

Chapter 1

Overview of Electronic Commerce



Learning Objectives



1. Define electronic commerce (EC) and describe its various categories.
2. Describe and discuss the content and framework of EC.
3. Describe the major types of EC transactions.
4. Describe the digital revolution as a driver of EC.

Learning Objectives



5. Describe the business environment as a driver of EC.
6. Describe some EC business models.
7. Describe the benefits of EC to organizations, consumers, and society.
8. Describe the limitations of EC.
9. Describe the contribution of EC to organizations responding to environmental pressures.

Electronic Commerce: Definitions and Concepts



electronic commerce (EC)

The process of buying, selling, or exchanging products, services, or information via computer networks

Electronic Commerce: Definitions and Concepts



- EC is defined through these perspectives
 - Communications
 - Commercial (trading)
 - Business process
 - Service
 - Learning
 - Collaborative
 - Community

Electronic Commerce: Definitions and Concepts



e-business

A broader definition of EC that includes not just the buying and selling of goods and services, but also servicing customers, collaborating with business partners, and conducting electronic transactions within an organization

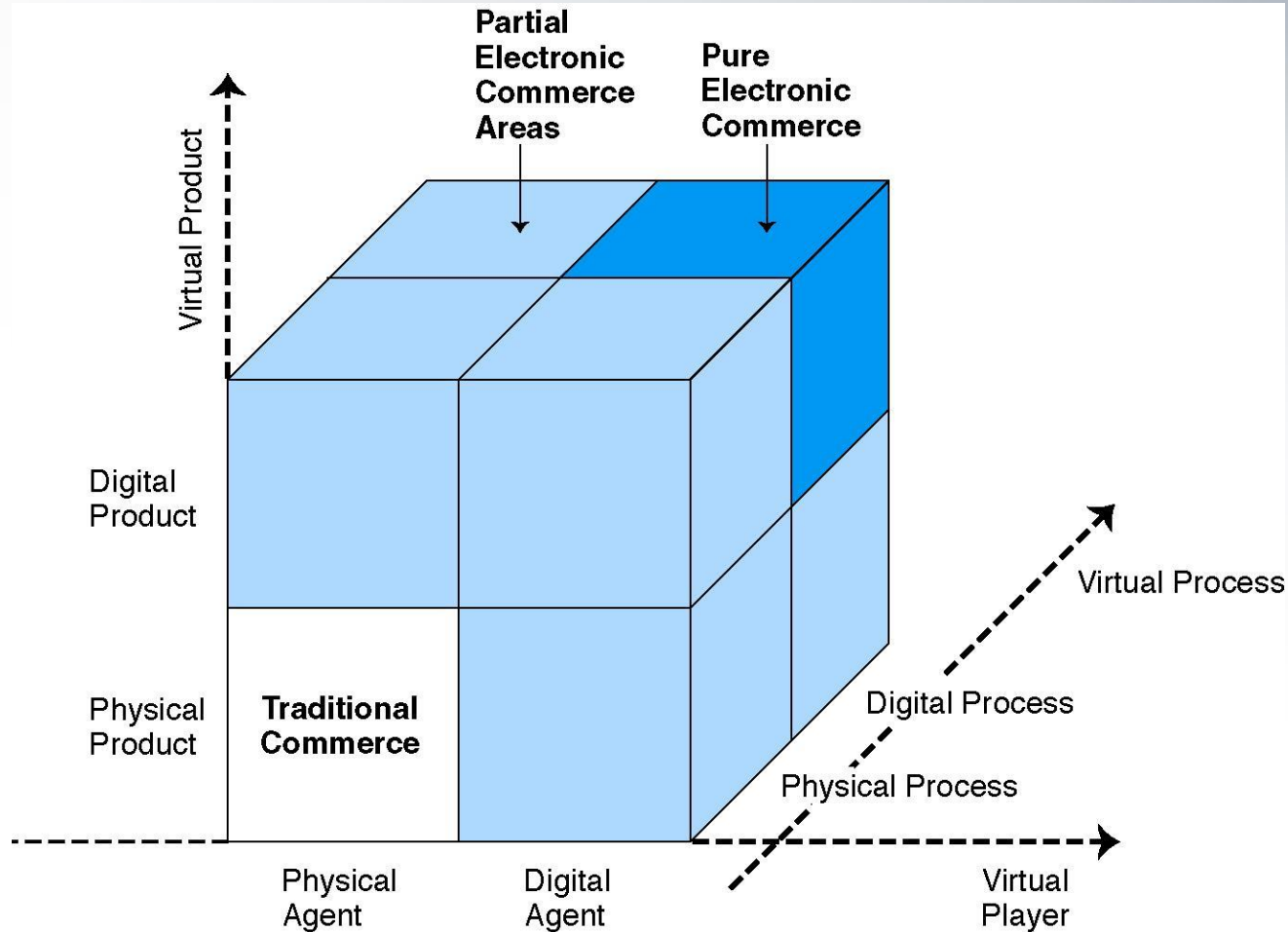
Electronic Commerce: Definitions and Concepts



