Payment System, Social Networks and Online Auctions

❖ Types of Payment Systems

- There are five main types of payment systems. Cash, checking transfer, credit cards, stored value and accumulating balance.

1. Cash

- It is the preferred method for small payments because it involves no credit and therefore no promises. With cash, you can usually purchase goods and services easily as it widely accepted.

- Carrying too much cash is risky as it can lead to theft and other problems. However, people still carry cash for its convenience and flexibility. From the payee's point of view, transactions are completed immediately and this cash can be re-used for other transactions.

2. checking transfer

- Checking transfer represents funds transferred directly via a signed draft or check.

- A cheque is an order to transfer funds from the payer's bank to the account of the payee. Cheques are simply a payment instruction from the account holder to his/her banker directing that a certain sum of money should be paid to a specific individual or to the bearer of the instrument.

3. credit cards

- Represents account that extends credit to consumers; allows consumers to make payments to multiple vendors at one time.

- Credit card associations such as Visa, MasterCard are Nonprofit associations that set standards for issuing banks.

- Issuing banks: Issue cards and process transactions

- Processing centers (clearinghouses): Handle verification of accounts and balances.

- Credit card offer consumers a line of credit and the ability to make small and large purchase instantly. They are widely accepted as a form of payment reduces the risk of theft associated with carrying cash and increase customer convenience.

4. stored value

- Accounts created by depositing funds into an account and from which funds are paid out or withdrawn as needed are stored-value payment system.

- Examples include debit card, gift card, smart card etc.

- **Debit Card** is a payment card where the transaction amount is deducted directly from the card holder's bank account upon authorization. **Debit cards can be of two types**.

    1) **One** which are linked to an account and is issued by banks to account holders only.
    2) **Second** could be pre-loaded cards where a certain amount is stored in the card. Generally, debit cards are also ATM cards. The mode of using debit cards and credit cards is generally the same.

- **Smart Card** is a plastic card embedded with a microprocessor that has the customer's personal information stored in it and can be loaded with funds to make online transactions and instant payment of bills. The money that is loaded in the smart card reduces as per the usage by the customer and has to be reloaded from his/her bank account.

- **Gift Cards** are another form of stored value. Many stores and online retailers will let you convert cash into a gift card which you can use in their store. Gift cards usually have no fees, so they retain their value longer than other stored value cards.

The major drawback is that you can only use a gift card at the business which issued it.

5. accumulating balance

- The difference between the amount of your monthly payment and the actual amount of energy you use each month is placed into an accumulated balance.

- The accumulated balance appears on your monthly statement. The accumulated balance may be either a credit (over payment) or a debit (under payment) amount.

- Systems that accumulate small charges and bill the consumer periodically.

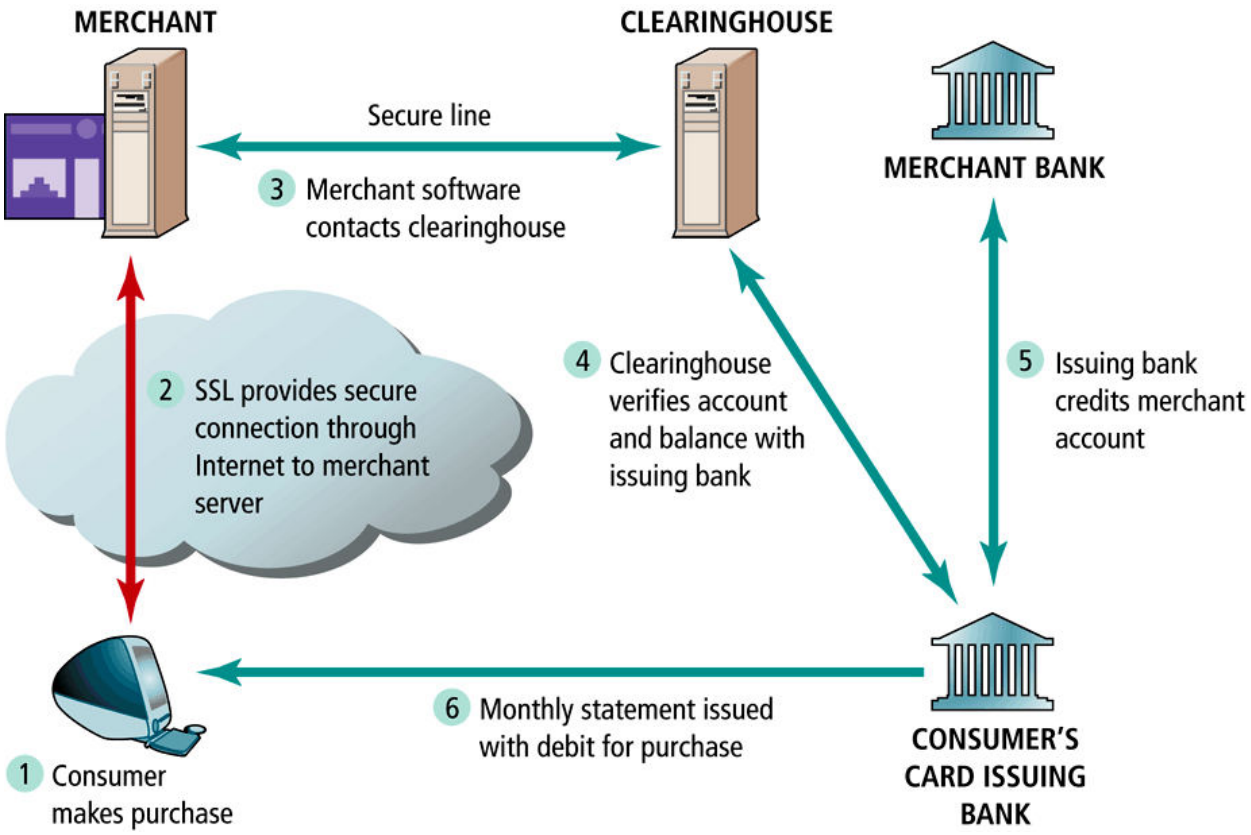
- Examples: phone bill, electricity bills etc.

