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SUBJECT: E-COMMERCE
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Unit I

Introduction to E-Commerce



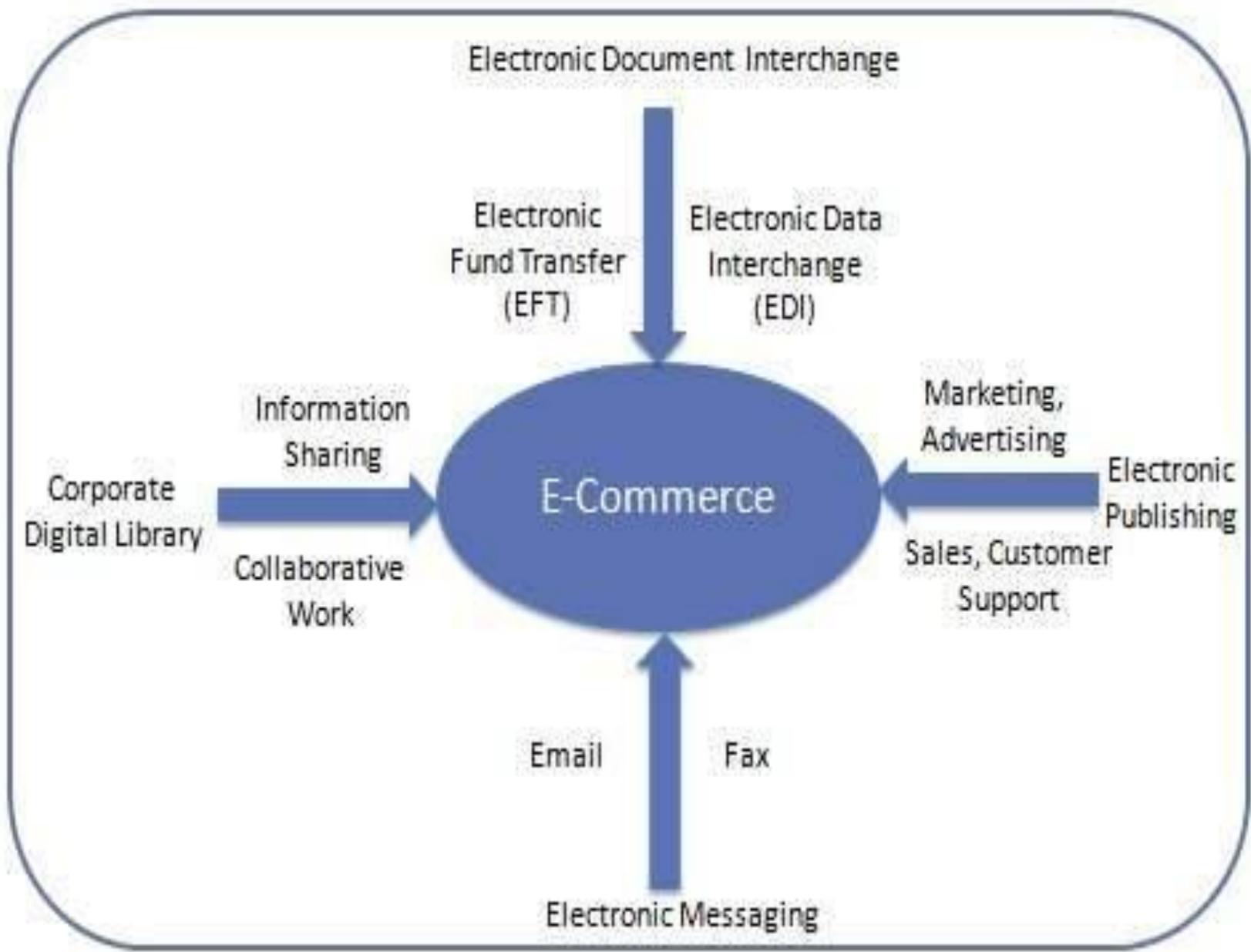
Question Bank -

- What is E- Commerce?
- Explain the different Goals of E- Commerce (4Mks)
- Give the different Components of E- Commerce (4Mks)
- What are the Applications of E- Commerce? (4Mks)
- How can you differ Traditional commerce Vs E- Commerce? (4Mks)
- Give the Advantages and Disadvantages of E- Commerce (4Mks)
- Explain the different E- Commerce Models B2B, B2C, C2B, C2C, B2G (8Mks)



What is E- Commerce ?

- **E-commerce** is the art and science of selling products or services over the Internet
- Electronic commerce, commonly known as e-commerce, is a type of industry where the buying and selling of products or services is conducted over electronic systems such as the Internet and other computer networks.
- E-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 good and services while increasing speed of delivery.





Importance/Features of E-Commerce

- **Exploitation of New Business -**

E-commerce emphasizes the exploitation of new business opportunities and generate business value.

- **Non-Cash Payment –**

E-commerce enables use of credit cards ,debit cards, smart cards, electronic fund transfer.Via banks website and other models of electronic payment.

- **Advertising / Marketing-**

E-commerce increases the reach of advertising of products and services of business to every corner of the society. It helps in better marketing management of products/services.

- **24 hours Business -**

Since the Internet is constantly active, there are no closing hours . So businesses can provides services to customers anytime and anywhere , they buy products 24 hours a day, 7 days a week.

- **Communication improvement –**

E-Commerce provides ways for faster, efficient, reliable communication with customers and partners

- **Improved Sales –**

Using E-Commerce, orders for the products can be generated any time, any where without any human intervention. By this way, dependencies to buy a product reduce at large and sales increases.



Goals of E- Commerce

- Faster Customer Response
- Improved Service Quality
- Build Security Facility
- Increase sales Revenue
- Increase Database Size
- Achieve Branding
- Achieve Customer relationship management goals
- Increase Market Share



Applications of E- Commerce

Some common applications related to electronic commerce are the following:

- Online Shopping
- Online Banking
- Supply Chain Management
- Instant Messaging
- Online Auction
- Teleconferencing
- Social Networking



Advantages of E- Commerce

Advantage of E-Commerce to Organizations -

- **International Market Place** – By becoming e-commerce enabled, businesses now have access to people all around the world.
- **Saves Operational Cost** – The cost of creating , processing, distributing and retrieving paper-based information has decreased .
- **Lower Communication Cost**-The Internet is much cheaper, which is based on leasing telephone lines. It is also cheaper to send a fax or e-mail via the Internet than direct calling.
- **No more 24-hour time based constraints**- Enables customers to shop or do other transactions 24 hours a day, all year round from almost any location.



