

# *UNIT 1*

## *Introduction to E-Commerce*

- Introduction
- Features of E-Commerce
- E-Commerce v/s Traditional Commerce
- Types of E-Commerce
- EDI
- Advantage of EDI
- Architectural framework of E-Commerce
- E-Commerce Website Architecture.

# *E-COMMERCE*

- E-commerce is the buying and selling of goods and services over the Internet.
- It is conducted over computers, tablets, smart phones, and other smart devices.
- E-commerce or electronic commerce is the buying and selling of goods and services, or the transmitting of funds or data over an electronic network (internet).
- These business transactions may occur either as business to business, business to consumer, consumer to consumer, consumer to business (b2b, b2c, c2c, c2b).



# Ecommerce

*[ˈē kə-(,)mɜrs]*

Companies and individuals that buy and sell goods and services over the Internet.

## ECOMMERCE

Exchange of goods and services online

Extroverted approach

Subset of eBusiness

Uses the internet for transactional purpose

Need to set up a new or additional business model

## EBUSINESS

Any kind of business activity done using online platforms

Holistic approach

Superset of eCommerce

Uses internet for performing a wide array of activities

Can reinvent a traditional offline business

# *Features of E-Commerce*

## *1) Ubiquity:*

E-commerce is widespread, that is, it is available everywhere always. It sets free market from being restricted to a physical space and makes it possible to shop from computer (such as desktop, laptop). The result is called a market space.

For consumers, ubiquity cuts transaction costs for exploring products in a market. Consumers can acquire any information whenever and wherever they want, regardless of their location. It is no longer necessary that buyer spend time and money for traveling to a market. In all, it saves the cognitive energy needed to transect in a market space.

## *2) Global Reach :*

E-commerce technologies enable a business to easily reach across geographic boundaries around the earth far more conveniently and effectively as compared to traditional commerce. Globally, companies are acquiring greater profits and business results by expanding their business with e-commerce solutions. As a result, the potential market size for e-commerce merchants is approximately equal to size of online population.

### *3) Universal Standards :*

Universal Standards are standards shared by all the nations around world. These are technical standards of Internet for conducting e-commerce. It gives all the ability to connect at the same "level" and it provides network externalities that will benefit everyone. Universal technical standards lower entry costs and minimal search costs.

#### ***4) Interactivity :***

E-commerce technologies permits two-way communication between customer and sellers which makes it interactive. It proves as significant feature of e-commerce technology over the commercial traditional technologies of the 20th century.

## *5) Information Density :*

Information density means total amount and quality of information available over Internet to all market buyers and sellers. Internet vastly increases information density. Information density offers better quality information to consumer and merchants. E-commerce technologies increase accuracy and timeliness of information. For example, flipkart.com store has variety of products with prices.

# *E-Commerce v/s Traditional Commerce*

SL. NO	TRADITIONAL COMMERCE	E-COMMERCE
1.	Traditional commerce refers to the commercial transactions or exchange of information, buying or selling product/services from person to person without use of internet.	E-commerce refers to the commercial transactions or exchange of information, buying or selling product/services electronically with the help of internet.
2.	In traditional commerce, it is difficult to establish and maintain standard practices.	In e-commerce, it is easy to establish and maintain standard practices.
3.	Direct interaction through seller and buyer.	Indirect interaction through seller and buyer occurs using electronic medium and internet.
4.	Traditional commerce is carried out by face to face, telephone lines or mail systems.	E-commerce is carried out by internet or other network communication technology.

SL. NO	TRADITIONAL COMMERCE	E-COMMERCE
5.	In traditional commerce, processing of transaction is manual.	In e-commerce, processing of transaction is automatic.
6.	In traditional commerce, delivery of goods is instant.	In e-commerce, delivery of goods takes time.
7.	Its accessibility is for limited time in a day.	Its accessibility is 24×7×365 means round the clock.
8.	Traditional commerce is done where digital network is not reachable.	E-commerce is used to save valuable time and money.

SL. NO	TRADITIONAL COMMERCE	E-COMMERCE
9.	Traditional commerce is a older method of business style which comes under traditional business.	E-commerce is a newer concept of business style which comes under e-business.
10.	In traditional commerce, customers can inspect products physically before purchase.	In e-commerce, customers can not inspect products physically before purchase.
11.	Its business scope of business is a limited physical area.	Its business scope is worldwide as it is done through digital medium.
12.	For customer support, information exchange there is no such uniform platform.	For customer support, information exchange there is exists uniform platform.

# *Types of E-Commerce*

There are 5 basic types of e-commerce:

- Business-to-Business (B2B)
- Business-to-Consumer (B2C)
- Consumer-to-Consumer (C2C)
- Consumer-to-Business (C2B)
- Peer-to-Peer (P2P)

## □ *Business-to-Business (B2B)*

- Business-to-Business (B2B) e-commerce encompasses all electronic transactions of goods or services conducted between companies.
- Producers and traditional commerce wholesalers typically operate with this type of electronic commerce.
- Examples- Udaan, JioMart, Amazon Business, Indiamart, etc.

## □ *Business-to-Consumer (B2C)*

- The Business-to-Consumer type of e-commerce is distinguished by the establishment of electronic business relationships between businesses and final consumers.
- It corresponds to the retail section of e-commerce, where traditional retail trade normally operates.
- This type of commerce has developed greatly, due to the advent of the web, and there are already many virtual stores and malls on the Internet, which sell all kinds of consumer goods, such as computers, software, books, shoes, cars, food, financial products, digital publications, etc.
- Examples- Amazon, Flipkart, Myntra, etc.

## □ *Consumer-to-Consumer (C2C)*

- Consumer-to-Consumer (C2C) type e-commerce encompasses all electronic transactions of goods or services conducted between consumers.
- Generally, these transactions are conducted through a third party, which provides the online platform where the transactions are actually carried out.
- Examples- OLX, Amazon Marketplace, etc.

## □ *Consumer-to-Business (C2B)*

- In C2B there is a complete reversal of the traditional sense of exchanging goods.
- This type of e-commerce is very common in crowd sourcing based projects.
- A large number of individuals make their services or products available for purchase for companies seeking precisely these types of services or products.
- Examples of such practices are the sites where designers present several proposals for a company logo and where only one of them is selected and effectively purchased.

