UNIT III

Payment Systems, Social Networks & Online Auctions

3	**Payment Systems, Social Networks and Online Auctions**

	• **Types of Payment systems**
	  ○ Cash
	  ○ Checking transfer
	  ○ Credit card
	  ○ Accumulating balance
	• **E-Commerce payment systems**
	  ○ Online credit card transaction
	  ○ Digital wallets
	  ○ Digital cash
	  ○ Online stored value systems
	  ○ Digital accumulating balance payment systems
	  ○ Digital checking payment systems
	  ○ Wireless payment systems

	Social Networks, Auctions and Portals

	• **Social Networks and Online Communities**
	  ○ What is online social network?
	  ○ Difference between Social networks and Portals
	  ○ Social network features and technologies
	  ○ The future of social networks
	• **Online Auctions**
	  ○ Defining and measuring the growth of auctions and dynamic pricing
	  ○ Why are Auctions so popular? Benefits and costs of Auctions
	(excluding: market-maker benefit)
	  ○ Types and examples of Auctions

3.1. TYPES OF PAYMENT SYSTEMS

- There are 5 main types of payment systems:

1. Cash
2. Checking transfer
3. Credit Card
4. Stored Value
5. Accumulation Balance

3.1.1. CASH

- Legal tender defined by a national authority to represent value.
- Most common form of payment in terms of number of transactions.
- It is portable, requires no authentication, & provides instant purchasing power.
- “Free” (no transaction fee), anonymous, low cognitive demands
- Limitations: easily stolen, limited to smaller transaction, does not provide any float
- (Float: the period of time between a purchase & actual payment for the purchase)

3.1.2. CHECKING TRANSFER

- Funds transferred directly via a signed draft or check from a consumer's checking account to a merchant or other individual
- Most common form of payment in terms of amount spend
- Can be used for both small and large transactions
- Not anonymous, require third-party intervention (banks)
- Introduce security risks for merchants (forgeries, stopped payments), so authentication typically required

3.1.3. CREDIT CARD

- Represents an account that extends credit to consumers, permitting consumers to purchase items while deferring payment, and allows consumers to make payments to multiple vendors
- Credit card associations – Nonprofit associations (Visa, MasterCard) set standards for issuing banks
- Issuing banks – Issue cards and process transactions
- Processing centers (clearinghouses) – Handle verification of accounts and balances

3.1.4. STORED VALUE

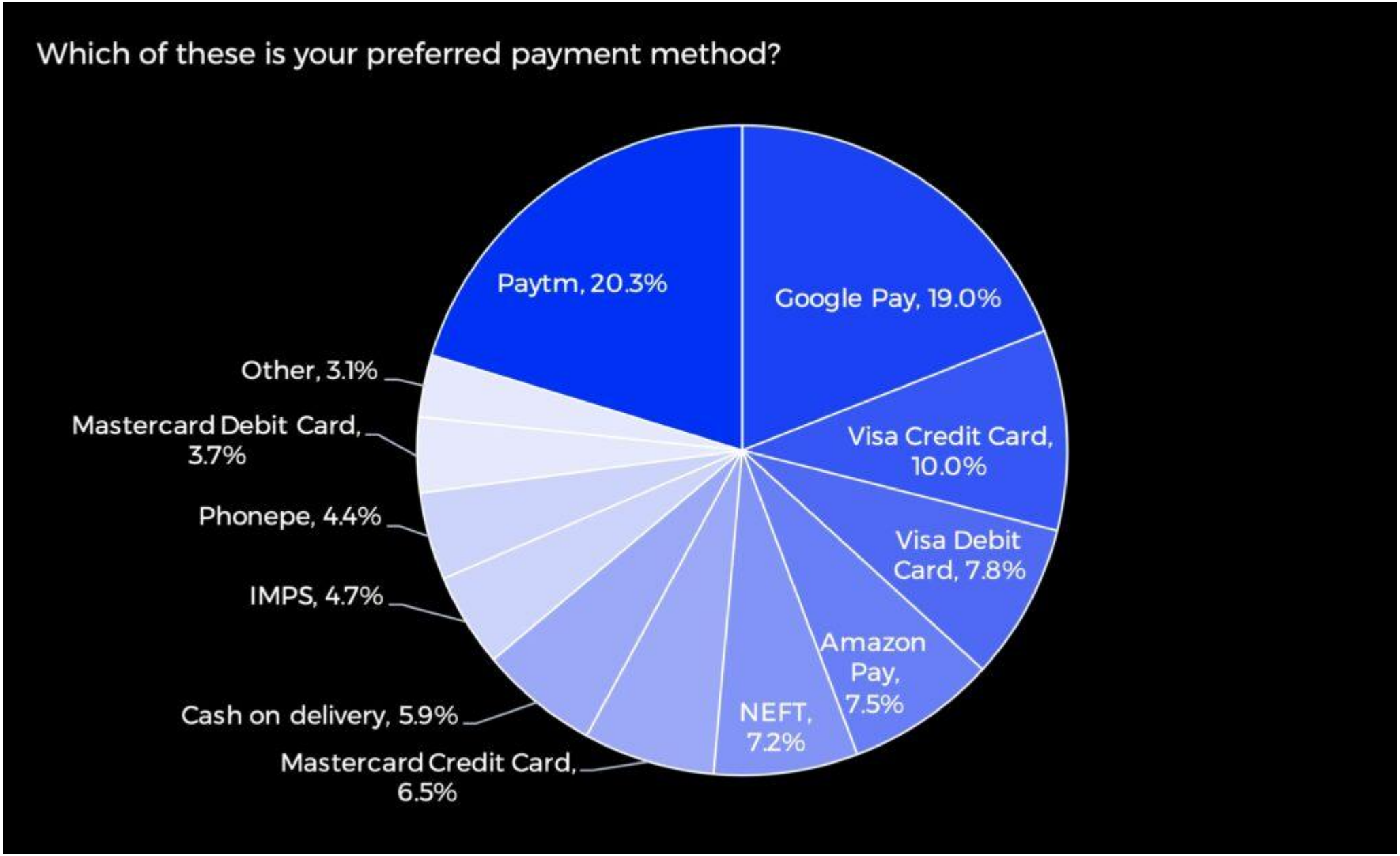
- Accounts created by depositing funds into an account and from which funds are paid out or withdrawn as needed
- Funds deposited into account, from which funds are paid out or withdrawn as needed, e.g. debit cards, gift certificates
- Examples: Debit cards, gift certificates, prepaid cards, smart cards
- Debit cards: Immediately debit a checking or other demand-deposit account
- Online Peer-to-peer payment systems such as PayPal