Advantages of E- Commerce

Advantage of E-Commerce to Consumers -

- **More Choices** – Customers have a choice of products from National and International suppliers.
- **Price Comparisons** – Customers can ‘shop’ around the world and conduct comparisons directly by visiting different sites .
- **Improved Delivery Processes**-This can range from the immediate delivery of digitised or electronic goods such as software or audio-video files by downloading via the Internet.
- **24/7 access** - Enables customers to shop or conduct other transactions 24 hours a day, all year round from almost any location.



Advantages of E- Commerce

Advantage of E-Commerce to Society -

- **Connects People** – Enables people in developing countries and rural areas to enjoy and access products , services, information and other people.
- **Facilitates delivery of public services** – Health services available over the Internet(on line consultation with doctors) filing taxes over the Internet .
- **Enables more flexible working practices-** It enhances the quality of life for a whole host of people in society, enabling them to work from home.



Disadvantages of E- Commerce

Some of the disadvantages are –

- Lack of trust and user resistance
- Security and Privacy
- Lack of touch and feel .
- Lack of support services.
- Insufficiently large enough number of sellers and buyers.
- Breakdown of human relationships.
- Expensive and/or inconvenient accessibility to the Internet.



Traditional Commerce Vs E-Commerce

	Traditional Commerce	E-Commerce
Cost	Cost is greater due to taxes, advertisement and employees	Average cost is much lower than traditional type.
Market	Market is limited because of geo-geographical constraints.	Market is across the world because of non-physical aspects.
Time	It requires more time to go, to choose, compare and evaluate product	It takes less time to choose and make comparison between several products.
Advertisement	It requires product advertisement on various mediums	Developers of the websites also makes adds on domains



Continue.....

	Traditional Commerce	E-Commerce
Accessibility	Less accessible due to time or geo-graphical constraints.	Products can be accessed at any time and from almost anywhere.
Feedback	Feedback from customers takes a lot of time.	Feedback is immediate by certain website features.
Interactivity	Fewer customers can be interacting at a time because of less physical limitations.	Websites are especially designed for multi-users.
Reliability	People trust it more because of physical transactions.	Due to lack of awareness this is less popular among people.



E- Commerce Models

The major different models of e-commerce are:

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

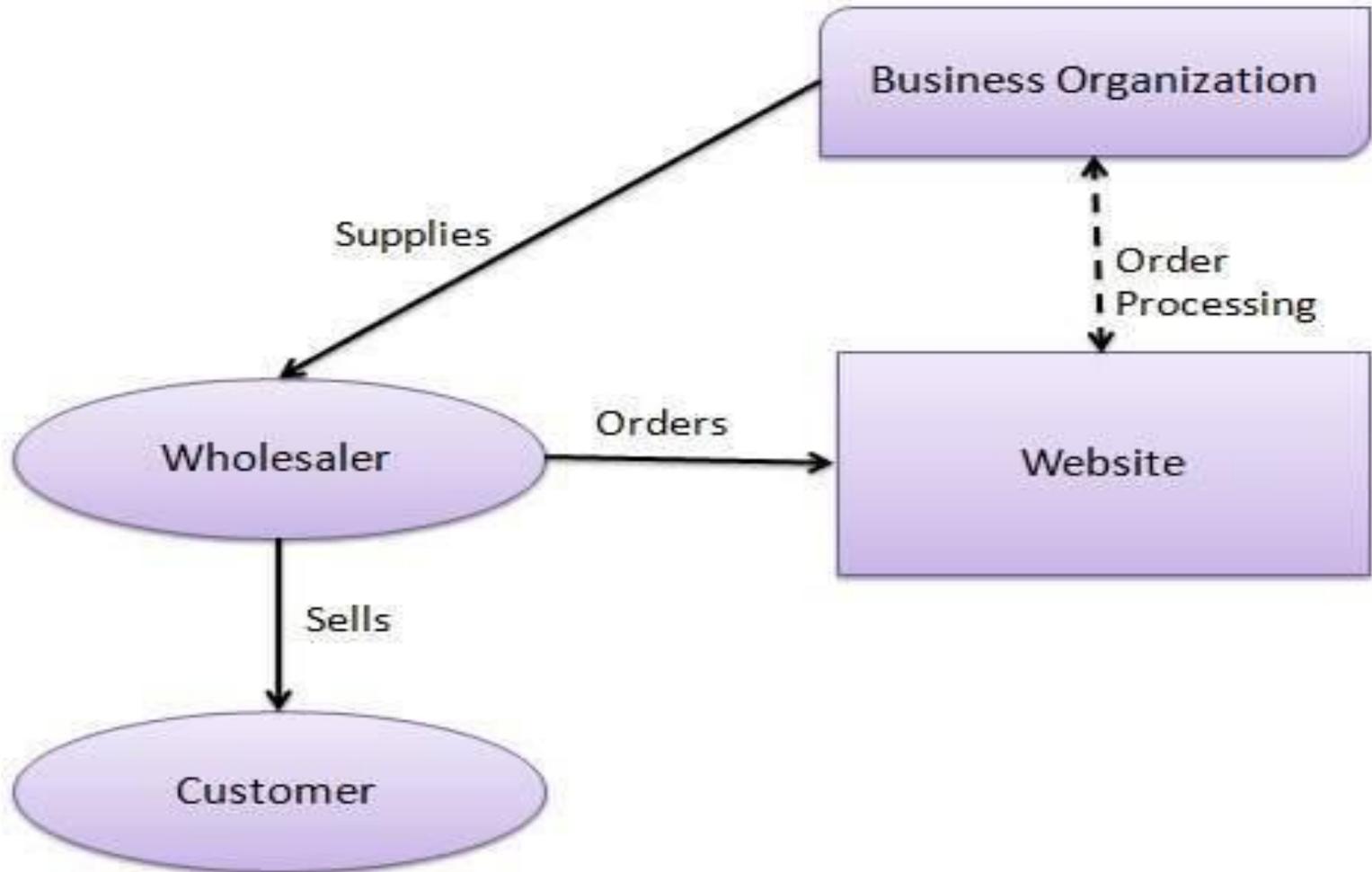


Business-to-Business (B2B)

- B2B e-commerce is simply defined as e-commerce between companies.
- This is the type of e-commerce that deals between and among businesses.
- About 80% of e-commerce is of this type.
- Example is manufacturer selling to distributors and wholesalers selling to retailers.



