most common implementations, E-Business is much more than just a web presence. There are a vast array of internet technologies all designed to help businesses work smarter not harder. Think about collaboration tools, mobile and wireless technology, Customer Relationship Management and social media to name a few.

**3.0 E-Commerce and E-Business**

The terms ‘e-commerce’ and ‘e-business’ are often used interchangeably but what do these words really mean?

E-commerce refers to online transactions - buying and selling of goods and/or services over the Internet.

E-business covers online transactions, but also extends to all Internet based interactions with business partners, suppliers and customers such as: selling direct to consumers, manufacturers and suppliers; monitoring and exchanging information; auctioning surplus inventory; and collaborative product design. These online interactions are aimed at improving or transforming business processes and efficiency.

**4.0 E-Commerce under different perspective**

There are several ways of looking at e-commerce which is given below:

Communication: It is the ability to deliver products, services, information, or payments via networks like the internet.

Interface: E-commerce means information and transaction exchange: (Business to business, Business to consumer, Consumer to consumer, and business to government.)

Business process: E-Commerce means activities that support commerce electronically by networked connections. For Example business processes like manufacturing and inventory etc.

Online: E commerce is an electronic environment that allows sellers to buy and sell products, services, and information on the internet. The Products may be physical like Cars, Computers, Books or services like news or consulting.

Structure: Ecommerce deals with various media: data, text, video, web pages, and internet telephony.

Market: E-commerce is a worldwide network. A local store can open a web storefront and find the world at doorstep- customers, suppliers, competitors, and payments services, Of course, an advertising presence is essential.

**5.0 Architectural Framework of E-Commerce**

Architectural framework of e-commerce means the synthesizing of various existing resources like DBMS, data repository, computer languages, software agent-based transactions, monitors or communication protocols to facilitate the integration of data and software for better applications.

The architectural framework for e-commerce consists of six layers of functionality or services as follows:

1. Application services.  
2. Brokerage services, data or transaction management.  
3. Interface and support layers.  
4. Secure messaging, security and electronic document interchange.  
5. Middleware and structured document interchange, and  
6. Network infrastructure and the basic communication services.

**5.1 Application services**

In the application layer services of e-commerce, it is decided that what type of e- commerce application is going to be implemented. There are three types of distinguished e-commerce applications i.e., consumer to business application, businessto-business application and intra-organizational application.

**5.2 Information Brokerage and Management Layer**

This layer is rapidly becoming necessary in dealing with the voluminous amounts of information on the networks. This layer works as an intermediary who provides service integration between customers and information providers, given some constraint such as low price, fast services or profit maximization for a client. For example, a person wants to go to USA from Bangladesh. The person checks the sites of various airlines for the low-price ticket with the best available service. For this he must know the URLs of all the sites. Secondly, to search the services and the best prices, he also has to feed the details of the journey again and again on different sites. If there is a site that can work as information broker and can arrange the ticket as per the need of the person, it will save the lot of time and efforts of the person. This is just one example of how information brokerages can add value.

Another aspect of the brokerage function is the support for data management and traditional transaction services. Brokerages may provide tools to accomplish more sophisticated, time-delayed updates or future-compensating transactions.

**5.3 Interface and Support Services**

The third layer of the architectural framework is interface layer. This layer provides interface for e-commerce applications. Interactive catalogs and directory support services are the examples of this layer.

Interactive catalogs are the customized interface to customer applications such as home shopping. Interactive catalogs are very similar to the paper-based catalog. The only difference between the interactive catalog and paper-based catalog is that the first one has the additional features such as use of graphics and video to make the advertising more attractive.

Directory services have the functions necessary for information search and access. The directories attempt to organize the enormous amount of information and transactions generated to facilitate e-commerce.

The main difference between the interactive catalogs and directory services is that the interactive catalogs deal with people while directory support services interact directly with software applications.

**5.4 Secure Messaging Layer**

In any business, electronic messaging is an important issue. The commonly used messaging systems like phone, fax and courier services have certain problems like in the case of phone if the phone line is dead or somehow the number is wrong, you are not able to deliver the urgent messages. In the case of courier service, if you want to deliver the messages instantly, it is not possible as it will take some time depending on the distance between the source and destination places. The solution for such type of problems is electronic messaging services like e-mail, enhanced fax and EDI.

The electronic messaging has changed the way the business operates. The major advantage of the electronic messaging is the ability to access the right information at the right time across diverse work groups.

The main constraints of the electronic messaging are security, privacy, and confidentiality through data encryption and authentication techniques.

**5.5 Middleware services**

The enormous growth of networks, client server technology and all other forms of communicating between/among unlike platforms is the reason for the invention of middleware services. The middleware services are used to integrate the diversified software programs and make them talk to one another.

**5.6 Network Infrastructure**

We know that the effective and efficient linkage between the customer and the supplier is a precondition for e-commerce. For this a network infrastructure is required. The early models for networked computers were the local and long distance telephone companies. The telephone company lines were used for the connection among the computers. As soon as the computer connection was established, the data traveled along that single path. Telephone company switching equipment (both mechanical and computerized) selected specific telephone lines, or circuits, that were connected to create the single path between the caller and the receiver. This centrally-controlled, single-connection model is known as circuit switching.

illustration not visible in this excerpt

*Figure: A Generalized Architectural Framework of E-Commerce*

**6.0 Classification of E-Commerce Applications**

The classification of e-commerce applications is given below:

**6.1 Electronic Market**

Electronic Market: is a place where online shoppers and buyers meet. E-market handles business transaction including bank-to-bank money transfer also. In e-market, the business center is not a physical building. But it is a network-based location where business activities occur. In e-market, the participants like buyers, sellers and transaction handler are not only one different locations but even they do not know each other.

**6.2 Inter Organizational Information System (IOS)**

An IOS is a unified system with several business partners. A typical IOS will include a company and its supplier and customers. Through IOS buyers and sellers arrange routine business transactions. Information is exchanged over communication network using specific formats. So, there is no need for telephone calls, papers, documents or correspondence.

Types of IOS is given below:

- EDI (Electronic Data Interchange): It provide secure B2B connection over value added network(Van’s)  
- Extranet: which provide secure B2B connection over internet.  
- EFT (Electronic Fund Transfer): Electronic Fund Transfer from one account to another.  
- Electronic Forms: Online (web-pages) forms on internet.  
- Shared Data Base: information stored in repositories (collection of data) shared by trading partners  
- Supply Chain Management: Co-operation between company and its suppliers and customers regarding demand forecasting, inventory management and order fulfillment.

**7.0 Types of E-Commerce**

E-commerce conducted between businesses differs from that carried out between a business and its consumers. There are five generally accepted types of e-commerce:

- Business to Business (B2B)  
- Business to Consumer (B2C)  
- Consumer to Business (C2B)  
- Consumer to Consumer (C2C)  
- Business to Government (B2G)

**7.1 Business to Business (B2B)**

Business to Business or B2B refers to e-commerce activities between businesses. An e-commerce company can be dealing with suppliers or distributors or agents. These transactions are usually carried out through Electronic Data Interchange or EDI. In general, B2Bs require higher security needs than B2Cs. For example, manufacturers and wholesalers are B2B companies.

With the help of B2B e-commerce, companies are able to improve the efficiency of several common business functions, including supplier management, inventory management and payment management.

Using e-commerce enabled business applications, companies are able to better control their supplier costs by reducing PO (purchase order) processing costs and cycle times. This has the added benefit of being able to process more POs at a lesser cost in the same amount of time. E-commerce technology can also serve to shorten the order-ship- bill cycle of inventory management by linking business partners together with the company to provide faster data access. Businesses can improve their inventory auditing capabilities by tracking order shipments electronically, which results in reduced inventory levels and improves upon the ability of the company to provide “just-in- time” service.

This e-commerce technology is also being used to improve the efficiency of managing payments between a business and its partners and distributors. By processing payments electronically, companies are able to lower the number of clerical errors and increase the speed of processing invoices, which results in lowered transaction fees.

**7.2 Business to Customer (B2C)**

Business to Customer or B2C refers to e-commerce activities that are focused on consumers rather than on businesses. For instance, a book retailer would be a B2C company such as Amazon.com and other companies that follow a merchant model or brokerage business models. Other examples could also be purchasing services from an insurance company, conducting online banking and employing travel services.