3.1.5. ACCUMULATING BALANCE

- Accounts that accumulate expenditures and to which consumers make periodic payments

3.2. E-COMMERCE PAYMENT SYSTEMS

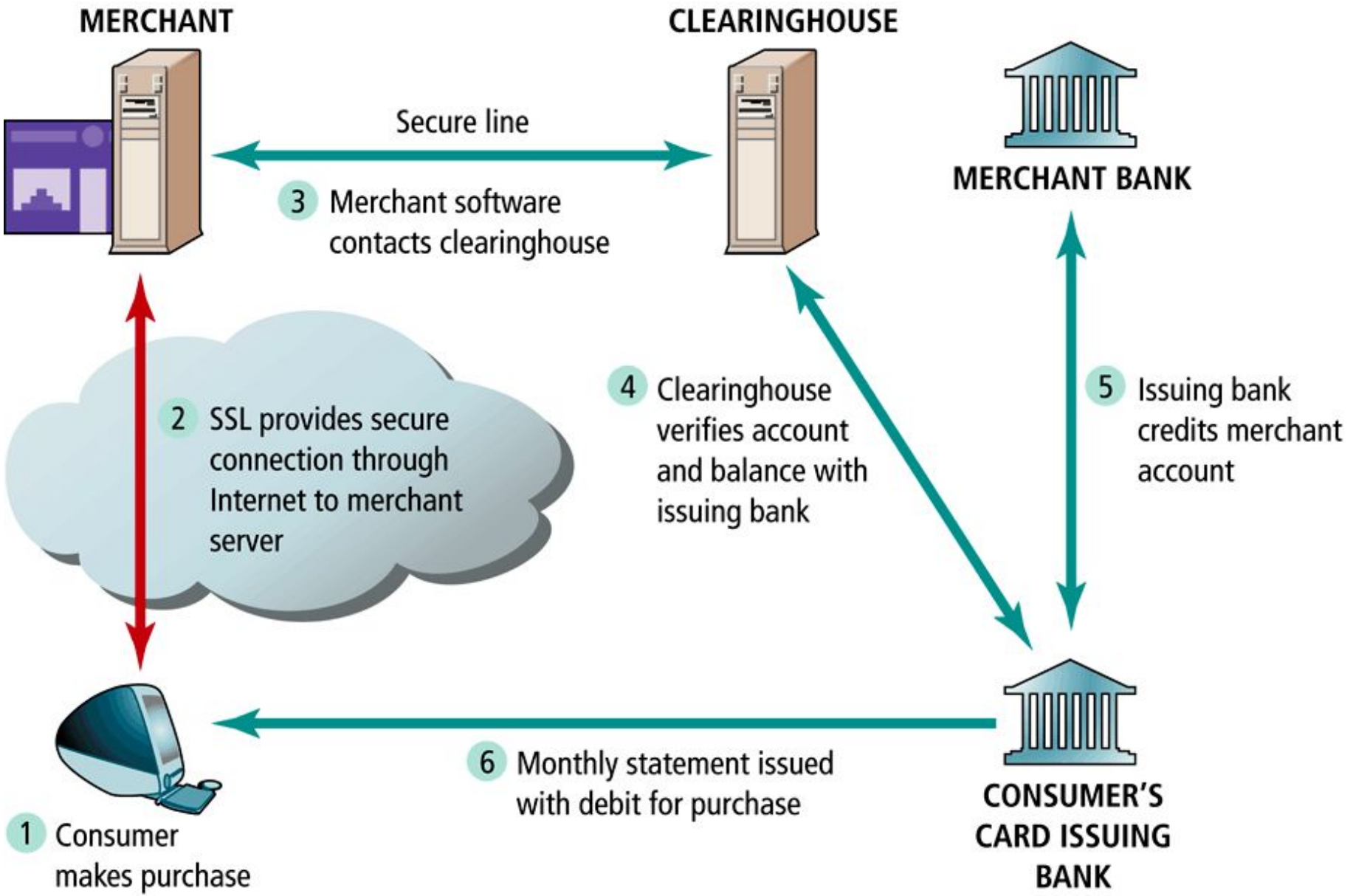
- Online credit card transaction
- Digital wallets
- Digital cash
- Online stored value systems
- Digital accumulating balance payment systems
- Digital checking payment systems
- Wireless payment systems