❖ E-commerce Payment Systems

1. Online Credit Card Transactions

- Credit cards are dominant form of online payment, it is important to understand how they work and to recognize.

➢ Following diagram shows online credit card purchasing cycle



➢ Participants include consumer, merchant, clearinghouse, merchant bank (acquiring bank) and consumer's card issuing bank.

➢ An online credit card transaction begins with a purchase

1) The cardholder presents their credit card for payment to the merchant at the point of sale. When customer wants to pay for the items in the shopping card, a secure channel through the internet is created using SSL, the customer's credit card details are sent to the acquiring bank.

2) The issuing bank verifies the validity of the customer's credit card, the merchant software contacts a clearinghouse

3) Once verified, the issuing bank credits the account of the merchant at the merchant 's bank

4) Monthly statement is given to the customer.

Limitations of Online Credit Card Payment Systems

1) Security – neither merchant nor consumer can be fully authenticated

2) Cost – for merchants, around 3.5% of purchase price plus transaction fee of 20-30 cents per transaction

3) Social equity – many people do not have access to credit cards

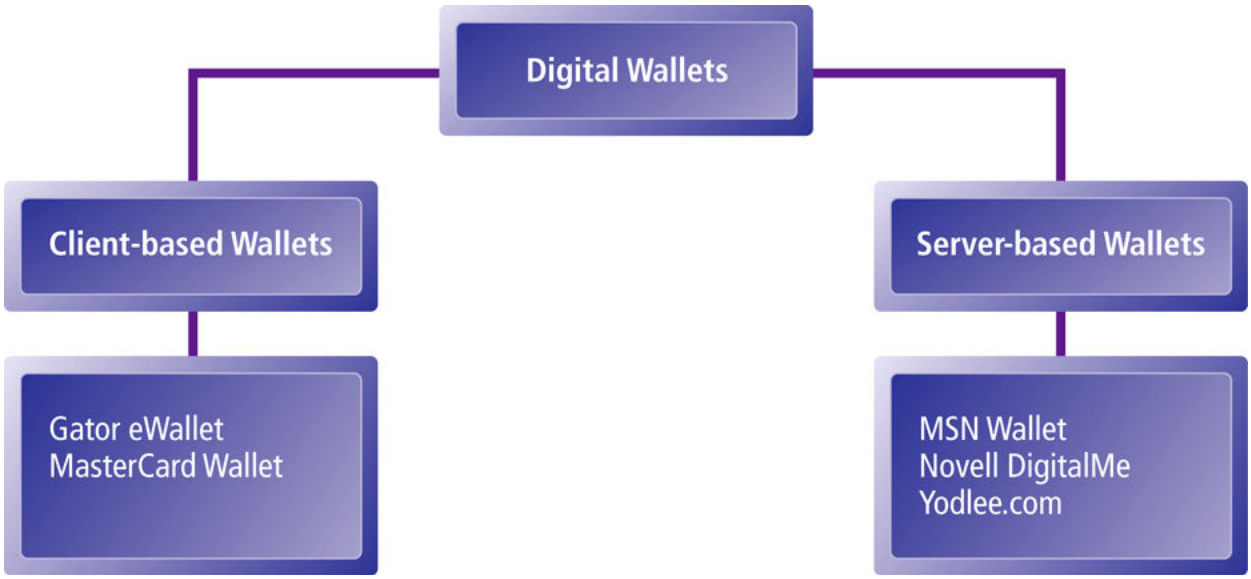
2. Digital Wallets

- Concept of digital wallet relevant to many of the new digital payment systems, it seeks to emulate the functionality of traditional wallet.