Fig : B2B Model



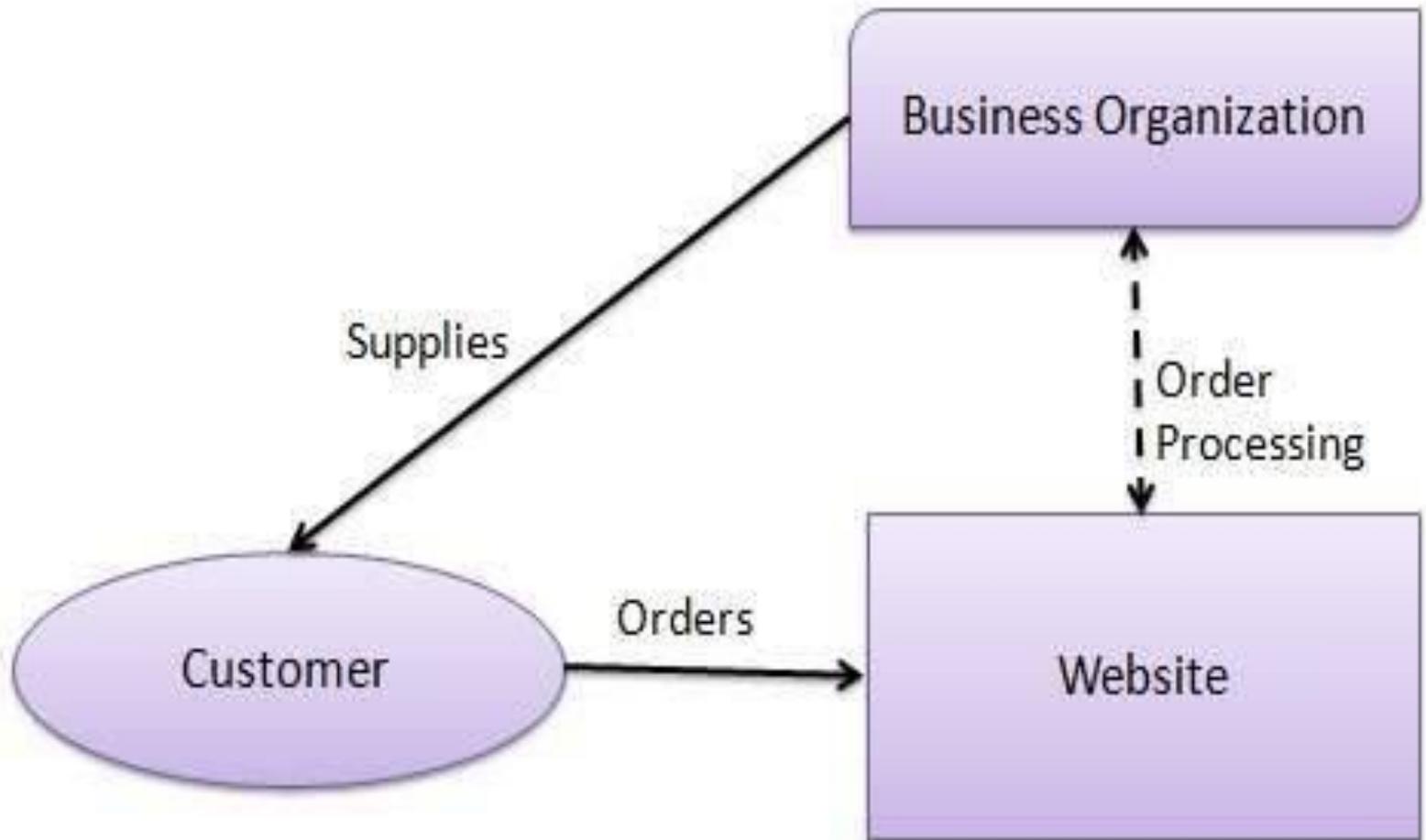


Business-to-Consumer (B2C)

- B2C e-commerce is between companies and consumers.
- Businesses selling to the people typically through electronic network.
- It is the second largest and the earliest form of e-commerce.
- An example of this would be Amazon.com. In that site you can browse the product catalogue and buy whatever you like.