**7.3 Customer to Business (C2B)**

Customer to Business or C2B refers to e-commerce activities, which use reverse pricing models where the customer determines the prices of the product or services. In this case, the focus shifts from selling to buying. There is an increased emphasis on customer empowerment.

In this type of e-commerce, consumers get a choice of a wide variety of commodities and services, along with the opportunity to specify the range of prices they can afford or are willing to pay for a particular item, service or commodity. As a result, it reduces the bargaining time, increases the flexibility and creates ease at the point of sale for both the merchant and the consumer.

**7.4 Customer to Customer (C2C)**

Customer to Customer or C2C refers to e-commerce activities, which use an auction style model. This model consists of a person-to-person transaction that completely excludes businesses from the equation. Customers are also a part of the business and C2C enables customers to directly deal with each other. An example of this is peer auction giant, Ebay.

**7.5 Business to Government (B2G)**

It is a new trend in e-commerce. This type of e-commerce is used by the government departments to directly reach to the citizens by setting-up the websites. These websites have government policies, rules and regulations related to the respective departments. Any citizen may interact with these websites to know the various details. This helps the people to know the facts without going to the respective departments. This also saves time of the employees as well as the citizens. The concept of Smart City has been evolved from B2G e-commerce.

**8.0 The Benefits of E-Commerce**

Few innovations in human history encompass as many potential benefits as E- Commerce does. The global nature of the technology, low cost, opportunity to reach hundreds of millions of people, interactive nature, variety of possibilities, and resourcefulness and growth of the supporting infrastructure (especially the web) result in many potential benefits to organizations, individuals, and society. These benefits are just starting to materialize, but they will increase significantly as E-Commerce expands. It is not surprising that some maintain that the E-Commerce revolution is just 'as pro- found as the change that came with the industrial revolution.

**8.1 Benefits to Organizations**

- The benefits to organizations are as follows:  
- Electronic commerce expands the market place to national and international market with minimal capital outlay, a company can easily and quickly locate more customers, the best suppliers, and the most suitable business partners worldwide.  
- Electronic commerce decreases the cost of creating, processing, distributing, storing, and retrieving paper-based information. For example, by introducing an electronic procurement system, companies can cut the purchasing administrative costs by as much as 85 percent.  
- Ability for creating highly specialized businesses. For example, dog toys which can be purchased only in pet shops or department and discounts stores in the physical world are sold now in a specialized www.dogtoys.com (also see www.cattoys.com).  
- Electronic commerce allows reduced inventories and overhead by facilitating “pull” type supply chain management. In a pull-type system the process starts from customer orders and uses just-in-time manufacturing.  
- The pull-type processing enables expensive customization of products and services which provides competitive advantage to its implementers.  
- Electronic commerce reduces the time between the outlay of capital and the receipt of products and services.  
- Electronic commerce initiates business processes reengineering projects By changing processes, productivity of salespeople, knowledge workers, and administrators can increase by 100 percent or more.  
- Electronic commerce lowers telecommunication cost the internet is much cheaper than value added networks.  
- Other benefits include improved image, improved customer service, new found business partners, simplified processes, compressed cycle and delivery time, increased productivity, eliminating paper, expediting access to information, reduced transportation costs, and increased flexibility.

**8.2 Benefits to Consumers**

- The benefits of E-Commerce to consumers are as follows:  
- Electronic commerce enables customers to shop or do other transactions 24 hours a day, all year round, from almost any location.  
- Electronic commerce provides customer with more choices; they can select from many vendors and from many more products.  
- Electronic commerce frequently provides customers with less expensive products and services by allowing them to shop in many places and conduct quick comparisons.  
- In some cases, especially with digitized products, E-Commerce allows quick delivery.  
- Customers can receive relevant and detailed information in seconds, rather than days or weeks.  
- Electronic commerce makes it possible to participate ate in virtual auctions.  
- Electronic commerce allow customers to interact with other customers in electronic communities and exchange ideas as well as compare experiences.  
- E-commerce facilitates competition, which results in substantial discounts.

**8.3 Benefits to Society**

The benefits of E-Commerce to society are as follows:

- Electronic commerce enables more individuals to work at home and to do less traveling for shopping, resulting in less traffic on the roads and lower air pollution.  
- Electronic commerce allows some merchandise to be sold at lowest prices, so less affluent people can buy more and increase their standard of living.  
- Electronic commerce enables people in third world countries and rural areas to enjoy products and services that otherwise are not available to them.  
- Electronic commerce facilitates delivery of public services, such as health care, education, and distribution of government social services at a reduced cost and/or improved quality. Health care services, e.g., can reach patients in rural areas.

**9.0 The Limitations of E-Commerce**

The limitations of E-Commerce can be grouped into two categories which are:

- Technical limitations and  
- Non-technical limitations

**9.1 Technical Limitations of E-Commerce**

The technical limitations of E-Commerce are as follows:

- There is a lack of s stem security, reliability, standards and communication protocols.  
- There is insufficient telecommunication bandwidth.  
- The software e development tools are still evolving and changing rapidly.  
- It is difficult to integrate the Internet and E-Commerce software with some existing applications and databases.  
- Vendors may need special Web servers and other infrastructures in addition to the network servers.  
- Some E-Commerce software might not fit with some hardware or may be incompatible with some operating systems or other components.  
- As time passes, these limitations will lessen or be overcome; appropriate planning can minimize their impact.

**9.2 Non-technical Limitations**

Of the many non-technical limitations that slow the spread of E-Commerce, the following are the major ones:

Lack of Awareness: Lack of awareness of the technology and its potential benefits are also equally responsible for the poor growth of e-commerce. Lack of interest and willingness to make a paradigm shift has become a crucial issue. Many companies are not willing to accept that their businesses need a revolutionary change to subsist in the potentially digital world. The single most important challenge today pertains to increasing awareness of the benefits of e-commerce to potential customers, educate the market and the customers will themselves opt for these services.

Lack of Infrastructure: E-commerce infrastructure development is at its infancy stage in Bangladesh. This unsatisfactory development is yet another major bottleneck for successful net business in Bangladesh. This high cost of infrastructure development for e-business is also including the cost of leased lines.

Lack of Confidence: The people in Bangladesh still show hesitancy in buying through the Net. Lack of quality products, timely delivery of products as some of them tend to go out of stock, lack of solutions security are the potential reasons for not developing e-commerce. People do not understand this new way of buying and selling products, i.e. the services in a digital environment which are available online.

Skeptic Attitude: Though the Internet is continuing to grow at a rapid rate, along with e- commerce transactions, the shoppers are still skeptical about safety and have not been quick to trust sending personal information such as credit card numbers or address over the Net. Lack of adequate imagination and understanding of what web- based technologies can do to markets and competition only adds to the delay in economic development. The old business habits are demanding and controlling the business. The risk adverse attitude of the people is conspicuous and waiting for others to lead is also another attitude.

Credit Cards Frauds: In Bangladesh, distribution channels are just one part of the problem related to e-payments. The bigger problem is that of security. All credit cards related transactions are approved offline and given the high incidence of frauds, the banks are extremely wary of approving them. In-fact, there are some unconfirmed reports of a multi-national bank refusing to approve credit card transactions carried out by a large Bangladesh portal.

Absence of Tax Laws: E-commerce over the Net has effectively eliminated national borders. This has posed an important question as to tax on the transactions over the internet. Net business posed many peculiar technological and legal problems making it difficult to impose tax and formulate a sound taxation policy.

Cyber Laws: Another important problem is lack of comprehensive cyber laws so as to ensure safety and protection. There should not be any legal regulations, or barriers to faster and increased development of e-commerce. The crying need of the hour is urgent action to be taken by the Government to enact cyber laws including electronic fund transfer, and amendments of official Secrets Act.

Stock Dilemma: Many people are not too happy with e-commerce trends. Though online shopping may be growing but so is frustration with it. A key source of dissatisfaction is the out of stock dilemma. In most cases, advertised products or services are not available. The options of feedback and not receiving suggestions are also reasons for annoyance. Many online consumers want more detailed information on their purchases but are not available. The Net is becoming more mainstream and the expectations are also becoming more mainstream.