Which of these is your preferred payment method?
Paytm, 20.3%
Google Pay, 19.0%
Visa Credit Card, 10.0%
Visa Debit Card, 7.8%
Amazon Pay, 7.5%
NEFT, 7.2%
Mastercard Credit Card, 6.5%
Cash on delivery, 5.9%
IMPS, 4.7%
Phonepe, 4.4%
Mastercard Debit Card, 3.7%
Other, 3.1%

3.2.1. Online credit card transaction

- Processed in much the same way that in-store purchases are
- Major difference is that online merchants do not see or take impression of card, and no signature is available (Cardholder Not Present transactions)
- Participants include consumer, merchant, clearinghouse, merchant bank (acquiring bank) and consumer’s card issuing bank

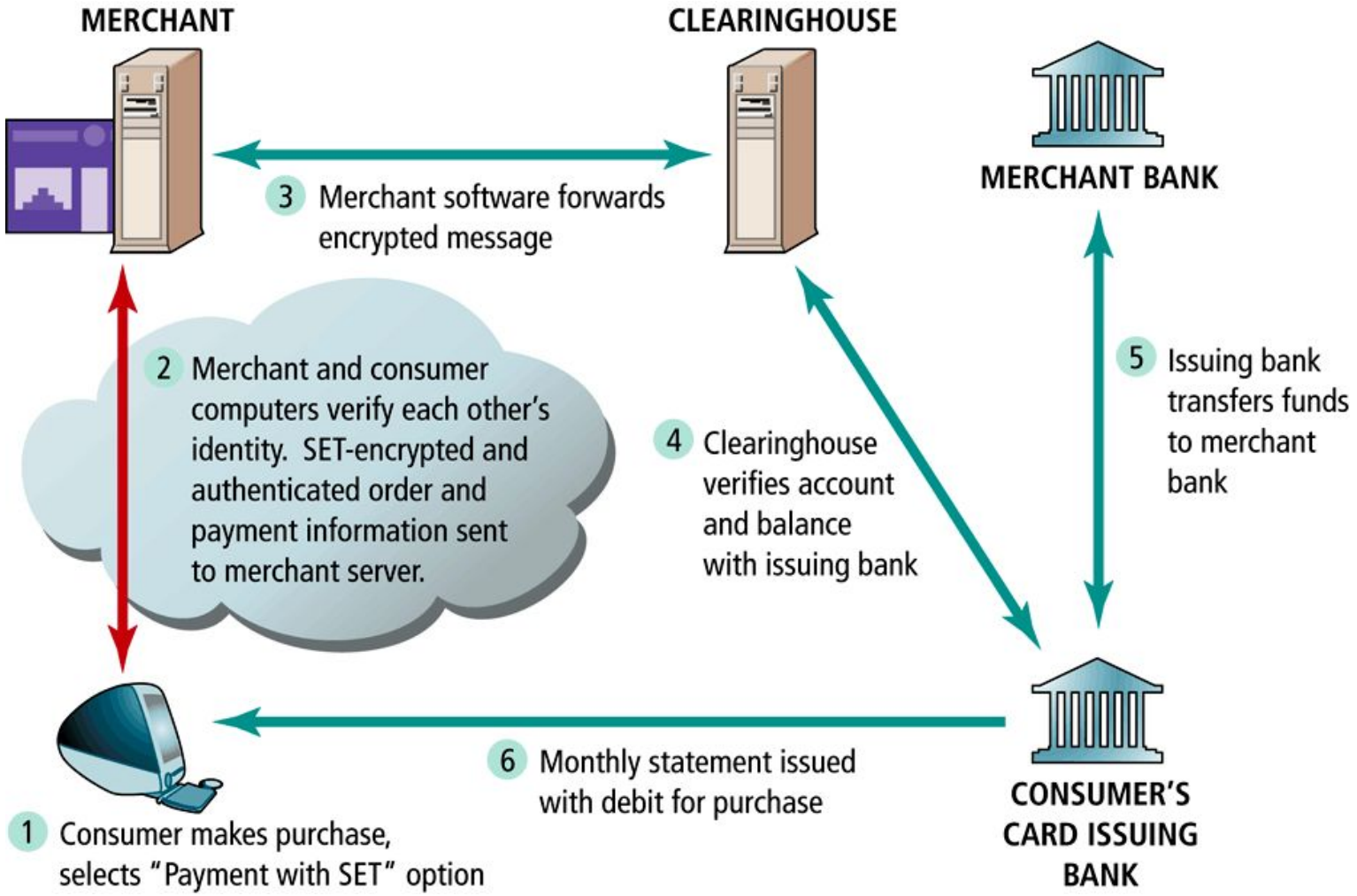
How an Online Credit Transaction Works



Problems with Online CC Use

- Security – Neither merchant nor consumer are authenticated. Merchant gets consumers credit card number for possible later misuse.
- Cost – for merchants, around 3.5% of purchase price plus transaction fee of 20-30 cents per transaction plus setup costs.
- Social equity – many people do not have access to credit cards (young adults, plus almost 100 million other adult Americans who cannot afford cards or are considered poor risk)