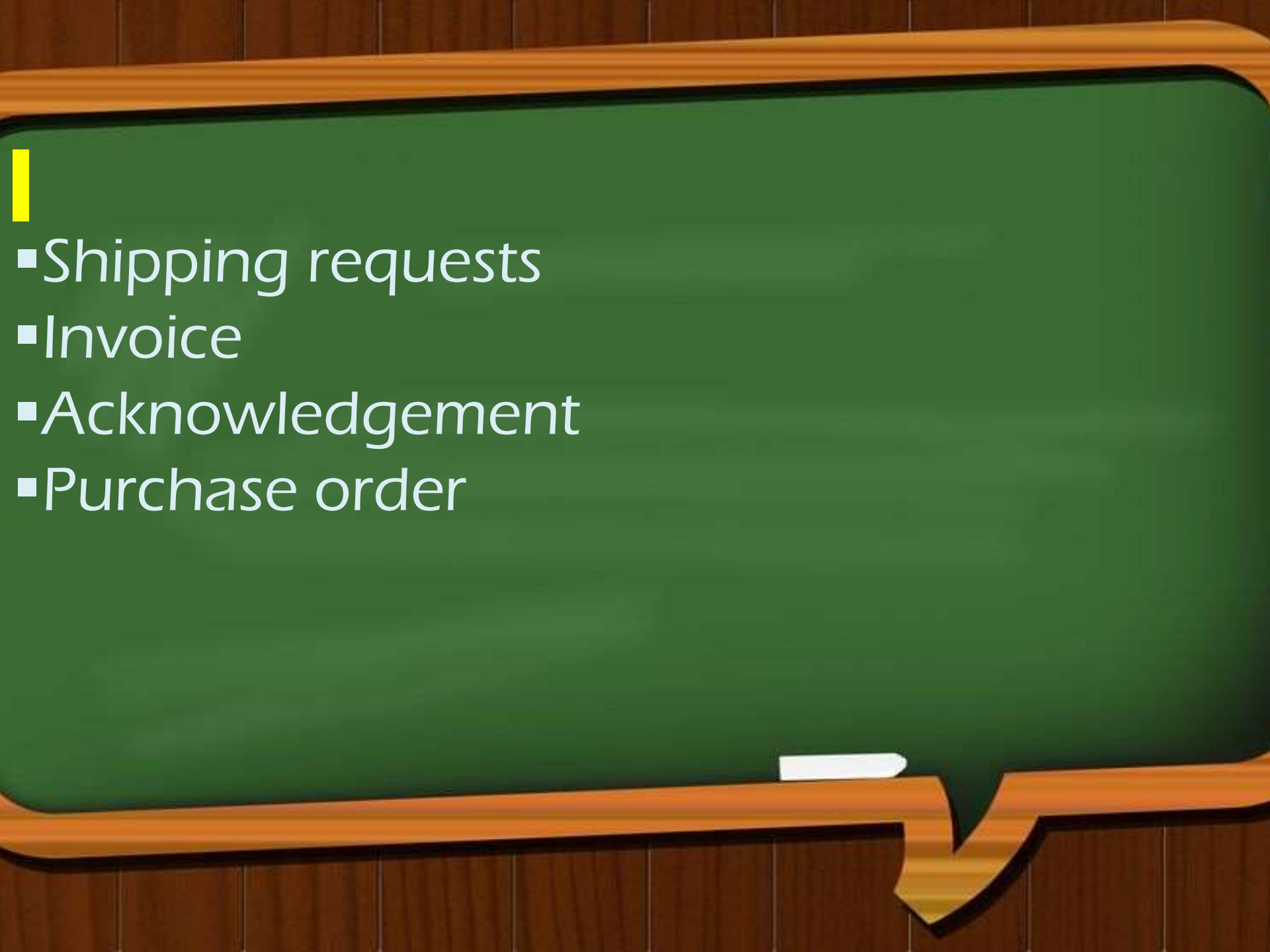
## □ *Peer-to-Peer (P2P)*

- The peer-to-peer business model's purpose is to act as an intermediary between individuals.
- It works as a matchmaker in the middle of two sides: one who has something to offer (a product or service) and others who can benefit from this offer.
- The peer-to-peer (or P2P) economy is the model where two individuals buy (demand) and sell (supply) goods directly, in terms of delivering the product or service.
- The seller is a private independent individual who produces the merchandise or offers the service themselves.
- Buyer and seller don't need a firm that owns all the means of production and labor to perform the whole production process.
- On the other hand, they benefit from companies that operate as intermediary firms, in order to connect both sides.
- Examples- Open-source Software,

# *Electronic Data Interchange (EDI)*

- The development of the Electronic Data Interchange (EDI) in the 1960s paved the way for electronic commerce.
- EDI replaced traditional mailing and faxing of documents by allowing a digital transfer of data from one computer to another.
- Trading partners could transfer orders, invoices, and other business transactions using a particular data format.
- Once an order is sent, it is then examined by a VAN (value added network) and directed to the recipient's order processing system.
- EDI allowed the transfer of data seamlessly without any human intervention.

- Electronic Data Interchange is a technique for computer to computer exchange of business documents in a standard electronic format between business partners or companies. Companies use EDI systems for exchanging business information automatically by computer systems as transactions without paper and hence minimizes or completely eliminates the human intervention.
- Electronic data interchange is generally used for B2B transactions.

- 
- Shipping requests
  - Invoice
  - Acknowledgement
  - Purchase order

*Electronic Data Interchange (EDI) is the computer-to-computer exchange of business documents in a standard electronic format between business partners.*

# *Advantages of EDI*

### *Minimal paper usage*

EDI reduces associated expenses of storage, printing, postage, mailing and recycling

### *Enhanced quality of data*

EDI minimizes data entry errors, improves accounts payable/receivable times as processes become streamlined and can be used for forecasting

### *Improved turnaround times*

Your business cycle is improved and stock levels are kept constantly up to date and visible

### **❑ *Improved timelines***

EDI transfer ensures real-time processing and eliminates times associated with manually sending, receiving and entering orders

### **❑ *Costs and time saving in operational efficiency***

EDI reduces the time it takes your staff to manually create invoices and process purchase orders

### **❑ *Helps create a greener world***

EDI eliminates paper trails and ensures paper usage is kept to a minimum

# *Architectural framework of E-Commerce*

The architectural framework of 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.

## *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, they are:

- consumer to business application
- business to-business application
- intra-organizational application

## *2. Brokerage services, data or transaction management.*

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.

### *3. Interface and support layers.*

The third layer of the architectural frameworks interface layer. This layer provides interface for ecommerce applications. Interactive catalogs and directory support services are the examples of this layer.

## *4. Secure messaging layer:*

Electronic messaging services like e-mail, enhanced fax and EDI.

## *5. Middleware and structured document interchange*

The enormous growth of networks, client server technology and all other forms of communication 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.

## *6. Network infrastructure and the basic communication services.*

We know that the effective and efficient linkage between the customer and the supplier is the precondition for e-commerce.

# *E-Commerce Website Architecture*

- E-commerce is based on the client-server architecture.
- A client can be an application, which uses a Graphical User Interface (GUI) that sends request to a server for certain services.
- The server is the provider of the services requested by the client.
- In E-commerce, a client refers to a customer who requests for certain services and the server refers to the business application through which the services are provided.
- There are two types of client server architecture that E-commerce follows:
  - two-tier and three-tier.

- Creating an e-commerce architecture allows to make the website more interesting to visitors.
- Furthermore, resources with a well-thought-out structure are easier to promote, as they are better indexed and ranked.
- That is, a high-quality, logical website architecture not only allows to effectively promote the project in the Internet space but also contributes to the influx of new customers, thus increasing the profits.

## □ *Two-tier architecture*

- The two-tier architecture is the word that you might often hear when it comes to building the architecture of the website.
- These words simply mean that there are two parts of the business that run on different parts of the architecture:
  - the client-side and the server-side.
- Usually, the two-tier ecommerce architecture implies that the user interface runs on the client-side while the database data are stored on the server.

- At this point, the business application logic might run on the client-side or the server-side.
- The client processes run on the other part, and this helps the entire entity to work quicker and smoother from the customer's point of view.
- Practically, the customer-side application runs on the computer of the customer, gathering data that are necessary to have from the customer's side and presenting the data that need to be presented to the customer from the server-side.
- Thus, there is a constant interaction between the two sides: server and client.

# Two Tier Architecture

## Client Tier



Client Computer

## Database Tier



Database Server

## □ *Advantages of a two-tier architecture:*

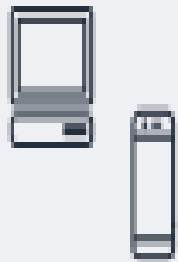
- Reduces the load on both server and client machines.
- Reduces network traffic and increases the efficiency of data processing through input-output optimization and buffering.
- Protects data using a database management system (DBMS), which can block actions permitted to the user.
- The server implements transaction control and can block attempts to modify identical records simultaneously.

## □ *Three-tier Architecture*

- While two-tier website architecture is sufficient for many businesses, you may need three-tier e-commerce website architecture if you handle many processes and require more functionality.
- A three-tier architecture is a well-established software application architecture that groups applications into three logical, physical computing layers:
  - The presentation layer or user interface.
  - The application layer, in which data is processed.
  - The data layer, where the information is related to the application.

- Three-tier architecture offers greater flexibility than two-tier architecture in terms of platform configuration and deployment.
- This improves data integrity and provides a higher level of security, as the client lacks direct access to the database.
- The main advantage of three-tier architecture is that each layer has its own infrastructure, meaning each layer can be developed by a separate development team.
- Therefore, each layer can be updated and scaled as needed without affecting the other layers.

Presentation Tier



Client

Logic Tier



Server

Data Tier



Database



Thank  
You

*Unit 2*  
*Electronic Payment*  
*Technology*

- ❑ *Digital Cash*
- ❑ *Electronic Cheques*
- ❑ *Benefits of Electronic Cheques*
- ❑ *Debit Cards*
- ❑ *Credit Card Payment*
- ❑ *Types of Credit Card Payment*
- ❑ *Smart Cards*
- ❑ *Electronic Funds Transfer*
- ❑ *NEFT*
- ❑ *IMPS*
- ❑ *RTGS*

# *INTRODUCTION*

- Electronic Payments entail the transfer of funds through electronic or digital mediums.
- E-payments are quick and efficient, and the fund transfer typically takes place instantly.
- It is a secure mode of making payments.
- E-payments eliminate the need for cash payments, and funds are transferred directly into mobile wallets or bank accounts linked to the mobile number.
- With the banking and tech industry achieving one milestone of convenience after another, the way we make payments has been revolutionized.
- It has been established that cash is no longer the kind and that people prefer to have various, internet-enabled alternative payment methods.
- One such method of making payments is known as electronic or e-payments.