- **Pure Versus Partial EC**

- EC takes several forms depending on the *degree of digitization* (the transformation from physical to digital)
 - (1) the *product* (service) sold,
 - (2) the *process*,
 - (3) the *k*(or intermediary)

Exhibit 1.1 The Dimensions of Electronic Commerce



Electronic Commerce: Definitions and Concepts



- **EC organizations**

- brick-and-mortar organizations**

- Old-economy organizations (corporations) that perform most of their business off-line, selling physical products by means of physical agents

- virtual (pure-play) organizations**

- Organizations that conduct their business activities solely online

- click-and-mortar (click-and-brick) organizations**

- Organizations that conduct some e-commerce activities, but do their primary business in the physical world

Electronic Commerce: Definitions and Concepts



- **Where EC is conducted**

- electronic market (e-marketplace)**

- An online marketplace where buyers and sellers meet to exchange goods, services, money, or information

- interorganizational information systems (IOSs)**

- Communications system that allows routine transaction processing and information flow between two or more organizations

- intraorganizational information systems**

- Communication systems that enable e-commerce activities to go on within individual organizations

The EC Framework, Classification, and Content



- Networked computing is the infrastructure for EC, and it is rapidly emerging as the standard computing environment for business, home, and government applications
 - *Networked computing* connects multiple computers and other electronic devices located in several different locations by telecommunications networks, including *wireless* ones
 - Allows users to access information stored in several different physical locations and to communicate and collaborate with people separated by great geographic distances

The EC Framework



intranet

An internal corporate or government network that uses Internet tools, such as Web browsers, and Internet protocols

extranet

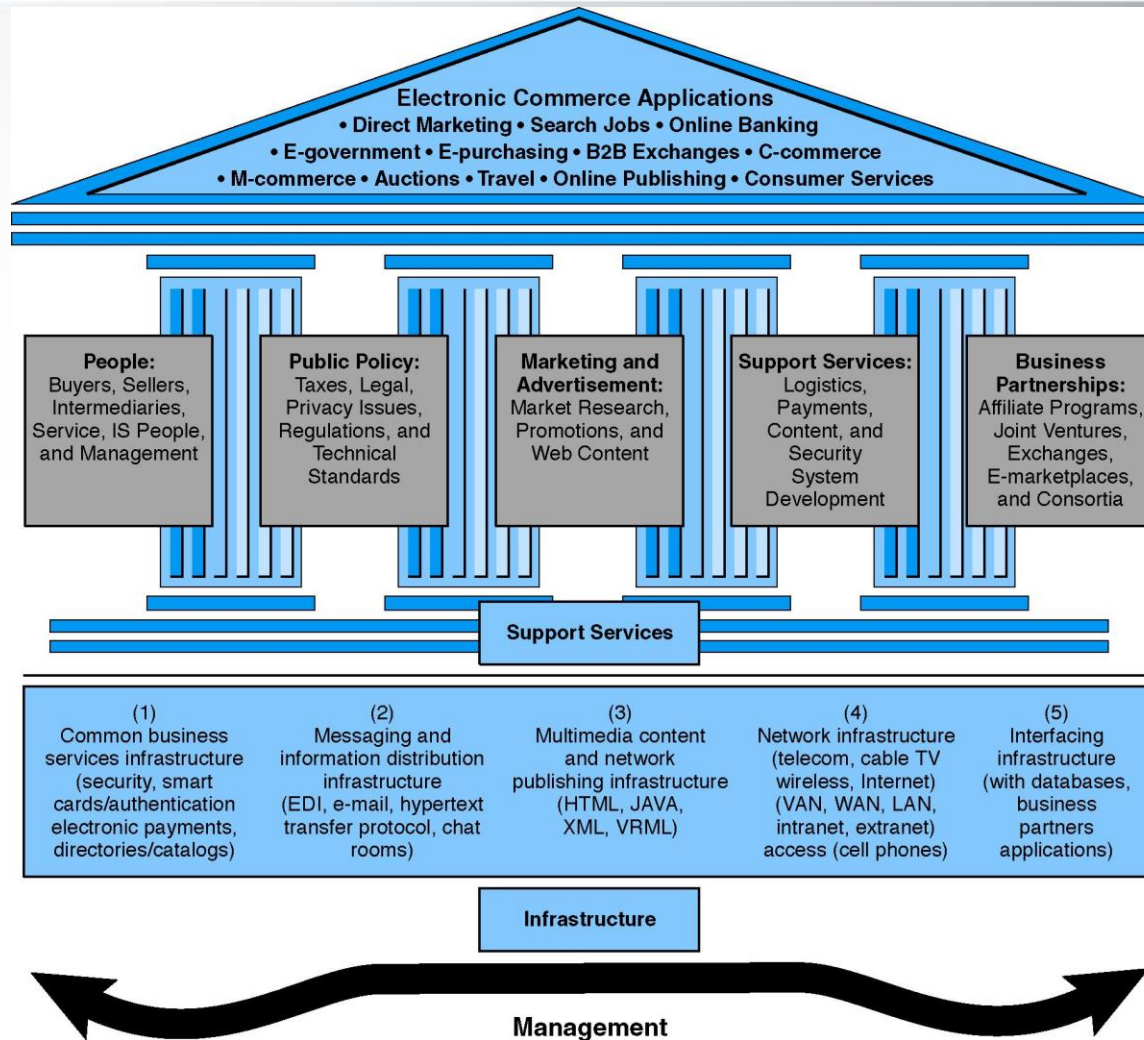
A network that uses the Internet to link multiple intranets