Secure Electronic Transaction (SET)



3.2.4. Online stored value systems

- Debit cards online
- Permit consumers to make instant, online payments to merchants and other individuals based on value stored in an online account
- Rely on value stored in a consumer's bank, checking or credit card account
- Most common is paypal- enables individuals and businesses with e-mail accounts to make and receive payments up to a specified limit
- 202 countries and 25 currencies
- No personal credit information has to be shared among the users, and the service can be used by individuals to pay one another even in small amounts.
- costly


PayPal sends the money - but never shares your financial information
Credit Card
Bank Account[1]
PayPal Balance
PayPal Account
Buyer
Seller
PayPal Account
Send to new Seller
Friends & Family
Bank Account
PayPal Balance

- Pay with Amazon is aimed at consumers who have concerns about entrusting their credit card information to unfamiliar online retailers. Consumers can purchase goods and services at non-Amazon websites using the payment methods stored in their Amazon accounts, without having to reenter their payment information at the merchant’s site. Amazon provides the payment processing.

- Bill Me Later (owned by PayPal as well) also appeals to consumers who do not wish to enter their credit card information online. Bill Me Later describes itself as an open-ended credit account. Users select the Bill Me Later option at checkout and are asked to provide their birth date and the last four digits of their social security number. They are then billed for the purchase by Bill Me Later within 10 to 14 days

Mobile wallet

- Near field communication (NFC) is a set of short-range wireless technologies used to share information among devices within about 2 inches of each other (50 mm). NFC devices are either powered or passive

3.2.2. Digital wallets

- Concept of digital wallet relevant to many of the new digital payment systems.
- Seeks to emulate the functionality of traditional wallet.
- Most important functions:
  - Authenticate consumer through use of digital certificates or other encryption methods
  - Store and transfer value
  - Secure payment process from consumer to merchant
- Two major categories:
  - Client-based digital wallets – Gator.com, MasterCard Wallet
  - Server-based digital wallets – MSN Wallet