Lack of Skills and Expertise: Lack of skilled and trained personnel impedes the growth of implementation of IT related e-commerce. The use of the Net for trade requires a complex introduction of servers, browser software and knowledge of web design, hosting, promotion and many more skills. It requires understanding many new things. Many Bangladeshi businesses are not prepared to approach electronic commerce. For many business houses for which commerce over internet may not work, would take a lot of efforts for every little return.

Internet Outrage: Failures in networks and the Net itself can play havoc. We read of frequent press reports of internet outrages. The IT industry is notyet attempting to improve network reliability to prevent these outrages. Reliability is a major issue in net business that needs to be attended.

Absence of Cyber Brand Image: Another problem is that advertising and the Net tends to focus on e-commerce rather than on brands found in the real world. This would prove to be a deterrent in ensuring consumer loyalty. The biggest thing going for it is a brand image and power. Though the already existing name is known and trusted, the issue is how to extend it into the new cyber reality. A concern should be to preserve the old values of trust and dependability of the brand, and at the same time, keep it upon on the Net. At the same time, the whole business structure will have to undergo a change re-engineered.

Inadequate Government Role: The government is not taking a serious view of e- commerce related information technology in terms of its promotion. Spreading awareness, imparting education, of the benefits of e-commerce, enacting new cyber laws, amendments to existing commercial laws, developing strong, communication infrastructure are the key domestic roles for the government to play.

No Encouragement from Business Community: The business community is extremely an important sector to be targeted for the introduction of any technological innovations in business. It means it is the business community that sustains e-commerce and greatly influences the thinking and adoption process of various segments of the society to move forward in the field of information technology. It motivates the people who share the courage and conviction to move the new business paradigm.

Preferring Foreign Sites: Online shoppers in Bangladesh do not prefer Bangladeshi websites to a large extent and prefer US and other foreign websites. There are many reasons for this as they provide better selection, prices, stock, quality products, shipping, payment process security, customer service and wide variety of sites among other things.

Difficulty of Reengineering: The web business structure will have to undergo a drastic change and be reengineered. It is not just about having a website or about sticking a web address on conventional advertising or transferring a few people to a new division and designation. It is about breaking free and creating new web services to satisfy the existing customers.

Internet for Small Business: Another problem is that for major project, a large consumer product company needs profiling of customers who undertake transaction through e-commerce. E-commerce is still being dominated by large corporations. Small and medium sized business houses have to take advantage of everything on the Net. Online shopping is clearly catching on with consumers and retailers need to keep pace with growing demands.

Infant Stages: Electronic commerce is still in its infant stage. Bangladeshi commerce is establishing itself in the area of internet business. The concept of e-commerce is still in evolutionary stage, it is a job that still needs to be defined. The IT function has not grown beyond the marketing department and credit cards, merchant accounts, digital signatures and prompt payment and one has to realize that the e-commerce role is more about harnessing technological resources to deliver profits to the Net users. Only a few Bangladeshi big houses have gone online to explore the potentials of e-commerce.

E-commerce has yet to take off in Bangladesh, because Bangladeshi consumers are wary of leaving their re credit card numbers on the Net. They eye the neighborhood shopkeeper with suspicion and drive a hard bargain. So, e-commerce websites are losing thousands of customers.

**10.0 Electronic payment**

Electronic payments are either debit or credit payments that are processed entirely electronically, with the value passing from one bank account to another bank account. Credit payments, often referred to as Electronic Credit Transfers (ECT) or Electronic Funds Transfers (EFT), are where a customer instructs their bank to make a payment, electronically, to another bank account. Debit payments, known as direct debits, are where a customer instructs their bank to allow the payment to be charged to their bank account.

**11.0 Advantages of Electronic payment**

Electronic payment systems are software systems that enable online credit card processing. Via an electronic payment system, users can browse an online catalog and purchase items online through automated online transactions. Launching an e- commerce website ultimately improves the way of doing business, increases level of sales, expands business to local and foreign markets and improves relationships with existing customers.

**11.1 Sales**

Your online presence creates a stronger company profile and yields access to new local and foreign markets. The increased availability of your products to a larger customer base via an electronic payment system extends your current mail-order services, and reaches other potential customers and local businesses through increased exposure. An online catalog, with online ordering and payment functions, to sell your products provides the added benefit that you can display information about each item for sale and indicate whether it is available from stock. Displaying related products on the pages viewed is also a subtle sales promotion that might induce the customer to purchase more products.

**11.2 Customer Support**

Electronic payment systems enable faster order processing and delivery, which caters for higher efficiency in both business to business (B2B) and business to consumer (B2C) models. Improved customer support services, shorter lead times, and a twenty- four-hour service around the globe ensure a satisfactory shopping experience for your customers. Via the electronic payment system it is easy to implement a personalized service for your customers by enabling subscription services and provide timely information about special offers and promotions. Newsletters are an effective marketing strategy that entices your customers to return to your website and purchase more products.

**11.3 Improved Marketing**

An e-commerce website will assist your business in gaining competitive advantage and heightening public interest. An online presence will not only improve and facilitate your current marketing strategy but it will also yield new opportunities in the business to business environment through increased exposure and increased efficiency.

**11.4 Running Costs**

An electronic payment system introduces potential cost savings through an improved business model and effective supply chain management, since much of the transaction process will be automated. Whereas, in a manual system your clients need to first contact your company to obtain a quote and check for product availability, through an electronic payment system, they can check your price offers, delivery times and place their orders in a couple of minutes. Lower running costs and shorter lead times enable the company to cater for bulk orders received from local businesses.

**12.0 Disadvantages of Electronic payment**

**12.1 Online Security**

When we check out at a merchant and use our credit cards we must present photo ID. However when making online payments there is no real authentication process to verify that the person entering the information online is not a criminal. Without this verification process time becomes of the essence when it comes critical to dispute a fraudulent charge made using your credit/debit card because research is needed to prove your case.

**12.2 Missed Errors**

Can you imagine being in business since 1970, each time you needed to replenish inventory you contacted your supplier with whom you have a personal relationship to place your order. The supplier delivers your goods in a timely fashion. Upon delivery an invoice is provided and you either pay COD (cash on delivery) or mail in your payment. Now 21st Century technology is presented; you submit your order online which requires payment before delivery. Once the goods arrive you realize you mistakenly order the wrong material. Now you have you merchandise that cannot be used and you are out your money. More time is now needed to return the “unnecessary material” to wait for the replacement order to arrive. For many people the old way was more efficient.

**12.3 Fees**

Management courses have taught us that there is an opportunity cost for every choice we make. Surprisingly, OPS are no different. Since the core business of many organizations is not IT based and more specifically not specialized in Online Payment Systems an outside vendor is required to provide the online payment services. An Online Payment Systems vendor like PayPal requires the merchant to pay a convenience fee ranging between 2.2%-3.9%. Would it be beneficial to use their services as opposed to alternative payment methods? For corporate organizations this fee may prove to be inconsequential. However, for the small business owner these fees could equate to astronomical figures eating away at the bottom line.

And also many more.

**13.0 Typical E-Payment Types in E-Commerce**

The modes of payment have surely changed in so many different ways. But it is important to take note that this change is on a positive note and not a negative one. In relation on how we get to make payments, the introduction of payment systems into the market has clearly made things a lot better. These systems are designed to make money transfer from one account to the other quick and easy as it can be done in a matter of seconds. The systems will come in two distinct features but for now we want to take a quick look at some of the different types of electronic payment systems. These are the kind of systems that will accept payments through electronic means.

**13.1 Electronic cards**

Electronic cards are designed to reflect your bank account. By having one, it means that you definitely do not need to visit your bank physically in order to access your account. Mostly cut out of hard plastic material to make them durable, the cards will have a magnet trip that allows the machines to be able to gain access to your bank account electronically. They will come in three major types. The debit card, the credit card and the prepaid card. All that the vender has to do is to swap your card across the payment system where a message will be sent to your bank and immediately reply with a confirmation message. All this is done in a matter of seconds.