Fig : B2C Model



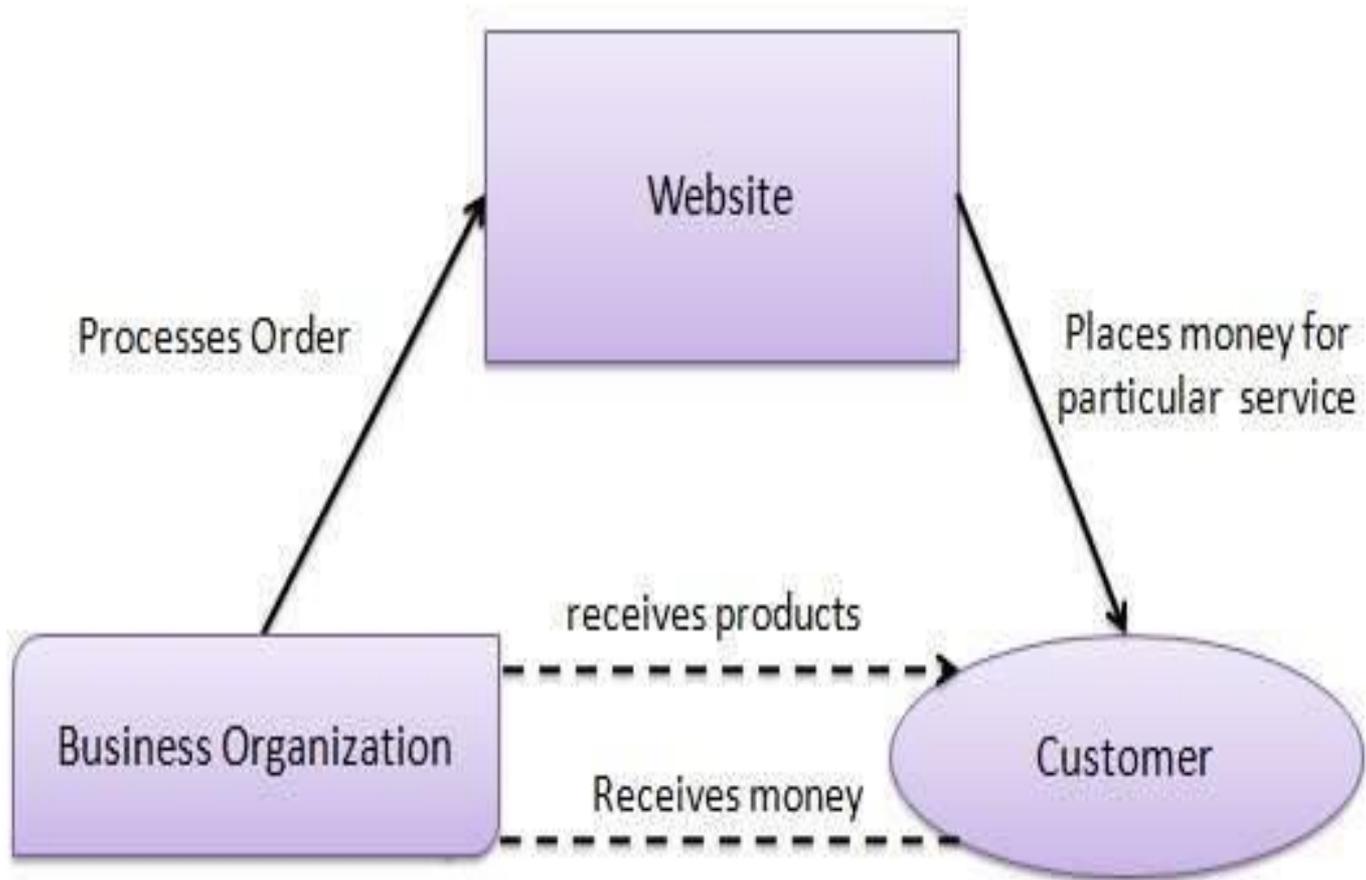


Consumer-to-Business (C2B)

- In a Consumer-to-Business E-commerce environment, consumers usually post their products or services online on which companies can post their bids. A consumer reviews the bids and selects the company that meets his price expectations.



Fig : C2B Model



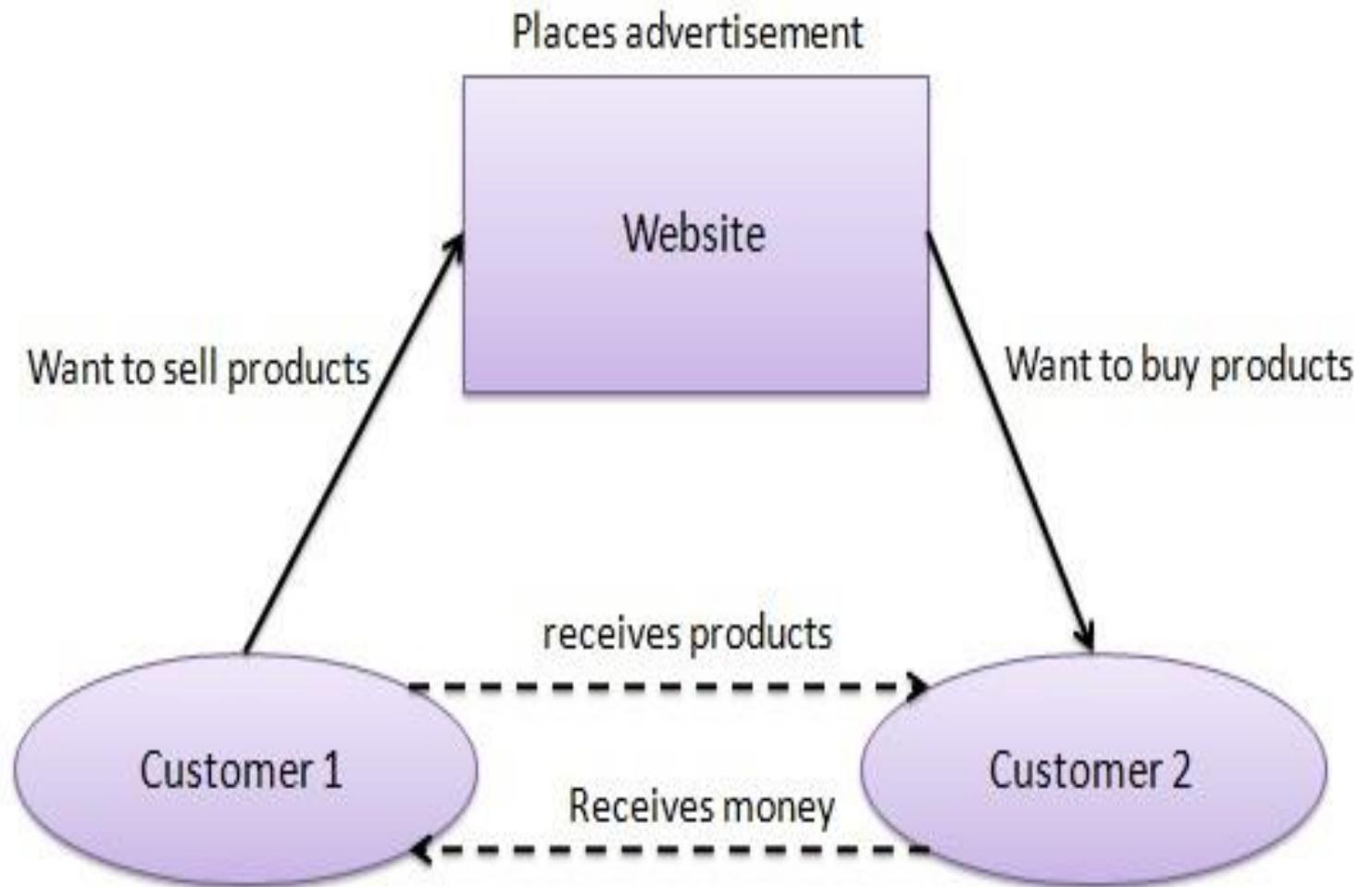


Consumer-to-Consumer (C2C)

- C2C e-commerce is simply commerce between private individuals or consumers
- In a Consumer-to-Consumer E-commerce environment consumers sell their online goods to other consumers.
- A well-known example is eBay
- For example: www.olx.in is a platform where you can post an ad for the sale of a product or a service and another individual just purchases the goods directly from you.