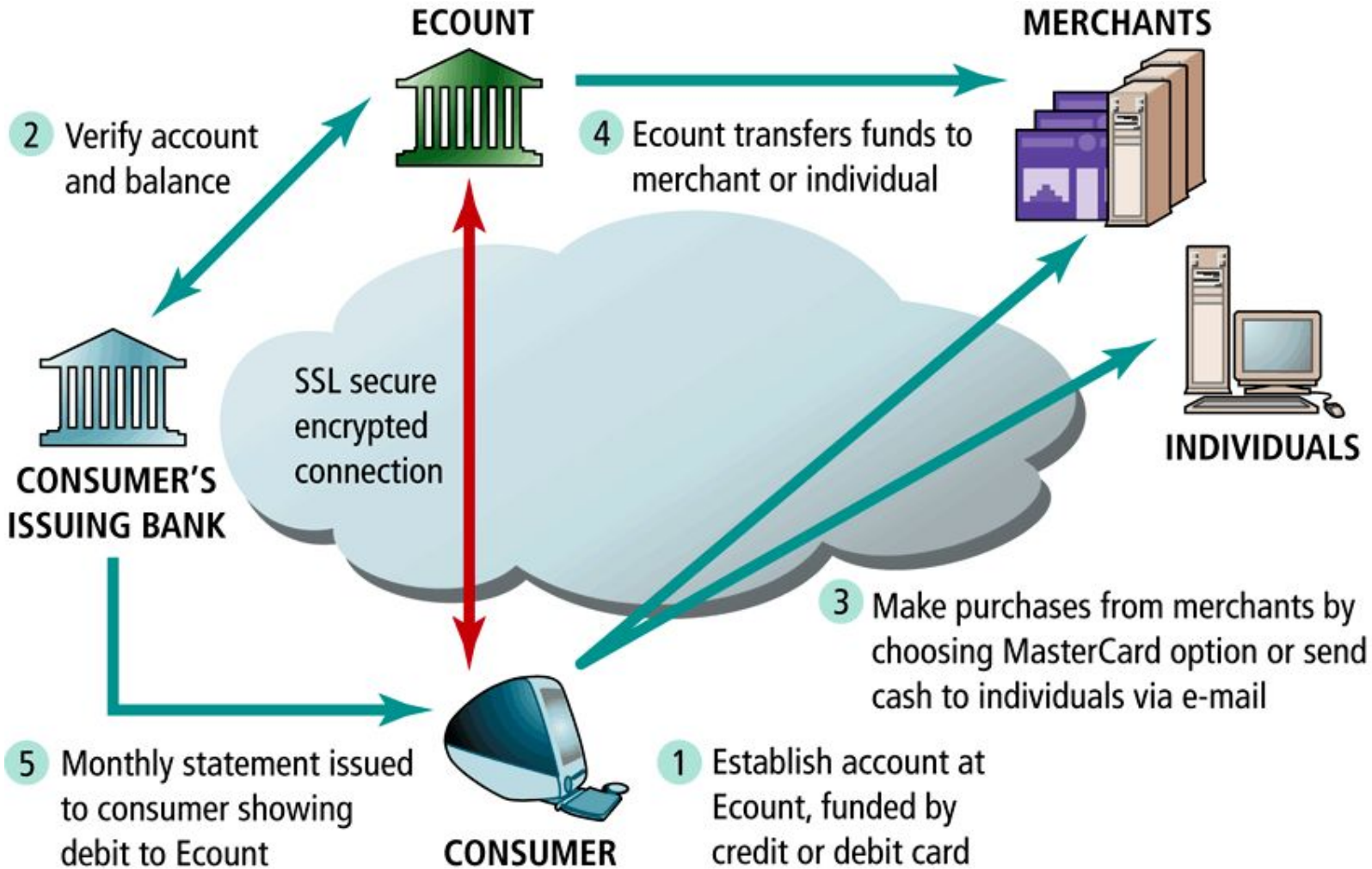
Digital cash

- Bitcoin, a form of electronic currency that can be transferred from one person to another via peerto-peer networks, without the need for a bank or other financial institution as intermediary.
- are generated by computer software at a predetermined rate beginning in 2009. A finite amount of coins are “built into the software,” such that in the year 2140, all of the coins will be mined and present in the market
- Satoshi Nakamoto

3.2.3. Digital cash

- One of the first forms of alternative payment systems
- Not really “cash” – rather, form of value storage and value exchange that have limited convertibility into other forms of value, and require intermediaries to convert.
- Many of early examples have disappeared; concepts survive as part of P2P payment systems.

Ecount.com


ECOUNT
MERCHANTS
2 Verify account and balance
4 Ecount transfers funds to merchant or individual
SSL secure encrypted connection
CONSUMER'S ISSUING BANK
INDIVIDUALS
3 Make purchases from merchants by choosing MasterCard option or send cash to individuals via e-mail
5 Monthly statement issued to consumer showing debit to Ecount
CONSUMER
1 Establish account at Ecount, funded by credit or debit card

3.2.5. Digital Accumulating Balance Payment Systems

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

3.2.6. Digital checking payment systems

- It seeks to extend the functionality of existing checking accounts for use as online shopping payment tool.

3.2.7. Wireless payment systems

SOCIAL NETWORKS, AUCTIONS & PORTALS

3.3. SOCIAL NETWORKS & ONLINE COMMUNITIES

- What is online social network?
- Difference between Social networks and Portals
- Social network features and technologies
- The future of social networks

3.3.1. What is online social network?

- Area online where people who share common ties can interact
- Participants do not necessarily share goals

PORTAL

- Portals are gateways to billions of web pages available on the Internet. Originally, their primary purpose was to help users find information on the Web, but they evolved into destination sites that provided a myriad of content from news to entertainment
- provide four functions: navigation of the Web (search), communications, commerce, and content.

- Portals and social networks:
  - Moving closer together
  - Portals adding social networking features
  - Community sites adding portal-like services
    - Searching

Enterprise portals: Corporations, universities, churches, and other organizations create these sites to help employees or members navigate to important content such as corporate news or organizational announcements

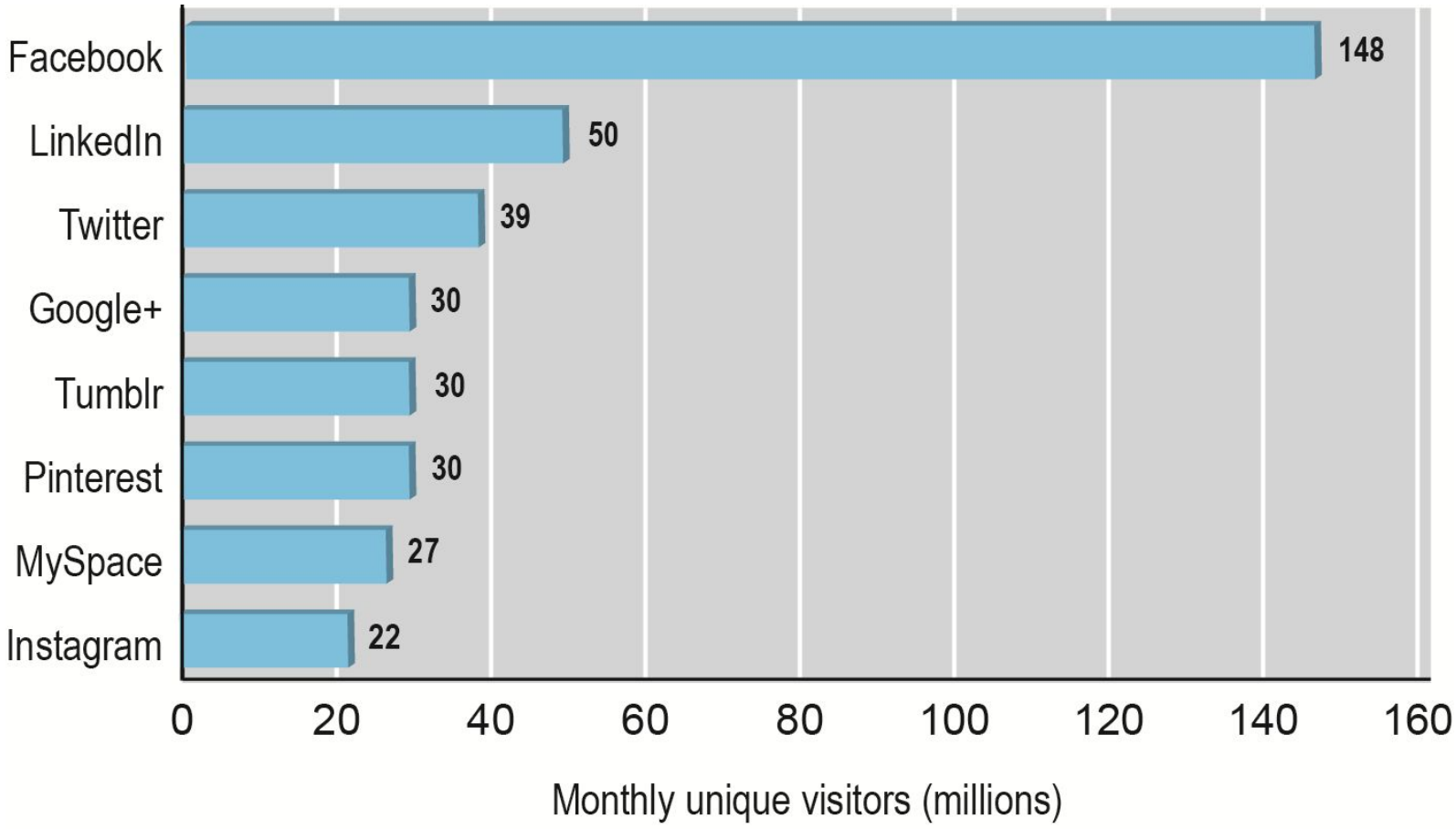
. • General-purpose portals: Examples are AOL, Yahoo, and MSN, which try to attract a very large general audience by providing many in-depth vertical content channels. Some also offer ISP services on a subscription basis, search engines, e-mail, chat, bulletin boards,news, and personal home pages.