- E-payments are an electronic or digital way of transferring funds. Essentially, you can utilize electronic payment methods to transfer funds as an alternative to cash payments.
- The various types of e-payment include credit card, debit cards, mobile wallets, UPI, internet and mobile banking, and many more.
- You simply require a bank account and an internet-enabled device to leverage e-payment solutions and pay for various products and services.
- The various advantages are,
  - Time-Saving
  - Efficient
  - Cashless Economy
  - Security, etc

# *Digital Cash*

- Digital cash refers to a system in which a person can securely pay for goods or services electronically without necessarily involving a bank to mediate the transaction.
- Digital cash is a system of purchasing cash credits, storing the credits in your computer or digital wallet, and then spending them when making electronic purchases over the internet or in person on a mobile device at the point of sale.
- Digital cash allows individuals to make online transactions using digital currency.
- It is designed to be a convenient and secure alternative to traditional payment methods, such as credit cards or cash.

- *Digital cash is a form of electronic currency that exists only in cyberspace and has no real physical properties, but offers the ability to use real currency in an electronic format.*
- *Digital cash is also known as e-currency ,e-money, electronic-cash, electronic currency, digital money, digital currency, cyber currency. To use digital cash, users must have e-cash software (google pay, paytm etc)*

# *Electronic Cheques*

- An electronic check, or e-check, is a form of payment made via the Internet, designed to perform the same function as a conventional paper check.
- Since the check is in an electronic format, it can be processed in fewer steps.
- An electronic check is a form of payment made via the internet that is designed to perform the same function as a conventional paper check.
- One of the more frequently used versions of the electronic check is the direct deposit system offered by many employers.
- Generally, the costs associated with issuing an electronic check are notably lower than those associated with paper checks.
- An electronic check has more security features than standard paper checks.

*E-cheques are cheques that are written and processed electronically.*

*This means that the funds are transferred from the payer's account to the payee's account through an electronic network instead of a physical cheque. These cheques are also known as "digital cheques" or "electronic cheques".*

# *Benefits of Electronic Cheques*

- **Faster**: E-cheques are processed faster than traditional paper cheques. This is because there is no need to wait for the cheque to be physically delivered to the payee.
- **More Secure**: E-cheques are more secure than traditional paper cheques because they are processed through an electronic network. This means that there is less chance for them to be lost or stolen.
- **Easier to Track**: E-cheques can be easily tracked through online banking systems. This makes it easy to see where the funds are going and who they are being transferred to.

- Reduces Paper Waste: E-cheques reduce paper waste because they do not require the use of physical cheque stock. This means that fewer trees need to be chopped down in order to produce paper cheques.
- Saves Time and Money: E-cheques save time and money because they eliminate the need for manual processing. This means that there is less chance for human error and that the funds will be transferred more quickly.

## How does e-check payment processing work?

E-check payment processing works by electronically transferring funds from a payer's bank account to a payee's bank account. The process is initiated by the payer entering their bank account information, which is then verified by the payee's bank and the funds are transferred securely. The entire process is completed without the need for physical checks or cash transactions.

# *Debit Cards*

- Debit cards are payment cards that reduce the need to carry cash or physical cheques to make purchases.
- You can use debit cards at ATMs to withdraw cash.
- Debit card purchases may require a personal identification number (PIN), but some purchases can be made without one.
- You may be charged an ATM transaction fee if you use your debit card to withdraw cash from an ATM that's not affiliated with your bank.
- Some debit cards offer rewards, similar to credit card rewards, such as 1% back on purchases.

- *Debit cards usually have daily purchase limits, meaning you can't spend more than a certain amount in one 24-hour period.*
- Debit cards blend the basic functions of an ATM card and a credit card to help consumers quickly access cash from their bank accounts.
- You can use a debit card for online purchases, at the cash register or even in a mobile wallet app to pay instead of writing a check.

There are four commonly used types of debit cards in India

- 1) Visa debit cards
- 2) Master card debit card
- 3) RuPay debit cards
- 4) Contactless debit cards.

## 1) Visa debit cards

Visa debit cards are issued by banks in association with Visa Inc, which is an American multinational financial services company. This is the most globally accepted cards to make online and offline electronic payment transactions. These cards use the Visa payments gateway which comes with their high security and 24x7 assistance. Visa debit cards come in varieties like Classic, Gold, Platinum, etc which are customized with benefits based on the type of bank accounts the customers hold.

## 2) Master card debit card

Just like Visa, Master card is a popular American payments company which is accepted even at some foreign online retailers . The company is known for its fast and secure payment gateway and have world-class customer service. Master card debit cards also come with benefits and reward programs that are specific to the type of card they avail from their bank.

### 3) RuPay debit cards

The National Payments Corporation of India (NPCI) started RuPay as part of India's card scheme with a vision to have a domestic, open and multilateral system of payments. Considering that close to 90 percent of the transactions in India are domestic in nature, RuPay was started to reduce the cost of these transactions that were higher due to the dominance of international card schemes. It is currently accepted mainly within India and at a few locations abroad that RuPay has tie-ups with.

In India, many public, private, co-operative and regional rural banks issue RuPay cards to its customers. RuPay debit cards are accepted at all ATMs, Point-of-Sale terminals and by most online merchants in the country.

### 4) Contactless debit cards

These are debit cards which come with built-in radio frequency module that allow you to make payments by simply waving the card over the machine. However, one needs to just hold it close to a reader at the merchant outlet.

# *Credit Card Payment*

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.

# Types of Credit Card Payment Systems

Three types of credit card payment systems are widely available to merchants.

- Standalone terminals
- Cell phone processing solutions
- Virtual terminals

These payment systems allow merchants to process a variety of transactions, such as credit card and gift card payments. Customers are more likely to shop from a merchant if they offer a variety of payment options at checkout.

## ❑ Standalone Terminals

Standalone terminals are the type seen at retail stores. The customer, or the merchant, slides the card through a magnetic strip reader. The information is then sent to the credit card processor and is either accepted or declined. Accepted transactions are credited to the merchant's account at the time of sale.

The standalone terminal payment system transmits information in a variety of ways. Transmission is via a phone line or high-speed cable system, using ethernet wiring.

## ❑ Cellphone Processing Solutions

Businesses that need to operate on the road, such as delivery drivers or antique dealers, can accept credit cards using mobile technology. Cellphone payment systems utilize Wireless Application Protocol (WAP) technology. WAP enabled phones send credit card information to the processor. Cellphone systems depend on the availability of a satellite connection.

Merchants who operate in rural or mountainous areas may experience difficulty using cellphone processing, due to signal interference.

## ❑ Virtual Terminals

Virtual terminals are designed to process online credit and debit cards payments. Virtual terminals are very useful for recurring payments, such as monthly installments or membership fees. The virtual terminal payment system is also a mobile system, it can be used anywhere there is an Internet connection. Merchants benefiting from a virtual terminal, include merchants that operate online auction sites, sales via a Web site or who charge recurring fees.

# *Smart Cards*



A smart card is a plastic card that contains a microprocessor and a memory chip or just a memory chip. The microprocessor card has the ability to add, delete and manipulate information on the card. A memory-chip card, such as a phone card, can only add information.

A smart card is a physical plastic card containing an embedded integrated chip acting as a security token. The chip can be an embedded microcontroller or a memory chip. Smart cards with an embedded microcontroller have the distinct ability to store data, carry out on-card functions, like encryption and mutual authentication, and interact with a smart card reader.

The working process of a smart card is comprised of the following steps:

First, the smart card makes contact with the card reader, either directly or indirectly.

The smart card reader receives the information stored on the chip.

This information is sent to the controlling terminal for immediate processing.

The main advantages of smart cards are:

- High levels of security
- Larger memory
- Prevents fraud
- Reliability
- Information Security
- Privacy
- Ease of use
- Reduced cost for operators and users

# *Electronic Funds Transfer*

- The three payment methods,
- National Electronic Fund Transfer (NEFT)
- Real Time Gross Settlement (RTGS)
- Immediate Payment Services (IMPS) serve the purpose of transferring funds online but have slight differences.
- RTGS and NEFT were introduced in 2004 and 2005 respectively.
- IMPS was launched in 2010.

# NEFT

National Electronic Fund Transfer (NEFT) is a payment system that facilitates one-to-one funds transfer. Using NEFT, individuals will electronically transfer cash from an associate bank branch to someone holding an account with the other bank branch, that is taking part in the payment system. Fund transfers through the NEFT system don't occur on a period of time basis and also the fund transfer settles in twenty three unit time batches.