Fig : C2C Model





Business-to-Government (B2G)

- B2G e-commerce is generally defined as commerce between companies and the public sector.
- It refers to the use of the Internet for public procurement, licensing procedures, and other government-related operations.
- Example – Business pay taxes, file reports, or sell goods and services to government agencies.



Fig : B2G Model





Unit II

E-Money



Everyone uses money. We all want it, work for it and think about it

Money is what we use every day to pay our liabilities, and this includes currency

Money is a store of value and maintains its purchasing power over a long period of time

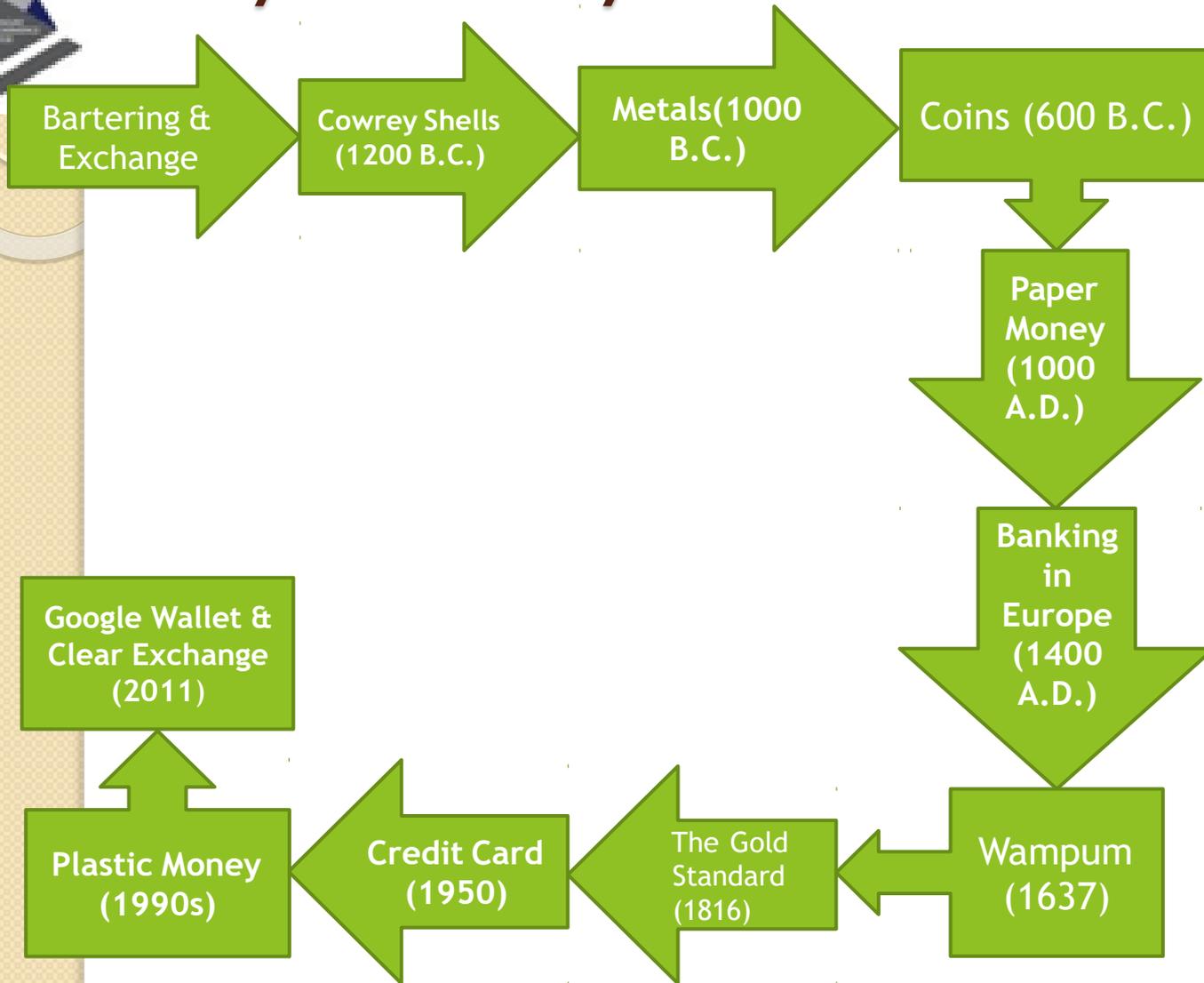
Four basic functions:

- Medium of Exchange
- Store of Value
- Standard of Deferred Payment
- Unit of Account





History of Money





Types of Money

The major types of money are:

1. Commodity Money
2. Representative Money
3. Standard Money
4. Receipt Money
5. Fractional Money
6. Token Money
7. Coins & Coinage
8. Fiduciary Money
9. Paper Money
10. Fiat Money
11. Commercial Bank Money
12. Electronic Money (E-Money)



E-Money

Electronic Money

Electronic money is money which exists only in banking computer systems and is not held in any physical form

Electronic money, or e-money, is the money balance recorded electronically on a stored-value card

It may refer to several systems which enable a buyer to pay electronically by transmitting a unique number (called digital certificate) similar to a banknote number.

In economic terms electronic money is monetary value provided by the issuer on demand, expressed in government or private monetary units stored in electronic form on an electronic device.



Types of E-Money

Hard Vs. Soft E-Money

-Hard Electronic Money does not allow reversing charges i.e. it supports only Non - Reversible transaction

-Soft Electronic Money allows payment reversals. The payment is reversed only in case of dispute or fraud.

Identified and Unidentified E-Money

-Identified E-money, such as credit card transactions, is a form of e-money that allows the user who withdraws the money to be tracked. It allows banks to track the payment throughout the economy. Unidentified money can be withdrawn from the bank and used like paper money.

Online and Off-line E-Money

-Online means we need to interact with bank to do a transaction with a third party. Offline means we can do a transaction without having to directly involve a bank.



Different Systems of E-Money

Electronic Money includes four different systems namely:

1. Centralized Systems,
2. Decentralized Systems,
3. Mobile sub-systems/Digital Wallets,
4. Offline Anonymous Systems.

DACC Centralized Systems

Many systems—such as PayPal, eCash, WebMoney, Payoneer, cashU, and Hub Culture's Ven will sell their electronic currency **directly to the end user**.

Other systems only sell through third party digital currency exchangers.