- Most important functions:
  a) Authenticate consumer through use of digital certificates or other encryption methods
  b) Store and transfer value
  c) Secure payment process from consumer to merchant

- Two major categories:

  Client-based digital wallets – Gator.com, MasterCard Wallet
  Server-based digital wallets – MSN Wallet



3. Digital Cash

- One of the first forms of alternative payment systems

- E-cash or electronic cash is digital money that is used for online purchasing. Users need specific software on their PC to enable them to download money from their bank account into their cash wallet on their PC. When buying, consumers exchange the downloaded money with the merchant for the product they want to buy. The merchant then redeems this money at a bank that accepts e-cash deposits.

- Digital cash is possible through what is called 'public key encryption'. The general idea is that banks and consumers have public encryption keys. These public encryption keys come in pairs - a private key for the consumer and a public key available for everyone. Anything the private key encrypts, the public key can decrypt and vice versa. So, for example a consumer may deposit and withdraw using their private key, and these are verified by the bank using the consumer's corresponding public key.

4. Online Stored Value Systems

- Online Stored Value Systems permit consumers to make instant, online payments to merchants and other individual based on value stored in an online account.

- **PayPal** is a service that enables you to pay, send money, and accept payments. EBay, the popular Web-based auction enterprise, acquired PayPal in October 2002.

- PayPal enables individuals and businesses with e-mail accounts to make and receive payments up to a specified limit. Register your credit card or debit card with your PayPal account.

- When user make a payment using PayPal, user e-mail the payment to the merchant's PayPal account. PayPal transfers the amount from user credit or checking account to the merchant's bank account.

- **Smart Card** is a plastic card embedded with a microprocessor that has the customer's personal information stored in it and can be loaded with funds to make online transactions and instant payment of bills.

- There are two types of smart cards

1. **Contact Cards**

- They are named so because they come in contact with the reader. These are usually the size of a credit card. A metallic chip is embedded inside the plastic card with a microprocessor and a memory or only with a memory. They are widely used in network security, access control, e-commerce, electronic cash, and as health cards.

2. Contactless Cards

- As the name suggests, the contactless cards do not directly come in contact with the reader. These cards have an antenna built in the card that is used to communicate to the reader. The working of these cards is based on **radio frequency identification technology**. These cards are used as parking cards, student identification, and electronics passports.

5. Digital Accumulating Balance Payment Systems

- Allows users to make micropayments and purchases on the Web, accumulating a debit balance for which they are billed at the end of the month.

- It invoices customers through existing consumer billing services such as telephone and wireless service companies, Internet service providers, and banks.

6. Digital checking Payment Systems

- Digital checking payment systems, such as Western Union MoneyZap and eCheck, extend the functionality of existing checking accounts so they can be used for online shopping payments.

- Digital checks are less expensive than credit cards and much faster than traditional paper-based checking. These checks are encrypted with a digital signature that can be verified and used for payments in electronic commerce. Electronic check systems are useful in business-to-business electronic commerce.

7. Wireless Payment Systems

- Mean payments through wireless devices such as mobiles. Use of mobile handsets as payment devices well-established in Europe, Japan, South Korea.

Japanese mobile payment systems

- Japanese cell phones act like mobile wallets, containing a variety of payment mechanisms. Also Consumers can pay merchants by simply waving the cell phone at a merchant's payment device that accepts payments. Because Japanese cell phones can act as bar code reader.

- Not fully established yet in the United States Majority of purchases are digital content for use on cell phone. In Europe and Asia, cell phone users can pay for a very wide variety of real goods and services, and there, phones are integrated into a wide array of financial institutions.

Social networks, Auctions and Portals

What is online social network?

- Online social network is a website that brings people together to talk, share ideas and interests, or make new friends. This type of collaboration and sharing is known as social media.
- Examples -face book, instagram, twitter etc.

Difference between social networks and portals

Social Network

- An online social network, also called a social networking Web site, is a Web site that encourages members in its online community to share their interests, ideas, stories, photos, music, and videos with other registered users.

- Popular social networking Web sites include MySpace and Face book, with Face book alone boasting more than 300 million active users.

- A media sharing Web site is a specific type of online social network that enables members to share media such as photos, music, and videos.

Portal

- A portal is a Web site that offers a variety of Internet services from a single, convenient location.

- Most portals offer these free services: search engine; news; sports and weather; Web publishing; reference tools such as yellow pages, stock quotes, and maps; shopping; and e-mail communications services.

- Popular portals include AltaVista, AOL, Excite, GO.com, Google, Lycos, MSN, and Yahoo!.