## RTGS

Real Time Gross Settlement (RTGS) is another payment system within which the cash is attributable to the beneficiary's account in the time period and on a gross basis. The RTGS system is primarily meant for big transactions that need and receive immediate clearing. The minimum amount to be remitted through RTGS is 2 lakhs and no upper ceiling is there but however can vary between banks.

## IMPS

Immediate Mobile Payment Services (IMPS) could be a time period instant inter- bank funds transfer system managed by National payment corporation of Bharat. IMPS is obtainable 24/7 throughout the year together with bank holidays, unlike NEFT and RTGS.

BASIS OF DIFFERENCE	RTGS	IMPS	NEFT
AVAILABILITY	Based on the bank	24*7	24*7
MINIMUM AMOUNT	2 lakhs	Rs. 1	Rs. 1
MAXIMUM AMOUNT	No limit	2 lakhs	No limit
SETTLEMENT TYPE	Real time basis	Real time basis	Half hourly basis
WHEN TO USE	Instant transfers of high value money	Urgent payments	For smaller amounts

Thank you

***UNIT 3***  
***INTERNET MARKETING***

Introduction to Internet

WWW, Web browser

Scope of Internet Marketing

Different stages of Internet marketing

How Internet Marketing Works

Internet Marketing Examples

Advantages and Disadvantages of Internet Marketing

A spiral-bound notebook with a white cover and a black spiral binding on the left side. The notebook is open to a blank white page. The text "Introduction to Internet" is written in a bold, italicized, black serif font across the center of the page.

# *Introduction to Internet*

- It is believed that the internet was developed by "Defense Advanced Projects Agency" (DARPA) department of the United States. And, it was first connected in 1969.
- Internet is a global network that connects billions of computers across the world with each other and to the World Wide Web.
- It uses standard internet protocol suite (TCP/IP) to connect billions of computer users worldwide.
- It is set up by using cables such as optical fibers and other wireless and networking technologies.
- At present, internet is the fastest mean of sending or exchanging information and data between computers across the world.

## *Why is the Internet Called a Network?*

- Internet is called a network as it creates a network by connecting computers and servers across the world using routers, switches and telephone lines, and other communication devices and channels.
- So, it can be considered a global network of physical cables such as copper telephone wires, fiber optic cables, tv cables, etc.
- Furthermore, even wireless connections like 3G, 4G, or Wi-Fi make use of these cables to access the Internet.

## *History of Internet*

- The Internet started in the 1960s as a way for government researchers to share information.
- The Soviet Union's launch of the Sputnik satellite spurred the U.S. Defense Department to consider ways information could still be disseminated even after a nuclear attack.
- This eventually led to the formation of the ARPANET (Advanced Research Projects Agency Network), the network that ultimately evolved into what we now know as the Internet.
- ARPANET was a great success but membership was limited to certain academic and research organizations who had contracts with the Defense Department.

***WWW, Web browser***

- World Wide Web, which is also known as a Web, is a collection of websites or web pages stored in web servers and connected to local computers through the internet. These websites contain text pages, digital images, audios, videos, etc.
- Users can access the content of these sites from any part of the world over the internet using their devices such as computers, laptops, cell phones, etc.
- The building blocks of the Web are web pages which are formatted in HTML and connected by links called "hypertext" or hyperlinks and accessed by HTTP.

- Some people use the terms 'internet' and 'World Wide Web' interchangeably.
- They think they are the same thing, but it is not so.
- Internet is entirely different from WWW.
- It is a worldwide network of devices like computers, laptops, tablets, etc.
- It enables users to send emails to other users and chat with them online.
- For example, when you send an email or chatting with someone online, you are using the internet.
- But, when you have opened a website like google.com for information, you are using the World Wide Web; a network of servers over the internet.

- A web browser is basically the software that we use for browsing on the internet and displaying pages.
- When a browser receives an instruction to access a web page, it parcels this instruction using the TCP (Transmission Control Protocol).
- The job of TCP is to ensure the correct sequence of transmission of a message and its correct unpacking at the destination/ receiver.
- Web Browsers are application programs.
- They display a www document, and they usually access the document using other internet services.

*A web browser is an application software which is used to browse and display web pages available over the Internet*

A spiral-bound notebook with a white cover and a black spiral binding on the left side. The notebook is open to a blank white page. The text "Scope of Internet Marketing" is written in a bold, italicized, black serif font, centered on the page.

# *Scope of Internet Marketing*

▪ Internet marketing refers to any marketing activity that happens online.

▪ The ultimate goal of internet marketing is to grow your business.

### ▪ **Why Is Internet Marketing Important?**

▪ Internet marketing, sometimes referred to as online marketing or e-marketing, allows you to reach your audience through various channels.

▪ Internet marketing is important for five main reasons. It allows you to:

1. Reach ideal buyers without breaking the bank
2. Establish authority
3. Drive traffic
4. Generate leads
5. Drive more sales

## ▪ *The Scope of Internet Marketing*

▪ Internet marketing trends evolve each year as more companies enter the space and new technologies emerge.

▪ Analytics

▪ Social Media Influencers

▪ Video Remains King

▪ Artificial Intelligence

▪ Augmented and Virtual Reality

▪ Omni-channel Marketing

## ▪ *Analytics*

Digital marketing analysis is typically done after the fact. Marketers will publish a piece of content, for instance, and then check to see how effective it was after a few weeks. This is certainly helpful, but real-time analytics is beginning to shake up the world of digital marketing. Conducting real-time analysis allows marketers to both individualize content for smaller subsets of consumers and respond much more quickly to their performance.

## ▪ *Social Media Influencers*

Advertisers in all sectors are connecting with social media influencers to help enhance their brands. This is proving to be an effective digital marketing strategy, largely because consumers tend to trust other consumers more than companies advertising products. Expect more companies in 2023 and beyond to use these influencers to drive sales.

## ▪ *Video Remains King*

Video will remain a top strategy in 2023, as digital marketers capitalize on users' short attention spans and desire to view content instead of reading it. Since 74 percent of consumers in the United States watch online videos each week, this medium will continue to play a significant role in connecting customers and businesses. Most social media channels support video hosting and sharing.

## ▪ *Artificial Intelligence*

Artificial intelligence (AI) enables digital marketers to better analyze user data so they can further customize the customer journey. AI helps companies understand a great deal about customers and how to best target audiences.

AI also provides users with a more personalized experience, giving them customized assistance at each stage of the buying process. Businesses can achieve this customer experience by automating ads to targeted audiences using programmatic advertising.

## ▪ Augmented and Virtual Reality

Companies will continue to use augmented reality (AR) and virtual reality (VR) in their marketing strategies to enhance brand awareness and satisfy customer demand. Companies like Starbucks, Nivea, and Volkswagen have launched successful AR and VR campaigns to offer customers an experience that better connects them to their brands and products.

## ▪ Omni-channel Marketing

While today's consumer expects every business to at least have an online presence, using a variety of media to engage your target market in a seamless manner is ideal. Often referred to as "omni-channel" marketing, this approach does away with any barriers or "silos" that different media may impose. For instance, a product advertised on television should also have an online tie-in that's optimized for both desktop and mobile users.

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***Different stages of Internet  
marketing***

# **Seven Stages of Internet Marketing**

**Stage One: Setting Corporate and Business-Unit Strategy**

**Stage Two: Framing the Market Opportunity**

**Stage Three: Formulating the Marketing Strategy**

**Stage Four: Designing the Customer Experience**

**Stage Five: Designing the Marketing Program**

**Stage Six: Crafting the Customer Interface**

**Stage Seven: Evaluating the Marketing Program**

## Stage One: Setting Corporate and Business-Unit Strategy

Corporate strategy addresses the interrelationship between the various business units in a firm, including decisions about which units should be kept, sold, or augmented. Business-unit strategy focuses on how a particular unit in the company attacks a market to gain competitive advantage.

## Stage Two: Framing the Market Opportunity

Stage two entails the analysis of market opportunities and an initial first pass of the business concept—that is, collecting sufficient online and offline data to establish the burden of proof of opportunity assessment.

## Stage Three: Formulating the Marketing Strategy

Internet marketing strategy is based upon corporate, business-unit, and overall marketing strategies of the firm. The marketing strategy goals, resources, and sequencing of actions must be tightly aligned with the business-unit strategy. Finally, the overall marketing strategy comprises both offline and online marketing activities.

## Stage Four: Designing the Customer Experience

Firms must understand the type of customer experience that needs to be delivered to meet the market opportunity. The experience should correlate with the firm's positioning and marketing strategy. Thus, the design of the customer experience constitutes a bridge between the high-level marketing strategy (step three) and the marketing program tactics (step five).