Decentralized Systems

Bitcoin

Monero

Litecoin

Ripple Monetary System

Dogecoin

Nxt

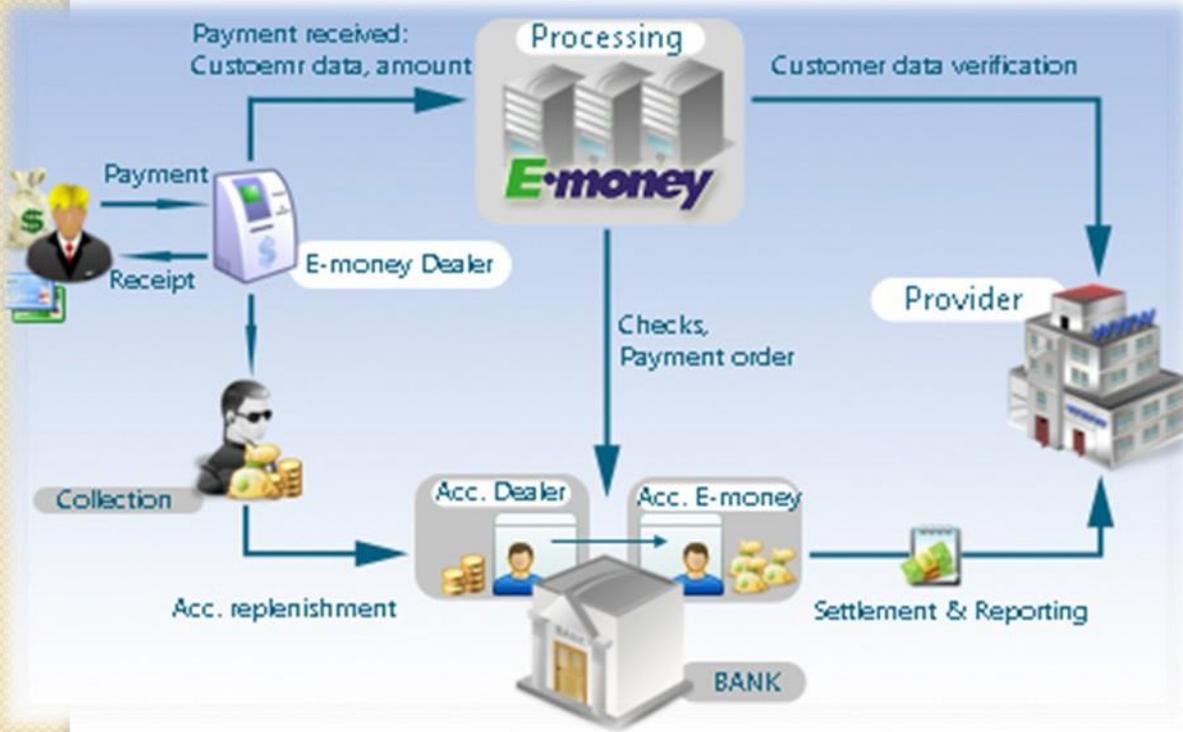




Payment system of E-Money

The payment system of E-money is an international terminal network. Major components are:

- i. Operator/ network provider
- ii. Distributor
- iii. Money Transport Organization





Comparison

Advantages

- ❑ Privacy & Confidentiality
- ❑ Security
- ❑ Environment Friendly
- ❑ Mobility
- ❑ Anonymity
- ❑ Record of Transactions

Disadvantages

- ❑ Fraud
- ❑ The double spending of digital coins
- ❑ Complexity
- ❑ Security
- ❑ Laws and regulations
- ❑ Mass Exposure
- ❑ Cross Transactions



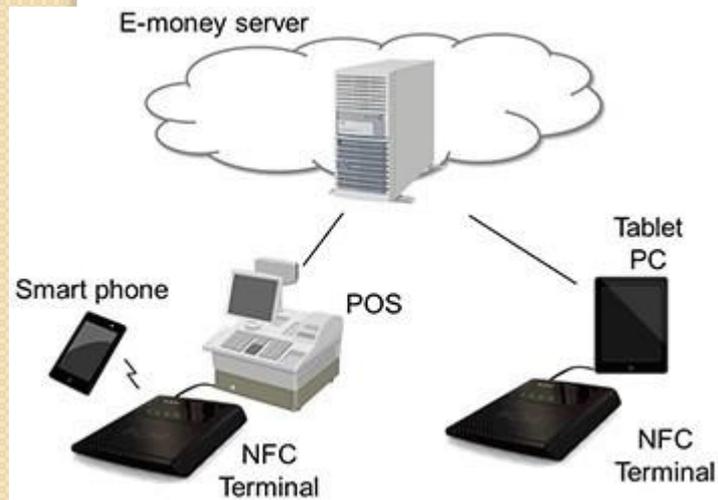
Security Measures of E- Money

- ❑ Encryption
- ❑ IT infrastructure
- ❑ Complexity
- ❑ Deep Web
- ❑ IT Knowledge
- ❑ Availability of Information





Future of the E-Money





Unit III

E-Marketing



3.1 Identifying Goals

1. Increase revenue
2. Build a brand
3. Improve local SEO
4. Increase qualified traffic
5. Manage online reputation
6. Become an influencer in your field



3.2 Browsing Behaviour Model

- Study of consumer behavior
 - Attempts to explain what consumers purchase and where, when, how much, and why they buy
- Consumer behavior models
 - Attempt to predict or explain wide range of consumer decisions
 - Based on background demographic factors and other intervening, more immediate variables
- Profiles of Online Consumers
 - Consumers shop online primarily for convenience



A General Model of Consumer Behavior



Independent Demographic Variables — Background Factors

Intervening Variables — Market Stimuli, Social Networks, Communities

Dependent Variables



The Online Purchasing Decision

- Five stages in consumer decision process
 - Awareness of need
 - Search for more information
 - Evaluation of alternatives
 - Actual purchase decision
 - Post-purchase contact with firm



The Consumer Decision Process and Supporting Communications

MARKET COMMUNICATIONS	Awareness— Need Recognition	Search	Evaluation of Alternatives	Purchase	Post-purchase Behavior— Loyalty
Offline Communications	Mass media TV Radio Print media Social networks	Catalogs Print ads Mass media Sales people Product raters Store visits Social networks	Reference groups Opinion leaders Mass media Product raters Store visits Social networks	Promotions Direct mail Mass media Print media	Warranties Service calls Parts and repair Consumer groups Social networks
Online Communications	Targeted banner ads Interstitials Targeted event promotions Social networks	Search engines Online catalogs Site visits Targeted e-mail Social networks	Search engines Online catalogs Site visits Product reviews User evaluations Social networks	Online promotions Lotteries Discounts Targeted e-mail Flash sales	Communities of consumption Newsletters Customer e-mail Online updates Social networks