**13.2 Internet**

This is a unique payment system that allows transactions to occur online. There are normally different sites through which you can be able to do this but the two most commonly practiced methods of online payments are direct transfers from one bank account to another or the use of cards.

**13.3 Use of mobile phones**

Mobile phones are turning out to be more than just a communication gadget. They are even referred to as smart phones due to the many additional features that they have. Although it will give you limited transactions to carry out, the best kinds of payment system available for mobile phones are mobile banks. There are a number of mobile subscriber firms that have developed the app that allows the mobile users to have an account that they can gain access to through their mobile phone number.

**13.4 Online accounts**

This kind of payment system is slowly on the rise. We can attribute this to the increase of online shopping. Having an online account with either PayPal money bookers and or any provider allows you to be able to transfer funds more quickly as there are no restrictions and limitations on what you can do with your electronic money. One can be able to access their online accounts through their phones and or computers. These accounts are so simple to use.

**14.0 The ICDT Business Strategy Model**

The ICDT model, developed by Albert Angehrn at INSEAD, is a systematic approach to the analysis and classification of business-related Internet strategies. It serves as a basis for identifying how existing goods and services can be extended and redesigned to take advantage of the Internet, as well as suggesting the characteristics of new goods and services made possible through this new medium.

Angehrn’s model is based on four virtual spaces:

**14.1 Virtual Information Space**

This space is where a firm displays information about their organization about their products or services. This space is the easiest space for the business to enter and it is a typically first step taken towards the virtual market space.

For example E-commerce major concerns are

1. The information that it displays is accurate and current.  
2. The information that it displays is only viewed by authorized users.  
3. Customers can easily find the site and negotiate through it once they have reached the site.  
4. The site accessible without long unit times.

Figure: ICDT Business Strategy Model

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**14.2 Virtual Distribution Space**

This space is used to deliver the product or services required or purchased by the consumer. For virtual delivery to occur, the products being delivered must be digital (software) or the service performed digitally (ex - online broker). Online news services and software companies have been quick to market and deliver their products electronically.

For e-Commerce major concerns are

1. Delivery of products and services to legitimate customers only.  
2. Reliable delivery of product and services

**14.3 Virtual Transaction Space**

This space is used to initiate and execute the sales order which are nothing but transactions. Apart from those companies engage in virtual distribution space, most companies have been reluctant to enter this space. The major concern contributing to this reluctant is data security.

The major concerns of E-commerce are

1. Security over data.  
2. Accuracy and integrity of processing data methods.  
3. Privacy concerns by customers.

**14.4 Virtual Communication Space**

This space is used to enable relationships building, negotiations and exchange of ideas such as char room, virtual communities, forums etc. E-commerce is effected if such a community is a service for which its members pay.

**15.0 Mobile Commerce**

Mobile e-commerce (m-commerce) is a term that describes online sales transactions that use wireless electronic devices such as hand-held computers, mobile phones or laptops. These wireless devices interact with computer networks that have the ability to conduct online merchandise purchases. Any type of cash exchange is referred to as an e-commerce transaction. Mobile e-commerce is just one of the many subsets of electronic commerce.

Mobile e-commerce may also be known as mobile commerce.

**16.0 Why M-Commerce Concept is Became So Popular**

The M-Commerce Concept is Became So Popular because of the reasons described below:

**16.1 Affordability of mobile devices**

It is no denying fact that mobile devices like cellphones and tablets are far more affordable than desktops and laptops, and an average Bangladeshi consumer doesn’t have much disposable income in his hand to buy high end devices. Plus, one doesn’t even really need expensive smartphones to shop online or make mobile transactions.

**16.2 Doing things on the go**

Mobile devices give the freedom to do things like shopping, booking tickets, making hotel reservations etc. anytime anywhere. And in Bangladesh, there is a large young consumer base, who want fast instantaneous processes on the move. One doesn’t need to wait to reach home or to a cyber cafe to pay bills or make an urgent purchase online.

**16.3 Mobile Internet connectivity**

M-Commerce customers are not bound by limited wired and Wi-Fi Internet connections. In the last 3-4 years, the number of users who access the Internet through a 3G connection has grown to round 22 Mn. Now compare this with the 15 Mn fixed line broadband connections accrued over the last 17 years, there is a notable difference.

Even though E-Commerce has spread its roots throughout the country, it still hasn’t reached the places where people have no broadband or no computer. M-Commerce could and will change this.

**16.4 Mobile Payments**

Mobile Payments is a new mode of payment as an alternative to traditional methods like cash, cheque credit cards etc. A customer can use a mobile phone to transfer money or to pay for goods and services. A mobile payment could be made by an app, data connection, IVR and even SMS, so anyone who has a bank account can make a transaction. This could aid in reducing cash-dependencies of people, particularly in rural Bangladesh.

**16.5 Security**

Mobile platforms are still relatively free from viruses and other threats. And even in case of a fraudulent activity, credit tracking by GSM/GPRS/GPS is easy and quick. Thus increasing the credibility, and giving better assurance to the skeptical Bangladesh population. Also, seldom do people part from their phones, so there are less chances of misuse of login information that may happen on computer systems.

**16.6 Bridging the gap between E-Commerce and conventional stores**

Brick and mortar stores are getting a lot of heat from online stores, which are luring their customers away by offering better product prices and discounts. When a person goes out for shopping, mobile acts as a conduit between the two poles, people compare prices online before buying something. This could be, and is being used by retailers to their benefit by offering location based services, barcode scanning, and push notifications to improve the customer experience of shopping in physical stores.

**16.7 Greater target audience for advertisements**

The problem with online advertising is that people have to be ‘online’ to view it. Several E-Commerce players in India have come out with TV commercials to advertise their websites. However, mobile is a better platform to do the same. Even with Government’s regulation on bulk messaging, companies could still target a mass of people collectively by sending promotional content via SMS if a user hasn’t activated the DND service or wants to receive those ads.

**16.8 Low tariffs-High revenue**

Mobile data tariffs in Bangladesh are the cheapest in the world. Unlike PC Internet affordability of 3G connectivity has improved significantly. For instance, Airtel reported its 3G price to be BDT 0.60 per MB last month, which is less than the global average of 3 cents or BDT 3.49. Such low rates will encourage people to use more of Mobile Internet, and eventually engage into M-Commerce as well. Considering the large mobile user base in Bangladesh, the government could work with mobile companies to increase the overall revenue, by increasing Average revenue per user (ARPU).

**16.9 Personalization**

In a true sense Personal Computers are not really personal. Desktops and even laptops are shared by multiple people living in the same family or working together in an office. However the same isn’t true in case of cellphones. Whichever strata of the society a person may belong to, a phone has become an indispensable extension of oneself. People are more comfortable using their phones for various activities, as it gives them a sense of privacy and security, while offering easy usability. Since already there are way more mobiles in Bangladesh than computers, M-Commerce could gradually grow bigger than E-Commerce.

**17.0 M-Commerce Application**

Many more people have access to a mobile phone that to a computers and this means that m-commerce has the opportunity to connect not just big businesses but also small business and consumers on a massive scale. In this sense, mobile phones have the potential to bridge the digital divide and allow organizations and individuals to reach out to one another more easily than ever before.

After the appearances of a new technology a remarkable growth occurs in it. This has been the same in mobile commerce.

Mobile Commerce has gained increasing acceptance amongst various sections society in last few years. The reasons for its growth can be traced back to technological and demographical developments that have influenced many aspects of the socio-cultural behavior in today‘s world. Mobile services have registered impressive growth in preceding years and m-commerce is slowly but surely showing signs of a healthy growth.

The major mobile commerce applications along with details of each is given below:

**17.1 Travel and Ticketing**

By utilizing the B CODE technology or NFC technology we could use the mobile phone as a means receiving E-Tickets. B CODE tech consists of sending text SMS which is scan able from the mobile phone display screen through the related set. So by receiving the chosen SMS, the ticket is practically received and we could present the mobile phone to the scanning machine at the ticket receipt spot.

**17.2 Commerce**

Commerce is the exchange or buying and selling of commodities on a large scale involving transportation of goods from place to place. It is boosted by the convenience and ubiquity conveyed by mobile commerce technology. There are many examples showing how mobile commerce helps commerce. For example, consumers can buy products from a vending machine or pay a parking fee by using their cellular phones, and mobile users can check their bank accounts and perform account balance transfers without needing to go to a bank.