## Stage Five: Designing the Marketing Program

Stage five entails designing a particular combination of marketing actions (termed levers) to move target customers from awareness to commitment. The framework used to accomplish this task is the Market space Matrix. The Internet marketer has six classes of levers (e.g., pricing, community) that can be used to create target customer awareness, exploration, and commitment to the firm's offering.

## **Stage Six: Crafting the Customer Interface**

The Internet has shifted the locus of the exchange from the Marketplace (i.e., face-to-face interaction) to the Market space (i.e., screen-to-face interaction). The key difference is that the nature of the exchange relationship is now mediated by a technology interface. This interface can be a desktop PC, subnotebook, personal digital assistant, mobile phone, wireless applications protocol (WAP) device, or other Internet-enabled appliance.

## **Stage Seven: Evaluating the Marketing Program**

This last stage involves the evaluation of the overall Internet marketing program. This includes a balanced focus on both customer and financial metrics. It emphasizes customer actions as well as financial metrics used to track the success of marketing programs. Elite InfoWorld is a leading company in digital marketing will provide you different services like Search engine optimization, social media optimization and internet marketing Services.

A spiral-bound notebook with a white cover and a black spiral binding on the left side. The notebook is open to a blank white page. The text "Internet Marketing Examples" is written in a bold, italicized, black serif font, centered on the page.

***Internet Marketing Examples***

- 1. Website Content and Design**
- 2. Email Marketing**
- 3. Social Media**
- 4. Blogging**
- 5. Video and Podcasting**
- 6. Online Advertising**

## 1. Website Content and Design

The method of creating and spreading content in order to bring in and keep customers is known as content marketing. Instead of focusing on selling, it concentrates on client communication, which is usually more well-liked.

## 2. Email Marketing

Email marketing is the process of sending direct marketing communications to consumers via email in an effort to attract new clients and keep hold of current ones. It's one of the most economical forms of marketing and may be used to target both a large customer base and a highly specific one. When customers provide a brand with their email address, the company can contact them for future marketing initiatives.

### 3. Social Media

Social media marketing refers to the use of social media websites to promote a business and its goods and services. It attempts to increase brand recognition, enhance consumer interaction, build loyalty, and produce leads for sales. Paid advertising and organic marketing are both components of social media marketing strategy. Organic social media marketing places a strong emphasis on building a community and establishing relations with customers in order to pique interest and encourage client loyalty. A paid social media campaign is a collection of advertisements that can work together to help you use social media to accomplish a goal or purpose.

## 5. Blogging

By adding posts and blogs based around specific targeted keywords, blogging enables you to improve the SEO of your website. Customers are more likely to find and visit your website as a result of an online search if you do this. They keep the website up to date and offer chances for audience engagement. You can link to reliable websites, which increases client loyalty and increases your audience. The most important benefit of blogging is that it can strengthen your relationship with your audience. All of this contributes to the generation of more leads and the expansion of sales.

## 6. Video and Podcasting

Videos and podcasts are other methods to give your marketing strategy some personality. They enable businesses to convey informative content and engage audiences by using storytelling techniques. As your brand's voice, you become more visible to listeners, which promotes deeper connections with your customers. You can also invite guest speakers, who will provide a different level of credibility while helping you in growing your audience.

## 7. Online Advertising

There are several ways to advertise yourself online.

PPC targets specific search phrases that potential customers might use. The banner advertising is available on numerous websites, including blogs, magazines, and news websites.

You can effectively buy your way to the top of search results by using search engine advertising. This strategy can be useful when your website is brand new, or there is fierce competition for market share because these circumstances make it difficult to achieve a high position naturally.

You can target potential customers through paid social media postings based on their demographics, interests, and behaviors to reach people who will be interested in your goods or services.

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***Advantages and Disadvantages  
of Internet Marketing***

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# *Advantages of Online Marketing*

## **Find Potential Customers**

It is easier and more effective to find clients using social media networks. It is essential to learn more about your target users. Understanding their interests, requirements, and preferences will result in an effective marketing plan. For example, using Instagram and Facebook insight on the app, you may examine statistical data on your followers' age, gender, and so on. You may target your audience correctly.

## **Global Reach**

While conventional offline marketing is geographically confined, online marketing is not. This makes it possible to and economically create worldwide marketing campaigns. By launching an e-store, even a small firm may reach a global audience. Businesses may obtain worldwide awareness and reach with a bit of innovation.

## **Easy to set up and manage**

Organizing and setting up accounts for all social and online platforms is simple and free.

Opening and organizing an account on internet platforms takes basic understanding.

Anyone with a mobile phone may quickly start up an internet campaign.

## **Cost Effective**

One of the main benefits of online marketing is this. Small and medium-sized enterprises find it difficult to finance billboards, television and radio advertisements, etc. However, specific tactics are cost-effective, such as search engine optimization (SEO), pay-per-click (PPC), content marketing, etc. Online retail stores have far lower startup and ongoing costs than traditional brick-and-mortar establishments.

## **Personalization**

Digital marketing's interaction and feedback-gathering capabilities make it a more successful strategy. Connecting with the audience and providing them with a product that meets their requirements builds brand loyalty and reputation. Digital marketing offers a platform for individualized marketing by providing personalized content for clients. The objective is to make consumers believe that the firm is serving their needs.

## **Measurement of Performance**

Online technology such as analytics, pay-per-click, and SEO make it easy to determine the effectiveness of your marketing. It simplifies the interpretation of data by analyzing numerous trackers such as impressions, likes, and shares.

## **Generates higher profits**

According to a study, online lead generation helps organizations expand more quickly. Furthermore, because they can contact customers at the appropriate time, in the right location, and with the correct information, they can convert consumers more effectively. All of this enables firms to increase their earnings through web marketing.

## **Maintain After-Sale Relationships**

Utilize social media sites like Facebook, Instagram, and others to engage with customers. When you get their comments or recommendations, always say "thank you." Additionally, it helps to build B2B client relationships.

## **24/7 Available Service**

With online marketing, time restrictions are no longer an obstacle. Customers no longer need to wait for your business to open before purchasing. Thanks to internet marketing, they now have the freedom to surf your website or app whenever they want. This is a chance to raise brand recognition among potential customers.

## **Quick Response**

The secret of the success of online marketing and widespread adoption is speed and fast response. You may instantly respond to your audience no matter how far away they are.

## **Brand Development**

A brand image must be developed for the products or services through marketing for consumers to see them as a credible and trustworthy name. Direct advertising and customized strategies are just two ways digital marketing helps grow brands. Due to this method, customers are more interested in the brand and learn about its USP. Because of this, consumers feel positive about the brand.

## **Create a New Market**

Social media serves as a brand-new marketing platform where you may increase client loyalty and enhance your company's reputation. Every happy client is a potential marketer for your business.

## **Helps companies to demonstrate**

Projecting your competence is the hardest thing for organizations that offer professional services. There are few opportunities in traditional marketing to establish and demonstrate competence.

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*Disadvantages of  
Online Marketing*

## **Global Competence**

Every firm may now access a worldwide audience through online marketing. This also implies that you'd have to compete on a worldwide scale. You'll need to devise and implement strategies to compete with multiple rivals attempting to reach the same audience. To catch customers' attention, you must stand distinct from the crowd.

## **Negative comments and reviews**

Any unfavorable comments about your brand may be found on social media sites and review websites when it comes to online digital marketing.

If a consumer has an unpleasant experience with your company and decides to write a negative comment about it, it might build an unfavorable impression of your company's brand. One negative comment, criticism, or review may devastate your company's reputation.

## **Skill and training are required.**

A lot of training and knowledge are needed to become a digital marketer. Because digital marketing is always evolving, it is essential to keep updated with technology.

Many organizations and corporations use digital marketing firms to assist them with their internet marketing tactic.

Because there are several techniques, tools, and contests associated with online digital marketing.

It is complex; it needs extensive computer & social media expertise and management abilities.

For efficient online digital marketing, web development, SEO, graphics, video editing, solid writing abilities, and many other talents are necessary.

## **Security and Privacy issues**

Security and privacy are the primary needs for brands and organizations carried out by digital marketers.

Customer data security and privacy are two major challenges in internet marketing.

Because of this, people are hesitant to sign up for new internet and social media platforms, making it extremely challenging for businesses to attract new customers.

## **Inaccessibility**

Even though web marketing provides companies with a worldwide reach, only some places or people on the planet can be reached by it, for instance, in remote locations with weak internet connections or a lack of internet service providers. Additionally, digital marketing cannot reach those who are uneducated or elderly and do not utilize the internet.