- • Vertical market portals: Also called destination sites, they attempt to attract a highly focused, loyal audience with an intense interest in either a community they belong to or an interest they hold.
- Vertical market portals can be divided into two main classifications, although hybrids that overlap the two classifications also exist.
- • Affinity groups: Designed to serve aggregates of people who identify themselves by their attitudes, values, beliefs, and behavior.
- • Focused content portals: These sites contain in-depth information on a particular topic that all members are interested in. They can provide content on such broad topics as sports, news, weather, entertainment, finance, or business, or they can appeal to a much more focused interest group such as boat, horse, or video game enthusiasts

3.3.2. Difference between Social networks & Portals

- Social networks involve a group of people, shared social interaction, common ties among members, and people who share an area for some period of time.
- Portals are general-purpose content providers that have a varied selection of features and capabilities.
- Social networks are different from portals in that content creation is done almost exclusively by the members of social networks, whereas portals both create and aggregate content from elsewhere.
- The two are similar in that their goal is to keep visitors on their sites for a long time, or to mold themselves as a “sticky” destination site. Also, many portals have social networking features.

Top 10 Social Network Sites 2013



TURNING SOCIAL NETWORKS INTO BUSINESSES

- Early networking sites relied on subscriptions
- Today primarily advertising

Types of Social Networks & Their Business Models

- General communities:
  - Online social gathering place to meet & socialize with friends, share content, schedules, & interests.
  - Advertising supported by selling ad space on pages and videos
  - Eg: Facebook, MySpace, etc.
- Practice networks:
  - Offer focused discussion groups, help, and knowledge related to area of shared practice
  - May be profit or nonprofit;
  - These generally have a nonprofit business model in which they simply attempt to collect enough in subscription fees, sales commissions, and limited advertising to cover the cost of operations.
  - Eg: Linkedln,LINUX.ORG

Types of Social Networks & Their Business Models

- Interest-based social networks:
  - Offer focused discussion groups based on shared interest in some specific subject
  - Like games, sports, music, stock etc.
  - Community is small
  - Usually advertising supported,
- Affinity communities:
  - Offer focused discussion and interaction with other people who share same affinity (self or group identification)
  - Advertising and revenues from sales of products
- Sponsored communities:
  - Created by government, nonprofit, or for-profit organizations for purpose of pursuing organizational goals
  - ibm

TABLE 11.3 TYPES OF SOCIAL NETWORKS AND ONLINE COMMUNITIES

TYPE OF SOCIAL NETWORK / COMMUNITY	DESCRIPTION
General	Online social gathering place to meet and socialize with friends, share content, schedules, and interests. Examples: Facebook, Pinterest, Instagram, Tumblr, and Twitter.
Practice	Social network of professionals and practitioners, creators of artifacts such as computer code or music. Examples: Just Plain Folks (musicians' community), LinkedIn (business), and Doximity (physicians and health care professionals).
Interest	Community built around a common interest, such as games, sports, music, stock markets, politics, health, finance, foreign affairs, or lifestyle. Examples: Debatepolitics.com (political discussion group) and PredictWallStreet (stock market site).
Affinity	Community of members who self-identify with a demographic or geographic category, such as women, African Americans, or Arab Americans. Examples: BlackPlanet (African American community and social network site) and Healthboards.com (focusing on women's health issues).
Sponsored	Network created by commercial, government, and nonprofit organizations for a variety of purposes. Examples: Nike, IBM, Cisco, and political candidates.