**17.3 Education**

Similar to other wired technologies, mobile wireless technologies have first been used in industry sectors such as business. The movement of mobile wireless technologies in education is a recent trend, and it is now becoming the hottest technology in higher education.

**17.4 Enterprise Resource Planning (ERP)**

In the coming mobile commerce era, users will want to be able to have access to the right resources and work as efficiently as possible- whether they are traveling, seeing a customer or working at other remote locations- with their ERP systems. Many ERP vendors are currently researching for means to provide mobility to ERP users. They attempt to connect employees to their work more effectively than ever before by enabling mobile phones and other wireless devices to become a new kind of tool to seamlessly exchange information, automate data entry and perform a range of transactions anytime, anywhere

**17.5 Entertainment**

Entertainment has always played a crucial role in Internet applications and is probably the most popular application for the younger generation. Mobile commerce makes it possible to download game/image/music/video files at anytime and anywhere, and it also makes on-line games and gambling much easier to access and play. It is projected that by 2005, 80 percent of all mobile users in the United States and Western Europe will play mobile games at least occasionally.

**17.6 Health Care**

The cost of health care is high and mobile commerce can help to reduce it. By using the technology of mobile commerce, physicians and nurses can remotely access and update patient records immediately, a function which has often incurred a considerable delay in the past. This improves efficiency and productivity, reduces administrative overheads, and enhances overall service quality. Mobile technologies such as PDAs, Laptops or Tablet PCs can be of great value in hospitals and healthcare facilities by allowing better access to critical information - e.g. patient status, staff and patient location and facilities availability. Healthcare facilities that choose to adopt such technologies may be able to not only perform better but ultimately provide more efficient and better quality of care for patients.

**17.7 Inventory Tracking and Dispatching**

Just-in-time delivery is critical for the success of today‘s businesses. Mobile commerce allows a business to keep track of its mobile inventory and make time- definite deliveries, thus improving customer service, reducing inventory, and enhancing a company‘s competitive edge. Major delivery services such as UPS and FedEx have already applied these technologies to their business operations worldwide with great success.

**17.8 Traffic**

Traffic is the movement of vehicles or pedestrians through an area or along a route. The passengers in the vehicles and the pedestrians are all mobile objects, ideal clients of mobile commerce. Also, traffic control is usually a major headache for many metropolitan areas. Using the technology of mobile commerce can easily improve the flow of traffic in many ways. For example, a mobile handheld device can have the capabilities of a GPS, such as determining the driver‘s exact position, giving directions, and advising on the current status of traffic in the area. A traffic control center could also monitor and control the traffic according to the signals sent from mobile devices in the vehicles.

**18.0 Limitations of M-Commerce**

Despite the fact that the use of M-Commerce is growing rapidly there are still limitation that causes limited use of M-Commerce:

**18.1 Bandwidth**

The limited bandwidth that can be support by mobile devices currently is very small which causes web developers to reduce the usage of rich data.

**18.2 Screens Size**

The screen size of a mobile device is very limited. This also limits the viewing capacity of the user.

**18.3 Less Powerful Processors**

Due to the slow processing speed web developer would have to use server side scripting which will bring more load to the servers.

**18.4 Cost of Wireless Connection**

As wireless connection of a mobile device to the internet is still a relatively new technology the cost of using such connection is also expensive as the technology is still under heavy development.

**18.5 Lack of Security**

Currently there is no dedicated standard protocol for M-Commerce which is a very big limitation.

**18.6 Lack of Standard**

There are a lot of device operating systems and platforms, middleware solutions and networks and make application development for the wireless Internet a formidable task with compare to the wired operating systems. Currently there is no standard dedicated for the M-Commerce Applications. Currently several progress/efforts is going on for this.

**18.7 Health Limitation**

Cellar mobile frequencies is sometimes dangerous to health. Sometimes they are cause of Cancer. It is invented that they sometime interfere the operations of some medical devices i.e. pacemaker.

**19.0 Mobile Generations**

G in 2G, 3G and 4G stands for the “Generation” of the mobile network. Today, mobile operators have started offering 4G services in the country. A higher number before the ‘G’ means more power to send out and receive more information and therefore the ability to achieve a higher efficiency through the wireless network.

As the name would suggest, 1G was the first generation of mobile networks. Here basically, radio signals were transmitted in ‘Analogue’ form and expectedly, one was not able to do much other than sending text messaging and making calls. But the biggest disadvantage, however came in the form of limited network availability, as in the network was available only within the country.

2G networks on the other hand, were based on narrow band digital networks. Signals were transmitted in the digital format and this dramatically improved the quality of calls and also reduced the complexity of data transmission. The other advantage of the 2G network came in the form of Semi Global Roaming System, which enabled the connectivity all over the world.

Between 2G and 3G there was a short phase in between where mobile phones became sleeker and more ‘pocketable’ if we can call it that. This is popularly referred to as 2.5G where the quantity of radio waves to be transmitted was much lower. This in turn had an effect on the shape and structure of mobile phones. But most of all, 2.5G helped in the ushering of GPRS (General Pocket Radio Service).

The 3rd generation of mobile networks has become popular largely thanks to the ability of users to access the Internet over devices like mobiles and tablets. The speed of data transmission on a 3G network ranges between 384KBPS to 2MBPS. This means a 3G network actually allows for more data transmission and therefore the network enables voice and video calling, file transmission, internet surfing, online TV, view high definition videos, play games and much more. 3G is the best option for users who need to always stay connected to Internet.

4th Generation mobile networks are believed to provide many value added features. In addition to all the 3G facilities, data transmission is believed to go through the roof with speeds ranging between 100MBPs to 1GBPS. Phew! Happy talking, surfing, conferencing, chatting, networking, partying, or whatever you want to do on your mobile phone.

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-- The End --

20 of 20 pages

# e-commerce

E-commerce (electronic commerce) is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet. These business transactions occur either as business-to-business ([B2B](https://www.techtarget.com/searchcio/definition/B2B)), business-to-consumer ([B2C](https://www.techtarget.com/searchcustomerexperience/definition/B2C)), consumer-to-consumer or consumer-to-business. The terms e-commerce and e-business are often used interchangeably. The term e-tail is also sometimes used in reference to the [transactional processes](https://www.techtarget.com/searchcio/definition/transaction) that make up online retail shopping.

In the last decade, widespread use of e-commerce platforms such as Amazon and eBay has contributed to substantial growth in online retail. In 2007, e-commerce accounted for 5.1% of total retail sales; in 2019, e-commerce made up 16.0%.

### How does e-commerce work?

E-commerce is powered by the internet, where customers can access an online store to browse through, and place orders for products or services via their own devices.

As the order is placed, the customer's web [browser](https://www.techtarget.com/whatis/definition/browser) will communicate back and forth with the [server](https://www.techtarget.com/whatis/definition/server) hosting the online store website. Data pertaining to the order will then be relayed to a central computer known as the [order manager](https://www.techtarget.com/searcherp/definition/order-management) -- then forwarded to databases that manage inventory levels, a merchant system that manages payment information (using applications such as PayPal), and a bank computer -- before circling back to the order manager. This is to make sure that store inventory and customer funds are sufficient for the order to be processed. After the order is validated, the order manager will notify the store's web server, which will then display a message notifying the customer that their order has been successfully processed. The order manager will then send order data to the warehouse or fulfillment department, in order for the product or service to be successfully dispatched to the customer. At this point tangible and/or digital products may be shipped to a customer, or access to a service may be granted.

Platforms that host e-commerce transactions may include online marketplaces that sellers simply sign up for, such as Amazon.com; software as a service ([SaaS](https://www.techtarget.com/searchcloudcomputing/definition/Software-as-a-Service)) tools that allow customers to 'rent' online store infrastructures; or [open source](https://www.techtarget.com/whatis/definition/open-source) tools for companies to use in-house development to manage.