## **One can copy strategies.**

It takes no effort at all to duplicate your marketing techniques. Competitors are prone to piracy. Protecting your marketing strategy and campaign from competitors is important.

## **Time Consuming**

Online marketing's biggest flaw is how time-consuming it is. You'll learn through time what works and doesn't for your brand. Once you've organized your techniques, you may employ the appropriate time-saving methods. So, before you begin online marketing, you must have a solid plan that includes effective techniques.

## **Internet scamming**

An unauthenticated party may employ dishonest and deceptive practices, such as utilizing a brand's trademarks & logos in their marketing, to defraud established businesses. This has the potential to tarnish the reputation of the concerned established company. Additionally, it may result in some financial loss. The outcomes of such events may also be beyond your control.

### **Technical issues**

You lose web traffic when you have technical issues like a sloppy website design, sluggish loading speed, website outage, poor site accessibility, SEO, etc. When such problems arise, customers turn to your competitors, who are technically proficient and provide a flawless online experience.

### **Anti-brand activities**

Another drawback of internet marketing is the chance for anti-brand activities, sometimes known as cybersquatting. In such circumstances, a person or group can impact a brand's reputation by spreading false stories about it to damage it.

### **Promotional strategies are copied.**

Competitors frequently steal the unique strategies that an online business uses to succeed. Another drawback of online marketing is this form of piracy of brand marketing techniques and methods.

Thank

you



# UNIT 4

# TRANSACTION

# SECURITY

- Firewalls
- Types of firewalls
- Internet Security Requirements
- Types of Online Transactions
- Requirements for transaction security
- Secret-Key Encryption
- Public Key Encryption
- Digital Signatures

- Firewalls are computer security systems that protect your computer or your network from intruders, hackers and malicious code.
- Firewalls ensures that uninvited guests cannot access your network.
- By the help of a firewall, you can determine rules for which type of traffic can come in and go out of your private network.
- It protects your computer from all kinds of abuse and unauthorized access like Trojans that allow taking control of your computers by remote logins or backdoors.
  
- Some of the firewall products that you may want to check out are as follows,
  - McAfee Internet Security
  - Microsoft Windows Firewall
  - Norton Personal Firewall
  - Trend Micro PC-Cillin

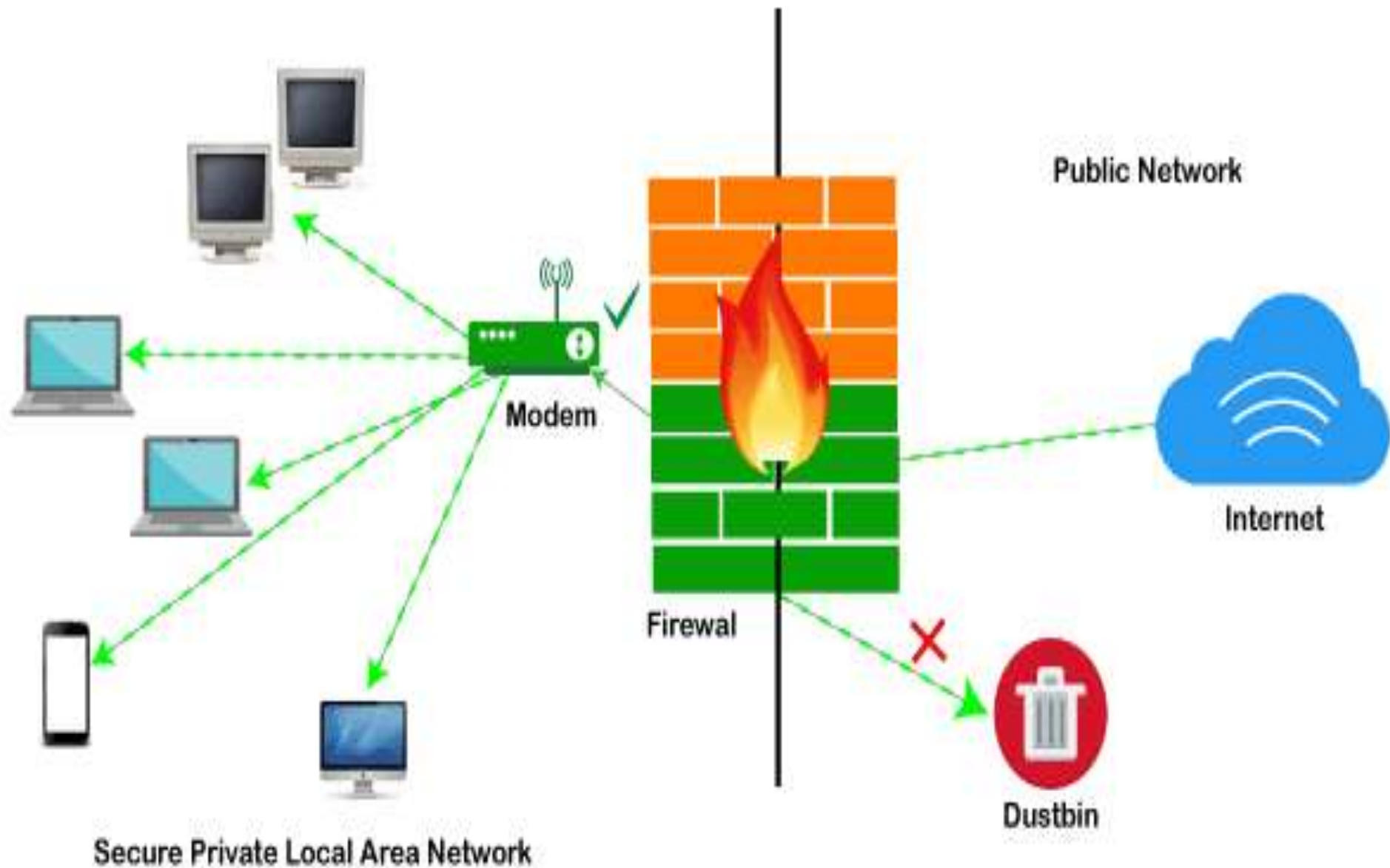
- A firewall is a network security device, either hardware or software-based, which monitors all incoming and outgoing traffic and based on a defined set of security rules it accepts, rejects or drops that specific traffic.

- **Accept** : allow the traffic

- **Reject** : block the traffic but reply with an “unreachable error”

- **Drop** : block the traffic with no reply

- A firewall establishes a barrier between secured internal networks and outside untrusted network, such as the Internet.



✓ =Specified Traffic Allowed  
✗ =Restricted Unknown Traffic

# *Types of Firewall*

There are mainly two types of firewalls. Such as

**1. Software Firewalls**

**2. Hardware Firewalls**

or **both**, depending on their structure.

Each type of firewall has different functionality but the same purpose.

However, it is best practice to have both to achieve maximum possible protection.

- A hardware firewall is a physical device that attaches between a computer network and a gateway.

- For example- a broadband router. A hardware firewall is sometimes referred to as an **Appliance Firewall**.

- A software firewall is a simple program installed on a computer that works through port numbers and other installed software.

- New generation operating systems come with built in firewalls or you can buy firewall software for the computer that accesses the internet.

- This type of firewall is also called a **Host Firewall**.

## *Packet-filtering Firewalls*

A packet filtering firewall is the most basic type of firewall. It acts like a management program that monitors network traffic and filters incoming packets based on configured security rules. These firewalls are designed to block network traffic IP protocols, an IP address, and a port number if a data packet does not match the established rule-set.

## *Circuit-level Gateways*

Circuit-level gateways are another simplified type of firewall that can be easily configured to allow or block traffic without consuming significant computing resources. These types of firewalls typically operate at the session-level of the OSI model by verifying **TCP (Transmission Control Protocol)** connections and sessions. Circuit-level gateways are designed to ensure that the established sessions are protected.

Typically, circuit-level firewalls are implemented as security software or pre-existing firewalls. Like packet-filtering firewalls, these firewalls do not check for actual data, although they inspect information about transactions. Therefore, if a data contains malware, but follows the correct TCP connection, it will pass through the gateway. That is why circuit-level gateways are not considered safe enough to protect our systems.

## *Application-level Gateways (Proxy Firewalls)*

Proxy firewalls operate at the application layer as an intermediate device to filter incoming traffic between two end systems (e.g., network and traffic systems). That is why these firewalls are called '**Application-level Gateways**'.

Unlike basic firewalls, these firewalls transfer requests from clients pretending to be original clients on the web-server. This protects the client's identity and other suspicious information, keeping the network safe from potential attacks. Once the connection is established, the proxy firewall inspects data packets coming from the source. If the contents of the incoming data packet are protected, the proxy firewall transfers it to the client. This approach creates an additional layer of security between the client and many different sources on the network.