Social Network Features and Technologies

- Social networks have developed software applications that allow users to engage in a number of activities. Some of the software tools are built into the site, while other will be added by user.

The future of Social Network

- Today's networks are places you go online, but in the future browsers, portals like yahoo and Google and general web sites will have social networking functionally built in, making it less necessary that you go to a social network site.

❖ Online Auctions

- An online auction is a service in which auction users or participants sell or bid for products or services via the Internet.

- Virtual auctions facilitate online activities between buyers and sellers in different locations or geographical areas. Various auction sites provide users with platforms powered by different types of auction software.

- eBay is among the top ten most-trafficked sites on the Internet. eBay leads the online auction industry with a more

than 60 percent share of the market, while its closest competitor, Yahoo! Auctions, is only half its size. Amazon.com Auctions follows at a distant third.

❖ Defining and measuring growth of auctions and dynamic pricing

- **Auctions** are markets in which prices are variable and based on the competition among participants who are buying or selling products and services.

- **Types of pricing**

1. **Dynamic pricing** - price of product varies, depending directly on demand characteristics of customer and supply situation of seller.

2. **Fixed pricing** - one national price, everywhere, for everyone.

3. **Trigger pricing** - adjusts prices based on location of consumer (used in m-commerce)

4. **Utilization pricing** - adjust prices based on utilization of product.

5. **Personalization pricing** - adjusts prices based on merchant's estimate of how much the customer values product .

6. **consumer-to consumer (C2C)** auctions in which auction house is simply an intermediary market house is simply an intermediary market maker, providing forum where consumers – buyers and sellers – can discover prices and trade

❖ Benefits of Auctions

1. **Liquidity** – sellers can find willing buyers, and buyers can find sellers can find willing buyers, and buyers can find sellers.

2. **Price discovery** – buyers and sellers can quickly and efficientlyν develop prices for items difficult to assess where product is develop prices for items difficult to assess, where product is rare.

3. **Price transparency** – public Internet auctions allow everyone to see asking and bidding prices for items.

4. **Market efficiency** –auctions can lead to reduced prices → reduced profits for merchants → increasing consumer welfare

increasing consumer welfare (one measure of market efficiency)

5. **Lower transaction costs** – lower cost of selling and buying products.

6. **Consumer aggregation –** sellers benefit from large auction sites' ability to aggregate large number of consumers

7. **Network effects** – large auction sites with large number of visitors and products make it likely to find what you want at a good price and highly probable to find a buyer for just about anything

❖ Risks and Costs of Auctions for Consumers and Businesses

1. **Delayed consumption costs** - buyers must wait until auctions are buyers must wait until auctions are over, and shipping takes time.

2. **Monitoring costs** – requires time to monitor bidding.

3. **Equipment costs** - cost of computer system, Internet access, and learning complex operating system cost.

4. **Fulfillment costs** – buyers pay costs of packing, shipping, and insurance.

❖ Internet Auction Basics

➢ Internet auctions are different from traditional auctions

- Tend to go on much longer (usually a week)
- Have a variable number of bidders who come and go from auction arena

➢ Market power and bias in dynamically priced markets

- Where number of buyers and sellers is few or equal: neutral
- Where one or small number of sellers and many buyers: seller bias
- Where many sellers and few buyers: buyer bias

➢ **Price Allocation Rules**

➢ Rules for establishing winning bids and prices in auctions where there are multiple units for sale

- Uniform pricing rule: Multiple winners who all pay the same price (normally lowest winning bid)
- Discriminatory pricing rule: Winners pay different amount depending on what they bid, as in uBid.com
- From buyer's point of view, uniform pricing is better, but from seller's point of view,discriminatory pricing is better

❖ **Types of Auctions**

1. English auctions (eBay):

➢ Easiest to understand and most common
➢ Single item up for sale to single seller
➢ Highest bidder wins

2. Traditional Dutch auction (Dutch flower market):

➢ Public descending price auction, single unit; seller lowers price until a buyer take the product.

3. Dutch Internet auction (eBay Dutch auction):

➢ Public ascending price, multiple units

- Final price is lowest successful bid, which sets price for all higher bidders uniform price rule)

4. Name Your Own Price Auctions

- Pioneered by Priceline
- Users specify what they are willing to pay for goods or services and multiple providers bid for their business
- Prices do not descend and are fixed
- Requires a commitment to purchase at the first offered price

5. Group Buying Auctions (Demand Aggregators)

- Facilitate group buying of products at dynamically adjusted discount prices based on high volume purchases.

- Based on two principles

  • Sellers are more likely to offer discounts to buyers purchasing in volume
  • Buyers increase their purchases as prices fall

6. Professional Service Auctions—Elance.com

7. **Auction Aggregators**—use Web crawlers to search thousands of Web auction sites and accumulate information on products, bids, auction duration, etc.