### Types of e-commerce

**Business-to-business (B2B)** e-commerce [refers to the electronic exchange](https://www.techtarget.com/searchcustomerexperience/news/252491953/Salesforce-Revenue-Cloud-bolsters-B2B-e-commerce-workflows) of products, services or information between businesses rather than between businesses and consumers. Examples include online directories and product and supply exchange websites that allow businesses to search for products, services and information and to initiate transactions through e-procurement interfaces.

In 2017, Forrester Research predicted that the [B2B e-commerce](https://www.techtarget.com/searchcustomerexperience/news/252494063/Content-drives-new-B2B-e-commerce) market will top $1.1 trillion in the U.S. by 2021, accounting for 13% of all B2B sales in the nation.

**Business-to-consumer (B2C)** is the retail part of e-commerce on the internet. It is when businesses sell products, services or information directly to consumers. The term was popular during the [dot-com boom](https://www.techtarget.com/searchcio/definition/dot-com-bubble) of the late 1990s, when online retailers and sellers of goods were a novelty.

Today, there are innumerable virtual stores and malls on the internet selling all types of consumer goods. The most recognized example of these sites is Amazon, which dominates the B2C market.

**Consumer-to-consumer (C2C)** is a type of e-commerce in which consumers trade products, services and information with each other online. These transactions are generally conducted through a third party that provides an online platform on which the transactions are carried out.

Online auctions and classified advertisements are two examples of C2C platforms, with eBay and Craigslist being two of the most popular of these platforms. Because eBay is a business, this form of e-commerce could also be called C2B2C -- consumer-to-business-to-consumer.

**Consumer-to-business (C2B)** is a type of e-commerce in which consumers make their products and services available online for companies to bid on and purchase. This is the opposite of the traditional commerce model of B2C.

A popular example of a C2B platform is a market that sells royalty-free photographs, images, media and design elements, such as iStock. Another example would be a job board.

**Business-to-administration (B2A)** refers to transactions conducted online between companies and public administration or government bodies. Many branches of government are dependent on e-services or products in one way or another, especially when it comes to legal documents, registers, social security, fiscals and employment. Businesses can supply these electronically. B2A services have grown considerably in recent years as investments have been made in e-government capabilities.

**Consumer-to-administration (C2A)** refers to transactions conducted online between individual consumers and public administration or government bodies. The government rarely buys products or services from citizens, but individuals frequently use electronic means in the following areas:

* **Education.** Disseminating information, distance learning/online lectures, etc.
* **Social security.** Distributing information, making payments, etc.
* **Taxes.** filing tax returns, making payments, etc.
* **Health.** Making appointments, providing information about illnesses, making health services payments, etc.

**Mobile e-commerce** ([M-commerce](https://www.techtarget.com/searchmobilecomputing/definition/m-commerce)) is a type of e-commerce on the rise that features online sales transactions made using mobile devices, such as smartphones and tablets. M-commerce includes mobile shopping, mobile banking and mobile payments. Mobile [chatbots](https://www.techtarget.com/searchcustomerexperience/definition/chatbot) also provide e-commerce opportunities to businesses, allowing consumers to complete transactions with companies via voice or text conversations.

### Advantages and disadvantages of e-commerce

Benefits of e-commerce include its around-the-clock availability, the speed of access, the wide availability of goods and services for the consumer, easy accessibility and international reach.

* **Availability.** Aside from outages or scheduled maintenance, e-commerce sites are available [24x7](https://www.techtarget.com/whatis/definition/24x7-24-hours-a-day-7-days-a-week), allowing visitors to browse and shop at any time. Brick-and-mortar businesses tend to open for a fixed number of hours and may even close entirely on certain days.
* **Speed of access.** While shoppers in a physical store can be slowed by crowds, e-commerce sites run quickly, which is determined by compute and [bandwidth](https://www.techtarget.com/searchnetworking/definition/bandwidth) considerations on both consumer device and e-commerce site. Product pages and shopping cart pages load in a few seconds or less. An e-commerce transaction can comprise a few clicks and take less than five minutes.
* **Wide availability.** Amazon's first slogan was "Earth's Biggest Bookstore." They could make this claim because they were an e-commerce site and not a physical store that had to stock each book on its shelves. E-commerce enables brands to make a wide array of products available, which are then shipped from a warehouse after a purchase is made. Customers will likely have more success finding what they want.
* **Easy accessibility.** Customers shopping a physical store may have a hard time determining which aisle a particular product is in. In e-commerce, visitors can browse product category pages and use the site search feature the find the product immediately.
* **International reach.** Brick-and-mortar businesses sell to customers who physically visit their stores. With e-commerce, businesses can sell to any customer who can access the web. E-commerce has the potential to extend a business' [customer base](https://www.techtarget.com/whatis/definition/customer-base)
* **Lower cost.** pure play e-commerce businesses avoid the cost associated with physical stores, such as rent, inventory and cashiers, although they may incur shipping and warehouse costs.
* **Personalization and product recommendations.** E-commerce sites can track visitors' browse, search and purchase history. They can use this data to present useful and personalized product recommendations, and obtain valuable insights about target markets. Examples include the sections of Amazon product pages labeled "Frequently bought together" and "Customers who viewed this item also viewed."

The perceived disadvantages of e-commerce include sometimes limited [customer service](https://www.techtarget.com/searchcustomerexperience/definition/customer-service-and-support), consumers not being able to see or touch a product prior to purchase and the wait time for product shipping.

* **Limited customer service.** If a customer has a question or issue in a physical store, he or she can see a clerk, cashier or store manager for help. In an e-commerce store, customer service may be limited: The site may only provide support during certain hours of the day, or a call to a customer service phone number may keep the customer on hold.
* **Not being able to touch or see.** While images on a webpage can provide a good sense about a product, it's different from experiencing it "directly," such as playing music on speakers, assessing the picture quality of a television or trying on a shirt or dress. E-commerce can lead consumers to receive products that differ from their expectations, which leads to returns. In some scenarios, the customer bears the burden for the cost of shipping the returned item to the retailer.
* **Wait time.** If a customer sees an item that he or she likes in a store, the customer pays for it and then goes home with it. With e-commerce, there is a wait time for the product to be shipped to the customer's address. Although shipping windows are decreasing as next day delivery is now quite common, it's not instantaneous.
* **Security.** Skilled [hackers](https://www.techtarget.com/searchsecurity/definition/hacker) can create authentic-looking websites that claim to sell well-known products. Instead, the site sends customers forfeit or imitation versions of those products -- or, simply collects customers' credit card information. Legitimate e-commerce sites also carry risk, especially when customers store their credit card information with the retailer to make future purchases easier. If the retailer's site is hacked, hackers may come into the possession of customers' credit card information.

### E-commerce applications

E-commerce is conducted using a variety of applications, such as Email, online catalogs and shopping carts, Electronic Data Interchange ([EDI](https://www.techtarget.com/searchdatacenter/definition/EDI)), the file transfer protocol, web services and mobile devices. This includes B2B activities and outreach, such as using email for unsolicited ads, usually viewed as spam, to consumers and other business prospects, as well as sending out e-newsletters to subscribers and SMS texts to mobile devices. More companies now try to entice consumers directly online, using tools such as digital coupons, [social media marketing](https://www.techtarget.com/whatis/definition/social-media-marketing-SMM) and targeted advertisements.

The rise of e-commerce has forced IT personnel to move beyond infrastructure design and maintenance to consider numerous customer-facing aspects, such as consumer [data privacy](https://www.techtarget.com/searchcio/definition/data-privacy-information-privacy) and security. When developing IT systems and applications to accommodate e-commerce activities, [data governance](https://www.techtarget.com/searchdatamanagement/definition/data-governance)-related regulatory compliance mandates, personally identifiable information privacy rules and information protection protocols must be considered.

### E-commerce platforms and vendors

An e-commerce platform is a tool that is used to manage an e-commerce business. E-commerce platform options exist for clients ranging in size from small businesses to large enterprises. These e-commerce platforms include online marketplaces such as Amazon and eBay, that simply require signing up for user accounts, and little to no IT implementation. Another e-commerce platform model is SaaS, where store owners can subscribe to "rent" space in a [cloud](https://www.techtarget.com/searchcloudcomputing/definition/cloud-computing)-hosted service that does not require in-house development or on-premises infrastructure. Other e-commerce platforms may come in the form of open source platforms that require a hosting environment (cloud or on premises), complete manual implementation and maintenance.