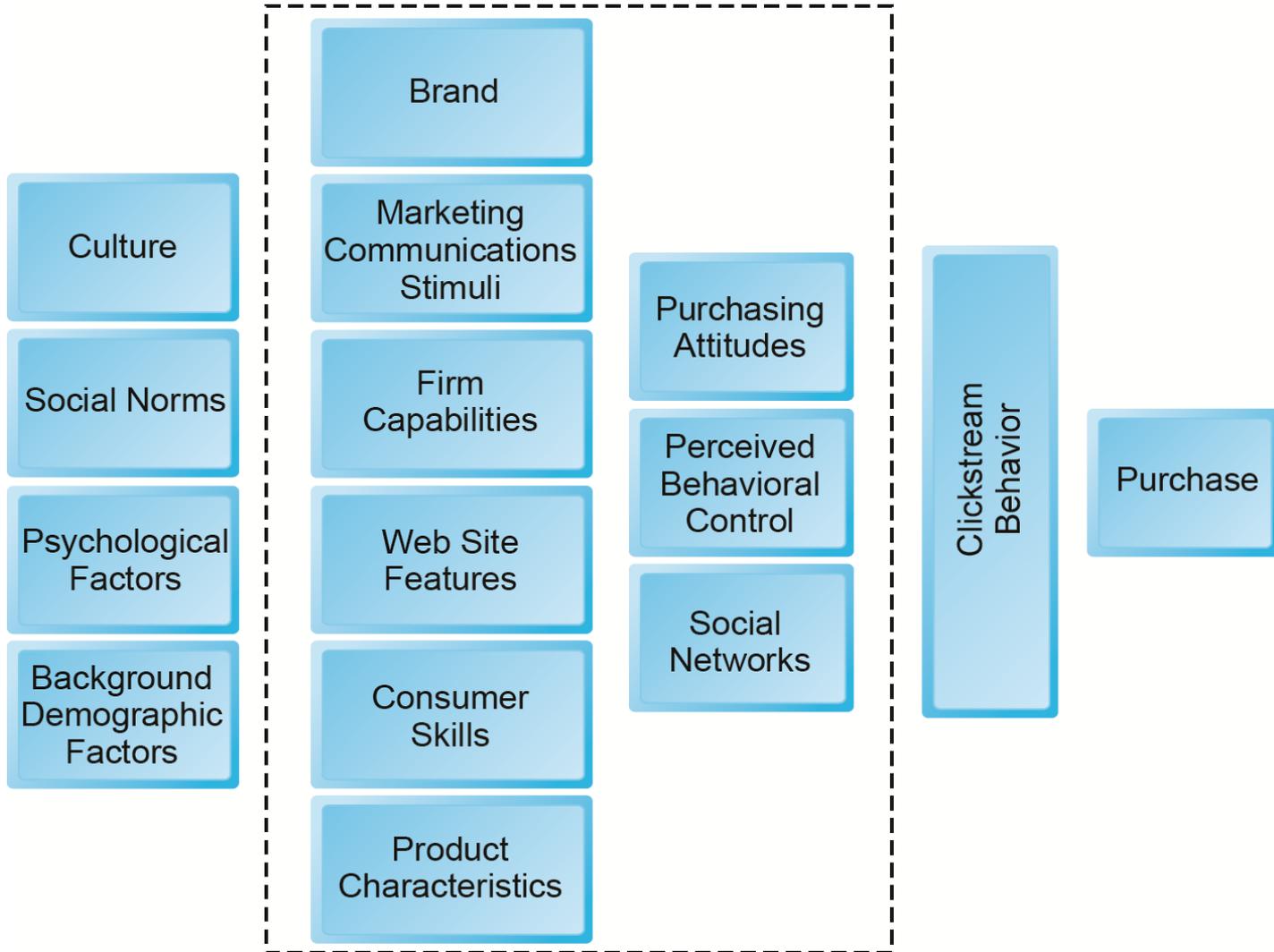


The Online Purchasing Decision (cont.)

- Decision process similar for online and offline behavior
- General online behavior model
 - Consumer skills
 - Product characteristics
 - Attitudes toward online purchasing
 - Perceptions about control over Web environment
 - Web site features: latency, usability, security
- Clickstream behavior