3.3.4. The features of social networks

- Profiles
- Friends network
- Network discovery
- Favorites
- E-mail
- Storage
- Instant messaging
- Message boards
- Online polling
- Chat
- Discussion groups
- Experts online
- Membership management tools

TABLE 11.4 SOCIAL NETWORK FEATURES

FEATURE	DESCRIPTION
Profiles	User-created web pages that describe the owner on a variety of dimensions
Newsfeed	A listing of updates from friends, advertisements, and notifications in chronological order
Timeline	A history of updates, posts from friends, photos, and other objects in chronological order
Friends networks	Ability to create a linked group of friends, a social community
Network discovery	Ability to find other social networks, find new groups and friends, and discover friends of friends
Favorites (Like)	Ability to communicate favorite sites, bookmarks, content, and destinations
Games and apps	Games developed for the social network, and apps that extend its functionality
Instant messaging	Instant messaging, chat
Storage	Storage for photos, videos, text
Message boards	Ability to post updates to friends, e.g., Wall
Groups	Discussion groups, forums, and consumer groups organized by interest, e.g., For Sale Groups

3.4. ONLINE AUCTIONS

- Online auction sites are among the most popular
- C2C e-commerce sites on the Internet.
- which the auction house is simply an intermediary market maker, providing a forum where consumers—buyers and sellers—can discover prices and trade
- eBay: market leader

- business-to-consumer (B2C) auctions, where a business owns or controls assets and uses dynamic pricing to establish the price

- B2B auctions are auctions that occur between businesses, meaning that businesses auction items and other businesses bid on those items
- Several hundred different auction sites in the United States alone
- Established portals and online retail sites increasingly are adding auctions to their sites

Why are online Auctions so popular

- very low fixed and operational costs
- millions of consumers worldwide

Benefits of Auctions

Benefits of Auctions

- Liquidity: Sellers can find willing buyers, & buyers can find sellers.
- Price discovery: easily find the product with the price
- Price transparency: everyone can see the price asking price and bidding price.
- Market efficiency: lead to increase consumer welfare
- Lower transaction costs: it will benefit both seller & buyer
- Consumer aggregation: A large number of consumers who are motivated to buy are amassed in one marketplace—a great convenience to the seller
- Network effects: The larger an auction site becomes, in both the numbers of users and products, the greater all of the above benefits become and therefore the more valuable a marketplace it becomes

Risks and Costs of Auctions (consumer)

- Delayed consumption costs: Internet auctions can go on for days, and shipping will take additional time.
- Monitoring costs: Participation in auctions requires your time to monitor bidding.
- Equipment costs: Internet auctions require you to purchase a computer system and pay for Internet access.
- Trust risks: Online auctions are a significant source of Internet fraud. Using auctions increases the risk of experiencing a loss.
- Fulfillment costs: Typically, the buyer pays fulfillment costs of packing, shipping, and insurance, whereas at a physical store these costs are included in the retail price.

Monitoring cost

- Possible solutions include:
  - Fixed pricing
  - Watch lists: Permit the consumer to monitor specific auctions of interest
  - Proxy bidding: Allows the consumer to enter a maximum price, and the auction software automatically bids for the goods up to that maximum price in small increments
  - the Buy It Now button and paying a premium price

Risk and cost to seller

- merchants may end up selling goods for prices far below what they might have achieved in conventional markets.
- Merchants also face risks of nonpayment,
- false bidding,
- bid rigging,
- monitoring,
- transaction fees charged by the auction site,
- credit card transaction processing fees, and the
- administration costs of entering price and product information

AUCTIONS AS AN E-COMMERCE BUSINESS MODEL

- transaction fees based on the amount of the sale,
- listing fees for display of goods,
- financial service fees from payment systems such as PayPal,
- and advertising or placement fees where sellers pay extra for special services such as particular display or listing services
- Auction sites carry no inventory and do not perform any fulfillment activities—they need no warehouses, shipping, or logistical facilities.

Types of Auctions

- English auctions:
  - Single item up for sale to single seller
  - Highest bidder wins
- Traditional Dutch auction:
  - Uses a clock that displays starting price
  - Clock ticks down price until buyer stops it
- Dutch Internet auction:
  - Public ascending price, multiple units
  - Final price is lowest successful bid, which sets price for all higher bidders

Types of Auctions (cont.)