## *Stateful inspection firewall*

State aware devices not only examine each packet, but also keep track of whether or not that packet is part of an established TCP or other network session. This offers more security than either packet filtering or circuit monitoring alone but exacts a greater toll on network performance.

## *Next generation firewall*

A typical NGFW combines packet inspection with stateful inspection and also includes some variety of deep packet inspection (DPI), as well as other network security systems, such as an malware filtering, antivirus, etc,. While packet inspection in traditional looks exclusively at the protocol header of the packet, DPI looks at the actual data packet is carrying.

# Internet Security Requirements

**1. Confidentiality-** The data sent by the sender must be comprehensible only to the intended receiver. One of the popular techniques used for ensuring confidentiality is data encryption.

**2. Integrity-** The data sent by the source node should reach the destination node without being altered. It should not be possible for any malicious node in the network to tamper with the data during transmission.

**3. Availability-** The network should remain operational all the time. It must be robust enough to tolerate link failures and also be capable of surviving various attacks mounted on it.

**4. Non-repudiation-** It is a mechanism to guarantee that the sender of a message cannot later deny having sent the message and that the recipient cannot deny having received the message. Digital signatures are used for this purpose.

**5. Enforcement-** Policy enforcement refers to mechanisms used to force the application of set of defined actions in a system. Policies are operating rules which need to be enforced for the purpose of maintaining order, security, and consistency of data.

# Types of Online Transactions

**1. Credit card-** Credit cards are plastic or metal cards used to pay for items or services using credit. Credit card may be issued by stores, banks or other financial institutions etc. The customer has to just enter their credit card number and date of expiry in the appropriate area on the seller's web page.

**2. Debit card-** It is a card by which money may be withdrawn or the cost of purchases paid directly from the holder's bank account without the payment of interest.

**3. Smart card-** A smart card is a physical card that has an embedded integrated chip that acts as a security token. It stores the personal information of the customers.

**4. E-Wallet-** It is a prepaid account that allows the customers to store multiple credit cards, debit cards and bank account numbers in a secure environment. Once the customer has registered and created e-wallet profile, he/she can make the payments faster.

**5. Net banking-** It allows the user to conduct financial transactions via the internet. Online banking offers customers almost every service traditionally available through a local branch including deposits, transfers, and online bill payment

# Encryption

# *Encryption and Decryption*

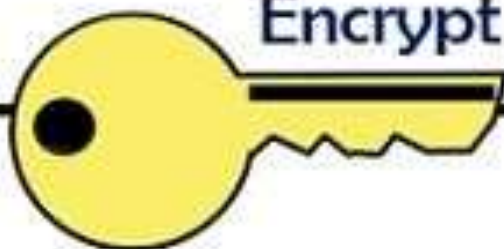
- **Encryption** is the process by which a readable message is converted to an unreadable form to prevent unauthorized parties from reading it.
- **Decryption** is the process of converting an encrypted message back to its original (readable) format.
- The original message is called the **plaintext message**.
- The encrypted message is called the **ciphertext message**.

**Encryption** is the process of converting normal message (plaintext) into meaningless message (Ciphertext).

Whereas **Decryption** is the process of converting meaningless message (Ciphertext) into its original form (Plaintext).