A few examples of e-commerce marketplace platforms include:

* Amazon
* eBay
* Walmart Marketplace
* Chewy
* Wayfair
* Newegg
* Alibaba
* Etsy
* Overstock
* Rakuten

Vendors offering e-commerce platform services for clients hosting their own online store sites include:

* Shopify
* WooCommerce
* Magento
* Squarespace
* BigCommerce
* Ecwid
* Salesforce Commerce Cloud (B2B and B2C options)
* Oracle SuiteCommerce

### Government regulations for e-commerce

In the United States, the [Federal Trade Commission](https://searchcompliance.techtarget.com/definition/FTC-Federal-Trade-Commission) (FTC) and the [Payment Card Industry (PCI) Security Standards Council](https://www.techtarget.com/searchsecurity/definition/PCI-Security-Standards-Council) are among the primary agencies that regulate e-commerce activities. The FTC monitors activities such as online advertising, content marketing and customer privacy, while the PCI Security Standards Council develops standards and rules, including [PCI Data Security Standard compliance](https://searchcompliance.techtarget.com/definition/PCI-DSS-Payment-Card-Industry-Data-Security-Standard), which outlines procedures for the proper handling and storage of consumers' financial data.

To ensure the security, privacy and effectiveness of e-commerce, businesses should authenticate business transactions, control access to resources such as webpages for registered or selected users, encrypt communications, and implement security technologies, such as the Secure Sockets Layer and [two-factor authentication](https://www.techtarget.com/searchsecurity/definition/two-factor-authentication).

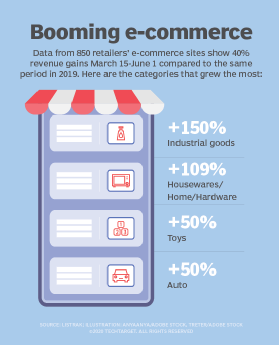
### History of e-commerce

The beginnings of e-commerce can be traced to the 1960s, when businesses started using EDI to share business documents with other companies. In 1979, the American National Standards Institute developed ASC X12 as a universal standard for businesses to share documents through electronic networks.

After the number of individual users sharing electronic documents with each other grew in the 1980s, the rise of eBay and [Amazon](https://www.techtarget.com/whatis/definition/Amazon) in the 1990s revolutionized the e-commerce industry. Consumers can now purchase endless amounts of items online, from e-tailers, typical brick-and-mortar stores with e-commerce capabilities. Now, almost all retailer companies are integrating online business practices into their business models.

### Disruption to physical retail

Given the large rise in e-commerce in recent years, many analysts, economists and consumers have debated whether the online B2C market will soon make physical, brick-and-mortar stores obsolete. There is little question that online shopping is growing at a significant rate.

E-commerce continues to grow in 2020

Research from BigCommerce has found that Americans are about evenly split on online versus offline, traditional retail shopping, with 51% of Americans preferring e-commerce and 49% preferring physical stores. However, 67% of millennials prefer shopping online over offline. According to Forbes, 40% of millennials are also already using voice assistants to make purchases, with that number expected to surpass 50% by 2020.

An example of the impact e-commerce has had on physical retail is the post-Thanksgiving Black Friday and Cyber Monday shopping days in the United States. According to Rakuten Marketing data, in 2017, Cyber Monday, which features sales that are exclusively online, saw 68% higher revenues than Black Friday, which is traditionally the biggest brick-and-mortar shopping day of the year.

According to data from ShopperTrak in 2017, physical store traffic on Black Friday declined by 1% year over year, and the two-day Thanksgiving-Black Friday period saw a 1.6% decline in traffic. Nearly 40% of sales on Black Friday came via a mobile device, up nearly 10% from the previous year, an indication that e-commerce is becoming m-commerce. Along with physical retail, e-commerce is transforming supply chain management practices among businesses, as distribution channels become increasingly digitized.

This was last updated in December 2020

**E-Commerce - Payment Systems**

Advertisements

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E-commerce sites use electronic payment, where electronic payment refers to paperless monetary transactions. Electronic payment has revolutionized the business processing by reducing the paperwork, transaction costs, and labor cost. Being user friendly and less time-consuming than manual processing, it helps business organization to expand its market reach/expansion. Listed below are some of the modes of electronic payments −

* Credit Card
* Debit Card
* Smart Card
* E-Money
* Electronic Fund Transfer (EFT)

**Credit Card**

Payment using credit card is one of most common mode of electronic payment. Credit card is small plastic card with a unique number attached with an account. It has also a magnetic strip embedded in it which is used to read credit card via card readers. When a customer purchases a product via credit card, credit card issuer bank pays on behalf of the customer and customer has a certain time period after which he/she can pay the credit card bill. It is usually credit card monthly payment cycle. Following are the actors in the credit card system.

* **The card holder** − Customer
* **The merchant** − seller of product who can accept credit card payments.
* **The card issuer bank** − card holder's bank
* **The acquirer bank** − the merchant's bank
* **The card brand** − for example , visa or Mastercard.

**Credit Card Payment Proces**

|  |  |
| --- | --- |
| **Step** | **Description** |
| Step 1 | Bank issues and activates a credit card to the customer on his/her request. |
| Step 2 | The customer presents the credit card information to the merchant site or to the merchant from whom he/she wants to purchase a product/service. |
| Step 3 | Merchant validates the customer's identity by asking for approval from the card brand company. |
| Step 4 | Card brand company authenticates the credit card and pays the transaction by credit. Merchant keeps the sales slip. |
| Step 5 | Merchant submits the sales slip to acquirer banks and gets the service charges paid to him/her. |
| Step 6 | Acquirer bank requests the card brand company to clear the credit amount and gets the payment. |
| Step 6 | Now the card brand company asks to clear the amount from the issuer bank and the amount gets transferred to the card brand company. |

**Debit Card**

Debit card, like credit card, is a small plastic card with a unique number mapped with the bank account number. It is required to have a bank account before getting a debit card from the bank. The major difference between a debit card and a credit card is that in case of payment through debit card, the amount gets deducted from the card's bank account immediately and there should be sufficient balance in the bank account for the transaction to get completed; whereas in case of a credit card transaction, there is no such compulsion.

Debit cards free the customer to carry cash and cheques. Even merchants accept a debit card readily. Having a restriction on the amount that can be withdrawn in a day using a debit card helps the customer to keep a check on his/her spending.

**Smart Card**

Smart card is again similar to a credit card or a debit card in appearance, but it has a small microprocessor chip embedded in it. It has the capacity to store a customer’s work-related and/or personal information. Smart cards are also used to store money and the amount gets deducted after every transaction.

Smart cards can only be accessed using a PIN that every customer is assigned with. Smart cards are secure, as they store information in encrypted format and are less expensive/provides faster processing. Mondex and Visa Cash cards are examples of smart cards.

**E-Money**

E-Money transactions refer to situation where payment is done over the network and the amount gets transferred from one financial body to another financial body without any involvement of a middleman. E-money transactions are faster, convenient, and saves a lot of time.

Online payments done via credit cards, debit cards, or smart cards are examples of emoney transactions. Another popular example is e-cash. In case of e-cash, both customer and merchant have to sign up with the bank or company issuing e-cash.

**Electronic Fund Transfer**

It is a very popular electronic payment method to transfer money from one bank account to another bank account. Accounts can be in the same bank or different banks. Fund transfer can be done using ATM (Automated Teller Machine) or using a computer.

Nowadays, internet-based EFT is getting popular. In this case, a customer uses the website provided by the bank, logs in to the bank's website and registers another bank account. He/she then places a request to transfer certain amount to that account. Customer's bank transfers the amount to other account if it is in the same bank, otherwise the transfer request is forwarded to an ACH (Automated Clearing House) to transfer the amount to other account and the amount is deducted from the customer's account. Once the amount is transferred to other account, the customer is notified of the fund transfer by the bank.