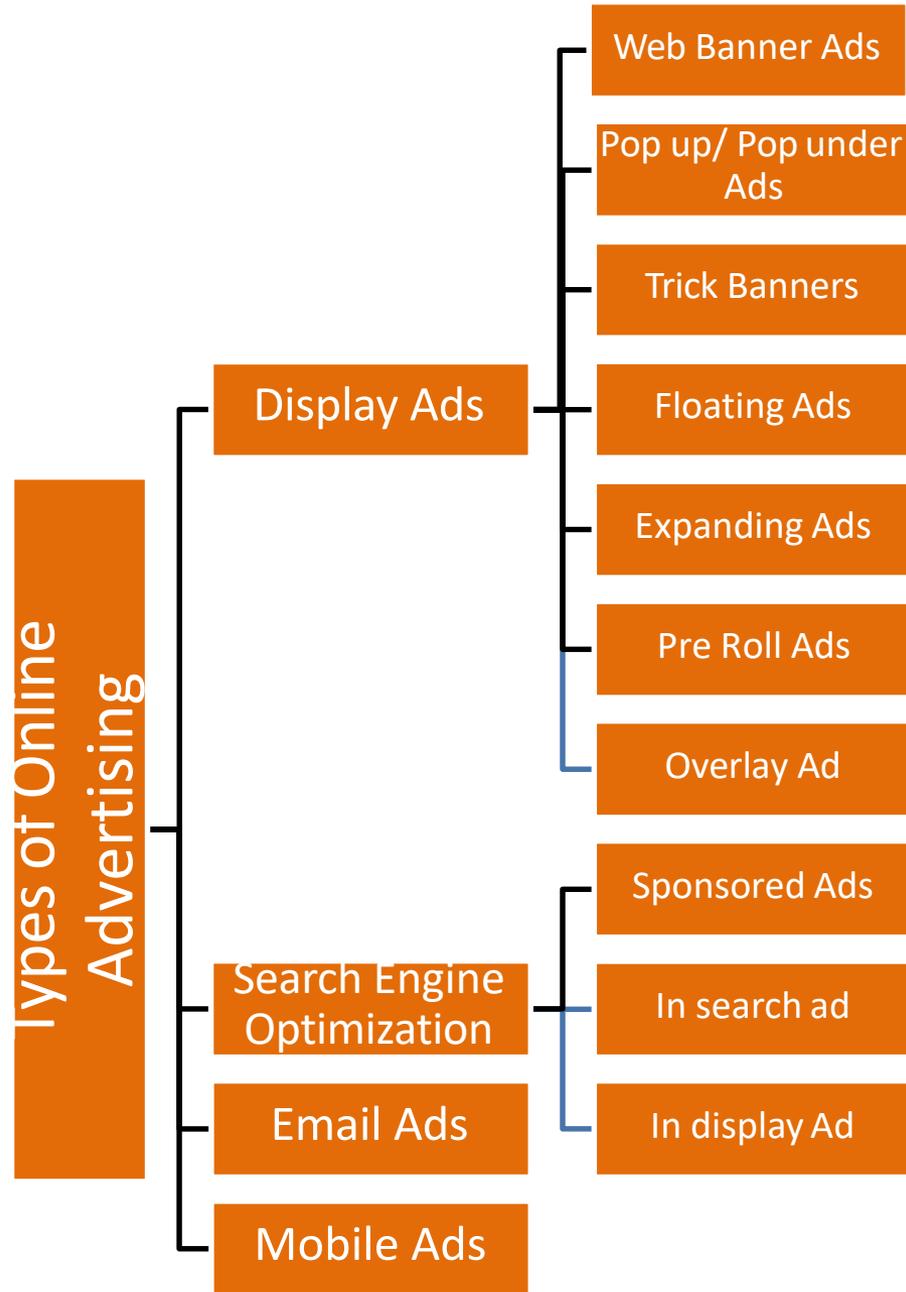
A Model of Online Consumer Behavior





E Advertising

Online advertising is a form of marketing and advertising which uses the Internet to deliver promotional marketing messages to consumers, also known as Online marketing or Internet advertising,





Unit IV

Cyber Law Concepts



4.1 E Contract

Introduction:

- E-commerce offers the flexibility to business environment in terms of place, time, space, distance, and payment.
- E-commerce is associated with the buying and selling of information, products and services via computer networks.
- It is a means of transacting business electronically, usually, over the Internet. It is the tool that leads to 'enterprise integration'.
- With the growth of e-commerce, there is a rapid advancement in the use of e-contracts.
- But deployment of electronic contracts poses a lot of challenges at three levels, namely **conceptual, logical and implementation**.



Definition:

- E-contract is a contract modeled, specified, executed and deployed by a software system.
- E-contracts are conceptually very similar to traditional (paper based) commercial contracts.
- Vendors present their products, prices and terms to prospective buyers. Buyers consider their options, negotiate prices and terms (where possible), place orders and make payments.
- Then, the vendors deliver the purchased products. Nevertheless, because of the ways in which it differs from traditional commerce, electronic commerce raises some new and interesting technical and legal challenges.



For recognition of e-contracts following questions are needed to be considered:

Whether e-contract is a valid contract?

Would a supplier making details of goods and services with prices available on a website be deemed to have made an offer?

Whether e-contracts satisfy the legal requirements of reduction of agreements to signed documents.

Whether e-contracts interpret, adopt and compile the other existing legal standards in the context of electronic transactions?



Recognition E-contracts

Offer: The law already recognizes contracts formed using facsimile, telex and other similar technology.

An agreement between parties is legally valid if it satisfies the requirements of the law regarding its formation, i.e. that the parties intended to create a contract primarily.

This intention is evidenced by their compliance with 3 classical cornerstones i.e. offer, acceptance and consideration.

Advertisement on website may or may not constitute an offer as offer and invitation to treat are two distinct concepts. Being an offer to unspecified person, it is probably an invitation to treat, unless a contrary intention is clearly expressed. The test is of intention whether by supplying the information, the person intends to be legally bound or not. When consumers respond through an e-mail or by filling in an online form, built into the web page, they make an Offer. The seller can accept this offer either by express confirmation or by conduct.



Jurisdiction Concept



- The Internet brought sellers and buyers from around the world to transact with each other.
- The various payment gateways came along and helped manage the monetary part of such transactions, while operating from a totally different nation.
- The electronic currencies are not regulated by any government, and are based on the concept of unregularised free-commerce



The courts of law primarily have to deal with territorial and pecuniary jurisdictions. Related to e-commerce dispute, deciding territorial jurisdiction gets more complicated, mainly because when it comes to the Internet, there are no borders between the countries.



Unit V

Cyber Jurisprudence



Classification of cyber crime

- Cyber crime can be further classified into the following categories:-
 - Crime Against Individuals
 - Crime Against Society
 - Crime Against Government
 - Crime Against Companies

CYBER CRIME

Types of Cyber attacks, by percentage (source-FBI)

- Financial fraud:
- Sabotage of data/networks:
- Theft of proprietary information:
- System penetration from the outside:
- Denial of service:
- Unauthorized access by insiders:
- Employee abuse of internet privileges
- Viruses:



CYBER CRIME

- “If you experienced computer system intrusions by someone from outside your organization, indicate the type of activity performed by the intruder.”
 - Manipulate data integrity
 - Installed a sniffer
 - Stole password files
 - Probing/scanning systems
 - Trojan logons
 - IP spoofing
 - Introduced virus
 - Denied use of services

Types of Cyber crime

- PHISHING
- CYBER STALKING
- VISHING
- HACKING
- CHILD PORNOGRAPHY
- DENIAL OF SERVICE ATTACK
- VIRUS DISSEMINATION
- COMPUTER VANDALISM
- CYBER TERRORISM
- SOFTWARE PIRACY
- OTHERS



Hacking



- Hacking in simple terms means an illegal intrusion into a computer system and/or network. It is also known as CRACKING. Government websites are the hot targets of the hackers due to the press coverage, it receives. Hackers enjoy the media coverage

VIRUS DISSEMINATION

- Malicious software that attaches itself to other software or computer system and then propagates itself to other computers via networks or disks. (virus, worms, Trojan Horse, web jacking, e-mail bombing etc)



Cyber Threat Evolution