Plain text:  
Your password is  
unitedkingdom

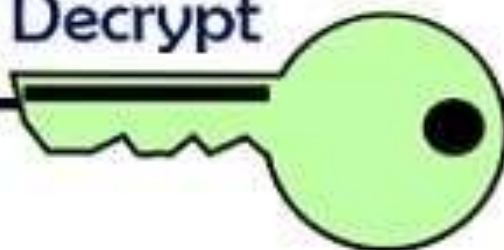
Encrypt



Cipher text:  
12dz\$6c70f2zx  
\*83\$nxfsImw8kg4  
2m

Plain text:  
Your password is  
unitedkingdom

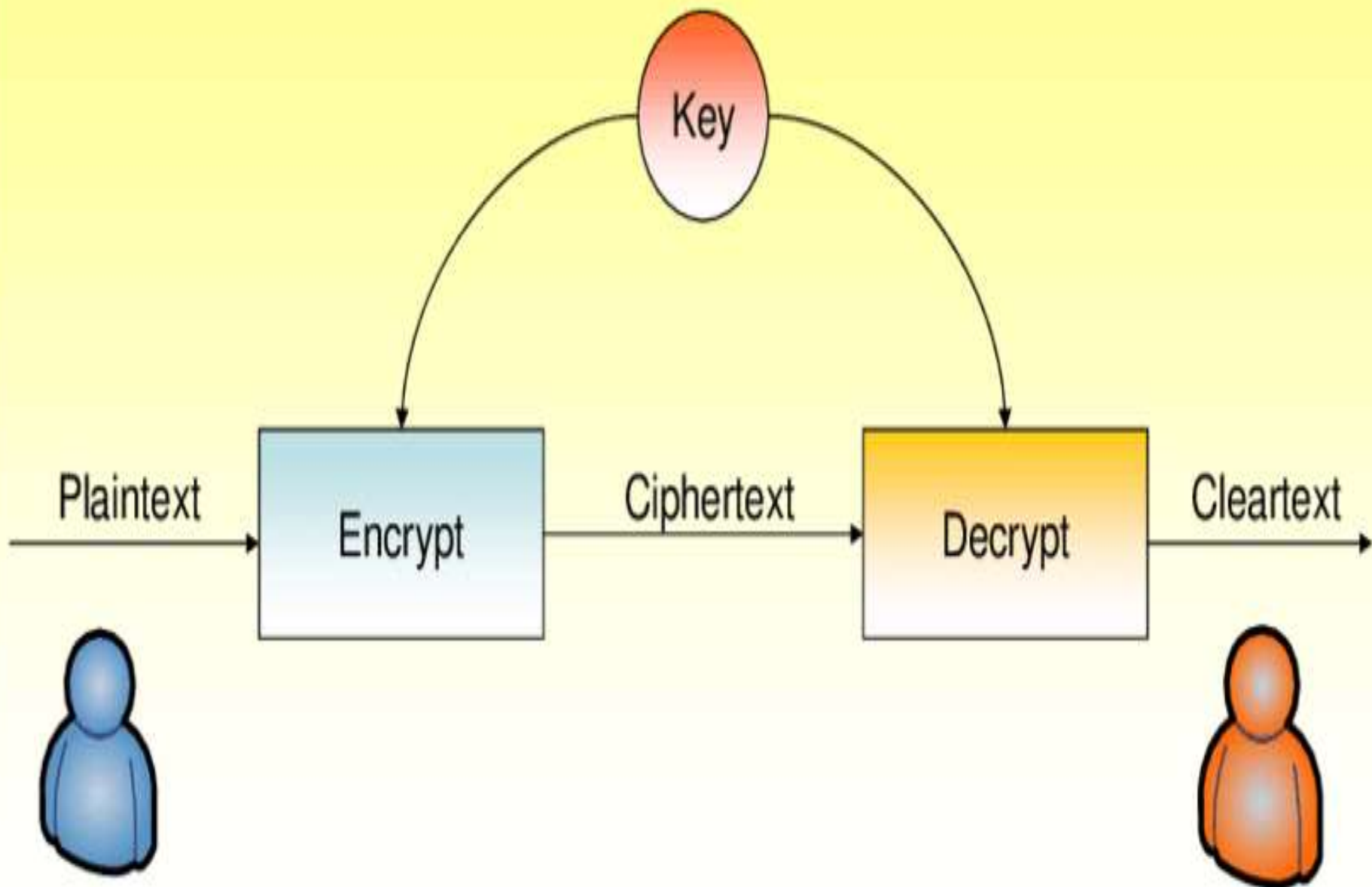
Decrypt



Process of Encryption and Decryption

## *Secret Key Encryption*

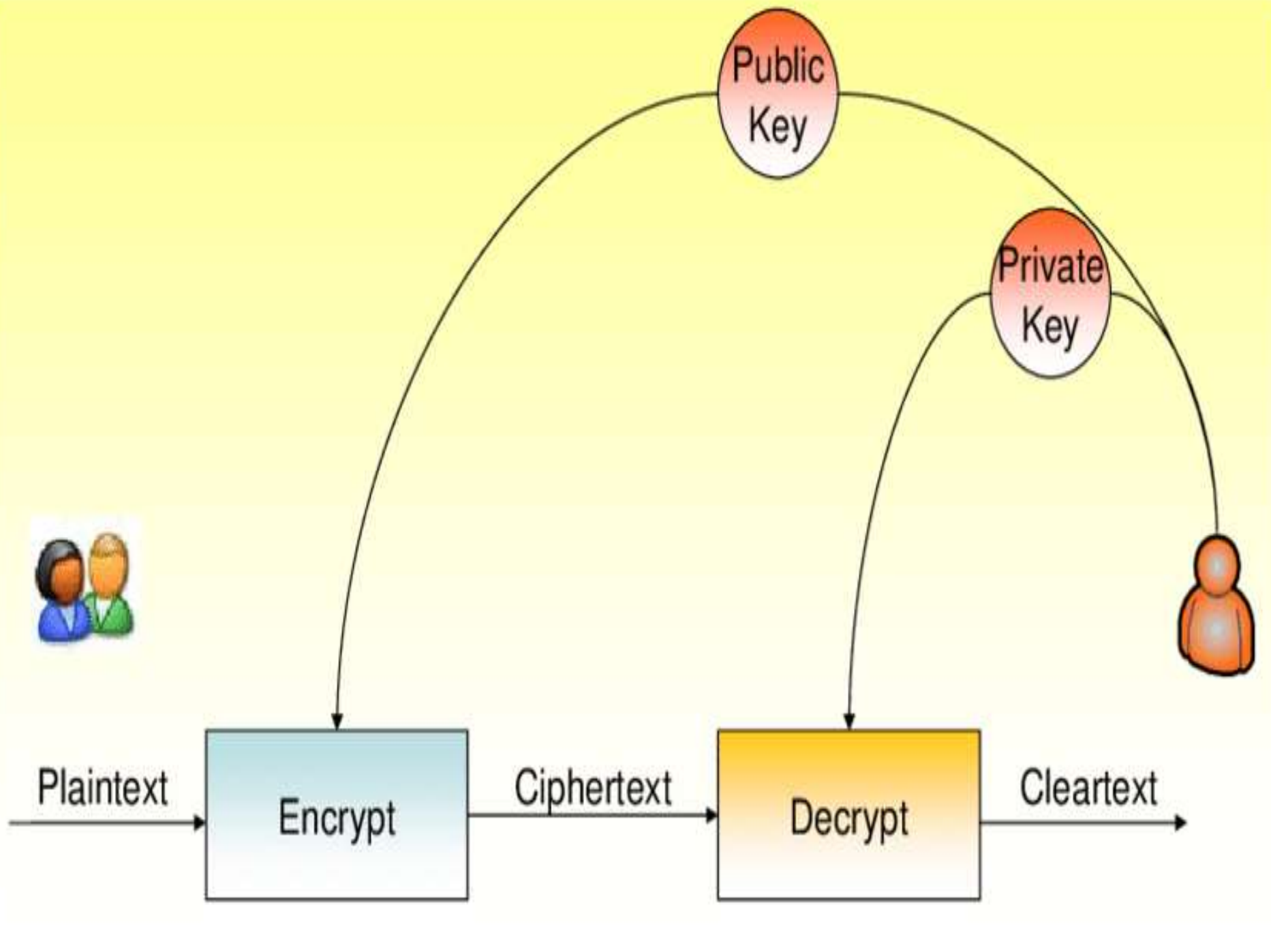
- In secret key encryption, an individual key is used for both encryption and decryption.
- The sender needs the key to encrypt the plaintext and sends the cipher document to the receiver.
- The receiver use the similar key (or rule set) to decrypt the message and recover the plaintext.
- Because an individual key is used for both functions, secret key encryption is also known as symmetric encryption.



# *Public Key Encryption*

- Public Key encryption uses two keys for encryption and decryption.
- It depends on the technique of public and private keys.
- A public key, which is interchanged between higher than one user.
- Data is decrypted by a private key, which is not transformed.
- It is slower but more secure.
- The public key used in this encryption technique is applicable to everyone, but the private key used in it is not revealed.

- In public key encryption, a message that is encrypted utilizing a public key can be decrypted by a private key, while if the message is encrypted by a private key can be decrypted by utilizing the public key.
- Public key encryption is broadly used in day-to-day communication channels, particularly on the internet.
- It is also called as “asymmetric encryption”.



Public Key

Private Key



Plaintext

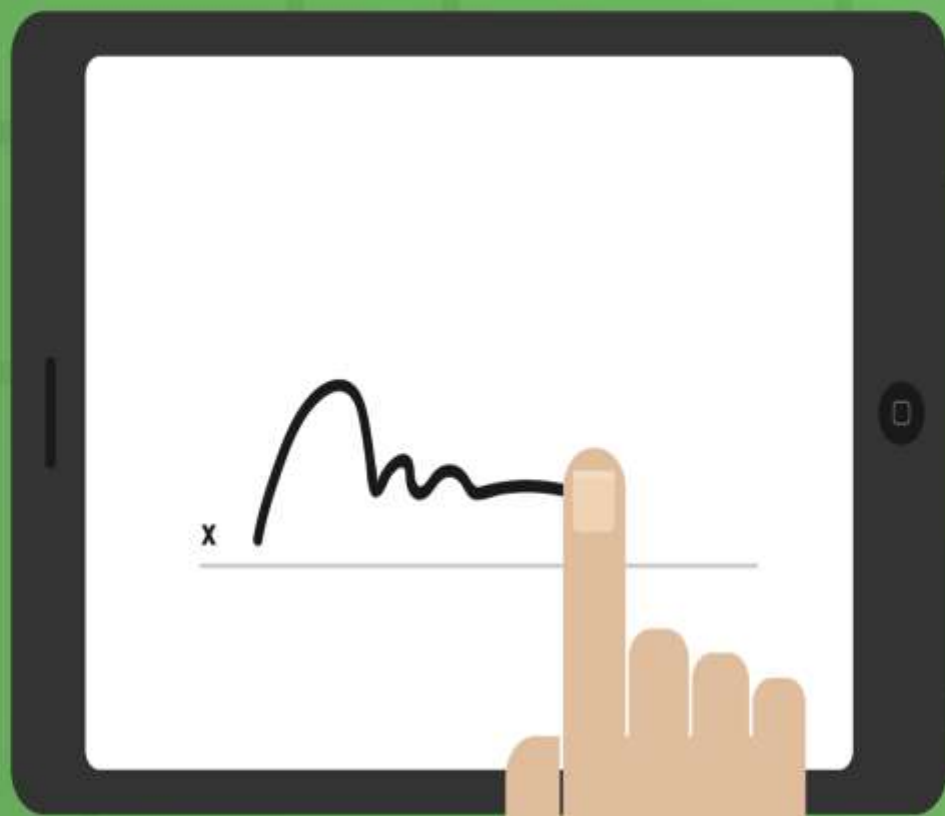
Encrypt

Ciphertext

Decrypt

Cleartext

# Digital Signatures



- A digital signature is a mathematical technique used to validate the authenticity and integrity of a digital document, message or software. It's the digital equivalent of a handwritten signature or stamped seal, but it offers far more inherent security.
- Digital signatures can provide evidence of origin, identity and status of electronic documents, transactions or digital messages.
- Signers can also use them to acknowledge informed consent.
- In many countries, including the U.S., digital signatures are considered legally binding in the same way as traditional handwritten document signatures.

- For encryption and decryption, the person who creates the digital signature uses a private key to encrypt signature-related data.
- The only way to decrypt that data is with the signer's public key.
- If the recipient can't open the document with the signer's public key, that indicates there's a problem with the document or the signature. This is how digital signatures are authenticated.

Digital signatures offer the following benefits:

❑ **Security:-** Security capabilities are embedded in digital signatures to ensure a legal document isn't altered and signatures are legitimate. Security features include asymmetric cryptography, personal identification numbers (PINs), checksums and cyclic redundancy checks (CRCs), as well as CA and trust service provider (TSP) validation.

❑ **Time stamping:-** This provides the date and time of a digital signature and is useful when timing is critical, such as for stock trades, lottery ticket issuance and legal proceedings.

□ **Globally accepted and legally compliant:-** The public key infrastructure standard ensures vendor-generated keys are made and stored securely. With digital signatures becoming an international standard, more countries are accepting them as legally binding.

□ **Time savings:-** Digital signatures simplify the time-consuming processes of physical document signing, storage and exchange, enabling businesses to quickly access and sign documents.

❑ **Cost savings:-** Organizations can go paperless and save money previously spent on the physical resources, time, personnel and office space used to manage and transport documents.

❑ **Positive environmental effects:-** Reducing paper use also cuts down on the physical waste generated by paper and the negative environmental impact of transporting paper documents.

Thank  
You