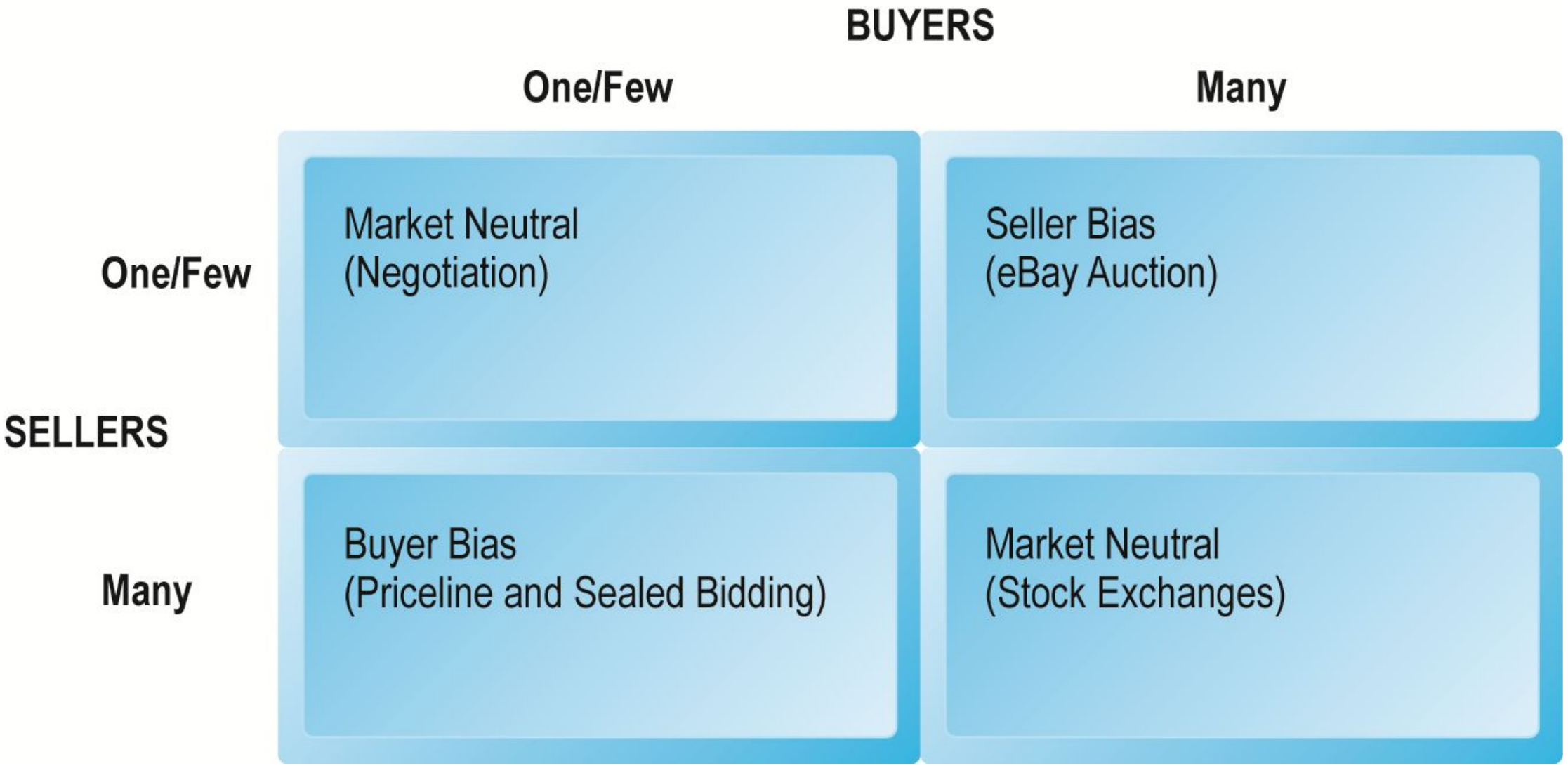
- **Name Your Own Price Auctions**
  - Users specify what they are willing to pay for goods or services and multiple providers bid for their business
  - Prices do not descend and are fixed
    - Consumer offer is commitment to buy at that price
  - Enables sellers to unload unsold excess capacity
  - Example: Priceline

  - **Penny auctions**
  - penny (bidding fee) auction bidder must pay a nonrefundable fee to purchase bids

Internet Auction Basics

- Different from traditional auctions
  - Last much longer (usually a week)
  - Variable number of bidders who come and go from auction arena
- Market power and bias in dynamically priced markets
  - Neutral: Number of buyers and sellers is few or equal
  - Seller bias: Few sellers and many buyers
  - Buyer bias: Many sellers and few buyers

Bias in Dynamically Priced Markets



Internet Auction Basics (cont.)

- Price Allocation Rules
  - Uniform pricing rule: Multiple winners who all pay the same price
  - Discriminatory pricing rule: Winners pay different amount depending on what they bid
- Public vs. private information
  - Prices bid may be kept secret
    - Bid rigging: bidders communicate prior to submitting their bids
  - Open markets
    - Price matching: sellers agree informally or formally to set floor prices on auction items below which they will not sell

Types of pricing

- Fixed pricing: one **national** price, everywhere for everyone.
- Trigger pricing: adjusts prices based on the **location** of the consumer
- Utilization pricing: adjusts prices based on **utilization** of the product
- Personalization pricing: adjusts prices based on the merchant's estimate of how much the customer truly values the product
- Dynamic pricing
- Airline tickets, coupons, college scholarships
- Prices based on demand characteristics of customer and supply situation of seller

- dynamic pricing technique
- Surge pricing
- Yeild management
- Flash marketing

Factors to Consider When Choosing Auctions

CONSIDERATIONS	DESCRIPTION
Type of product	Rare, unique, commodity, perishable
Stage of product life cycle	Early, mature, late
Channel-management issues	Conflict with retail distributors; differentiation
Type of auction	Seller vs. buyer bias
Initial pricing	Low vs. high
Bid increment amounts	Low vs. high
Auction length	Short vs. long
Number of items	Single vs. multiple
Price-allocation rule	Uniform vs. discriminatory
Information sharing	Closed vs. open bidding

- Group buying auctions (demand aggregators)
  - Group buying of products at dynamically adjusted discount prices based on high volume purchases
  - Two principles
    - Sellers more likely to offer discounts to buyers purchasing in volume
    - Buyers increase their purchases as prices fall
- Professional service auctions
  - Example: Elance.com