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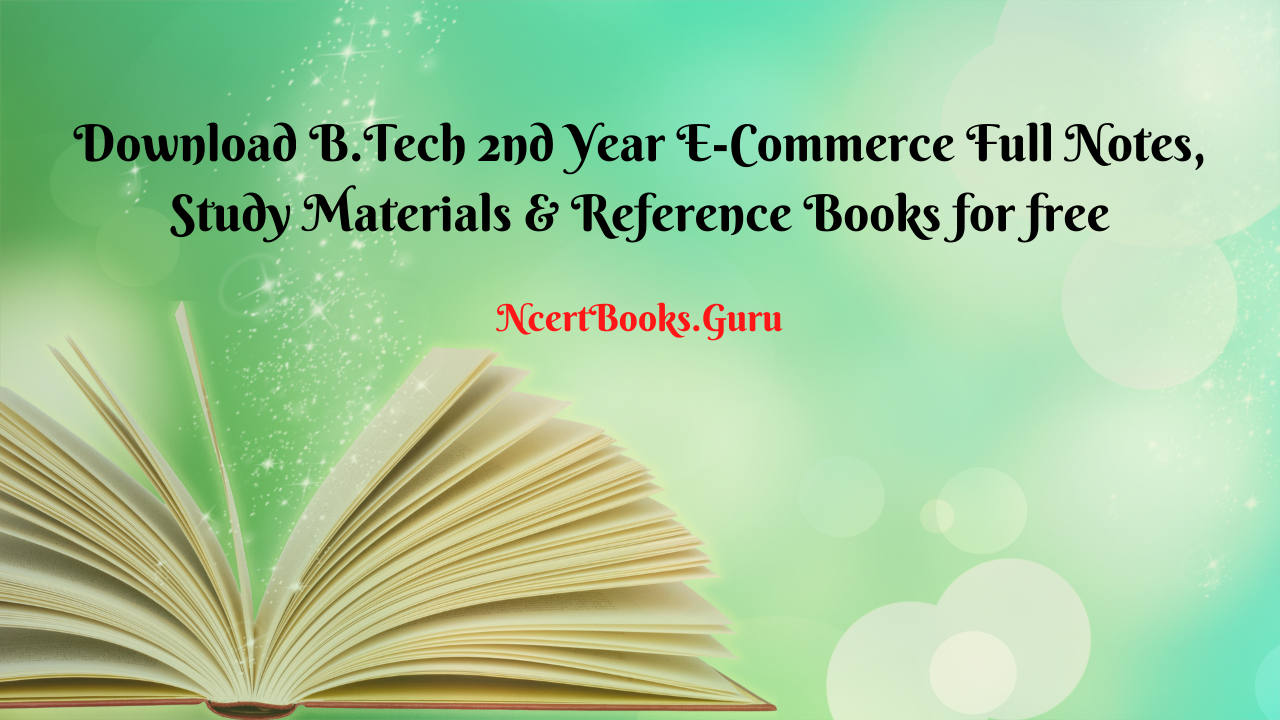
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**About E-Commerce Subject in Btech 2nd Year**

E-Commerce is a portion of E-Business. E-Business = Any time, Anywhere Business / Shopping. E-commerce is the act of buying and selling goods through the internet. Also, it is the use of technology towards the automation of business transactions and workflow. However, you can bag various advantages of e-commerce such as a reduction in paper costs, global reach, lower telecommunication, faster access to information, Diminished production cycle time, Improved customer service, etc. There are six basic types of e-commerce such as Business-to-Business (B2B), Business-to-Consumer (B2C), Consumer-to-Consumer (C2C), Consumer-to-Business (C2B), Business-to-Administration (B2A) and Consumer-to-Administration (C2A).

If you are excited to gain full-fledged knowledge about all these types of eCommerce then refer to the best Textbook or Lecture notes which are recommended by subject experts. In order to help you to find out the **good books and study materials for E-commerce**, we have provided the list of eCommerce notes & textbooks along with Pdf download links for free in the below sections. So, go through the modules and view the BTech 2nd year E-commerce Full Notes and know the latest Syllabus & important review questions.

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**Suggested Books for E-Commerce B.Tech 2nd Year Subject**

From this section, we will get to find out the best E-commerce reference books list along with author names. So, refer to the subjects experts **Suggested E-Commerce Textbooks** and study well for the exam. As it is a primary resource for the exam preparation everyone should check out the below-given list of e-commerce recommended books from the best authors while preparation and make it effective.

* The E-Commerce – Business, Technology, Society, Kenneth C.Taudon, Carol Guyerico Traver.
* Electronic Commerce – Gary P.Schneider – Thomson.
* E-Commerce, S. Jaiswal – Galgotia.
* Frontiers of electronic commerce – Kalakata, Whinston, Pearson.
* E-Commerce, Efrain Turban, Jae Lee, David King, H.Michael Chang.
* E-Commerce fundamentals and applications Hendry Chan, Raymond Lee, Tharam Dillon, Elizabeth Chang, John Wiley.

**B.Tech 2nd Year E-Commerce Syllabus**

Having a prior idea about the e-commerce syllabus helps you to know the concepts involved in the subject. You can even divide each topic and make a perfect schedule for exam preparation. Make sure to finish the study of the **latest E-commerce Syllabus** before appearing for the final examination. Have a glimpse at the below unit-wise B.Tech 2nd Year E-Commerce Syllabus and know the concepts and important topics in advance and prepare well for the examination.

**UNIT – I:**

Electronic Commerce-Frame work, the anatomy of E-Commerce applications, E-Commerce Consumer applications, E-Commerce organization applications. Consumer-Oriented Electronic commerce – Mercantile Process models.

**UNIT – II:**

Electronic payment systems – Digital Token-Based, Smart Cards, Credit Cards, Risks in Electronic Payment systems. Inter-Organizational Commerce – EDI, EDI Implementation, Value-added networks.

**UNIT – III:**

Intra Organizational Commerce – work Flow, Automation Customization and internal Commerce, Supply chain Management.

**UNIT – IV:**

Corporate Digital Library – Document Library, digital Document types, corporate Data Warehouses. Advertising and Marketing – Information based marketing, Advertising on Internet, on-line marketing process, market research.

**UNIT – V:**

Consumer Search and Resource Discovery – Information search and Retrieval, Commerce Catalogues, Information Filtering.

**UNIT – VI:**

Multimedia – key multimedia concepts, Digital Video and electronic Commerce, Desktop video processing, Desktop video conferencing.

**List of E-Commerce Review Question for 2nd Year B.Tech Exam**

1. What is e-commerce? State how e-commerce differs from traditional commerce.
2. What is e-retailing? Explain its advantages to consumers and businesses.
3. Discuss the various available strategies of Internet advertisement
4. What is electronic cash? Explain its properties and advantages.
5. Distinguish between multitasking and multithreading. How are they different from multiprocessing?
6. State the features of B2B commerce? Discuss the challenges of inter-organizational B2B commerce?
7. Explain how enterprise resource planning and supply chain management software differs in their goals and implementations.
8. What are the challenges for information search? How business houses find consumer information

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**1. What is E-Commerce Notes?**

E-Commerce signifies buying and selling of goods, products, or services via the internet. **Electronic Commerce or Internet Commerce** is the other name for E-commerce. All e-commerce services can be done online with the help of the internet network. However, Transaction of money, funds, and data are also recognized as E-commerce services.

**2. How to Study for B.Tech 2nd-year E-commerce subject?**

You can easily learn E-commerce by using the full notes and study materials provided over here. Moreover, you can also use the list of **Electronic Commerce Reference Books** which is presented on our page to study all the concepts of e-commerce without any fail.

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**4. What are the best reference books for E-Commerce?**

Below is the list of **best E-commerce reference books** along with author names. These are suggested by the subject experts so have a look at the below E-Commerce Recommended Books & Notes list:

1. E-Commerce, S. Jaiswal – Galgotia.
2. Frontiers of electronic commerce – Kalakata, Whinston, Pearson.
3. E-Commerce fundamentals and applications Hendry Chan, Raymond Lee, Tharam Dillon, Elizabeth Chang, John Wiley.

**Final Words**

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* [Samacheer Kalvi Books](https://www.ncertbooks.guru/samacheer-kalvi-books/)
* [UP Board Books](https://www.ncertbooks.guru/up-board-books-pdf/)
* [AP SCERT Books](https://www.ncertbooks.guru/ap-scert-books/)
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