The EC Framework, Classification, and Content



- An EC Framework—supports five policymaking support areas
 - People
 - Public policy
 - Marketing and advertisement
 - Support services
 - Business partnerships

Exhibit 1.2 A Framework for Electronic Commerce



EC Classification



- Classification by nature of the transactions or interactions

business-to-business (B2B)

E-commerce model in which all of the participants are businesses or other organizations

business-to-consumer (B2C)

E-commerce model in which businesses sell to individual shoppers

EC Classification



e-tailing

Online retailing, usually B2C

business-to-business-to-consumer (B2B2C)

E-commerce model in which a business provides some product or service to a client business that maintains its own customers

EC Classification



consumer-to-business (C2B)

E-commerce model in which individuals use the Internet to sell products or services to organizations or individuals seek sellers to bid on products or services they need

consumer-to-consumer (C2C)

E-commerce model in which consumers sell directly to other consumers

EC Classification



peer-to-peer

Technology that enables networked peer computers to share data and processing with each other directly; can be used in C2C, B2B, and B2C e-commerce

mobile commerce (m-commerce)

E-commerce transactions and activities conducted in a wireless environment

EC Classification



location-based commerce (l-commerce)

M-commerce transactions targeted to individuals in specific locations, at specific times

intrabusiness EC

E-commerce category that includes all internal organizational activities that involve the exchange of goods, services, or information among various units and individuals in an organization

EC Classification



business-to-employees (B2E)

E-commerce model in which an organization delivers services, information, or products to its individual employees

collaborative commerce (c-commerce)

E-commerce model in which individuals or groups communicate or collaborate online

e-learning

The online delivery of information for purposes of training or education

EC Classification



exchange (electronic)

A public electronic market with many buyers and sellers

exchange-to-exchange (E2E)

E-commerce model in which electronic exchanges formally connect to one another for the purpose of exchanging information

e-government

E-commerce model in which a government entity buys or provides goods, services, or information to businesses or individual citizens

The Future of EC



- Overall, the growth of the field will continue to be strong into the foreseeable future
- Despite the failures of individual companies and initiatives, the total volume of EC is growing by 15 to 25% every year

Digital Evolution Drives EC



digital economy

An economy that is based on digital technologies, including digital communication networks, computers, software, and other related information technologies; also called the Internet economy, the new economy, or the Web

- The digital revolution accelerates EC by providing competitive advantage to organizations and enabling innovations

Business Environment Drives EC



- Economic, legal, societal, and technological factors have created a highly competitive *business environment* in which customers are becoming more powerful

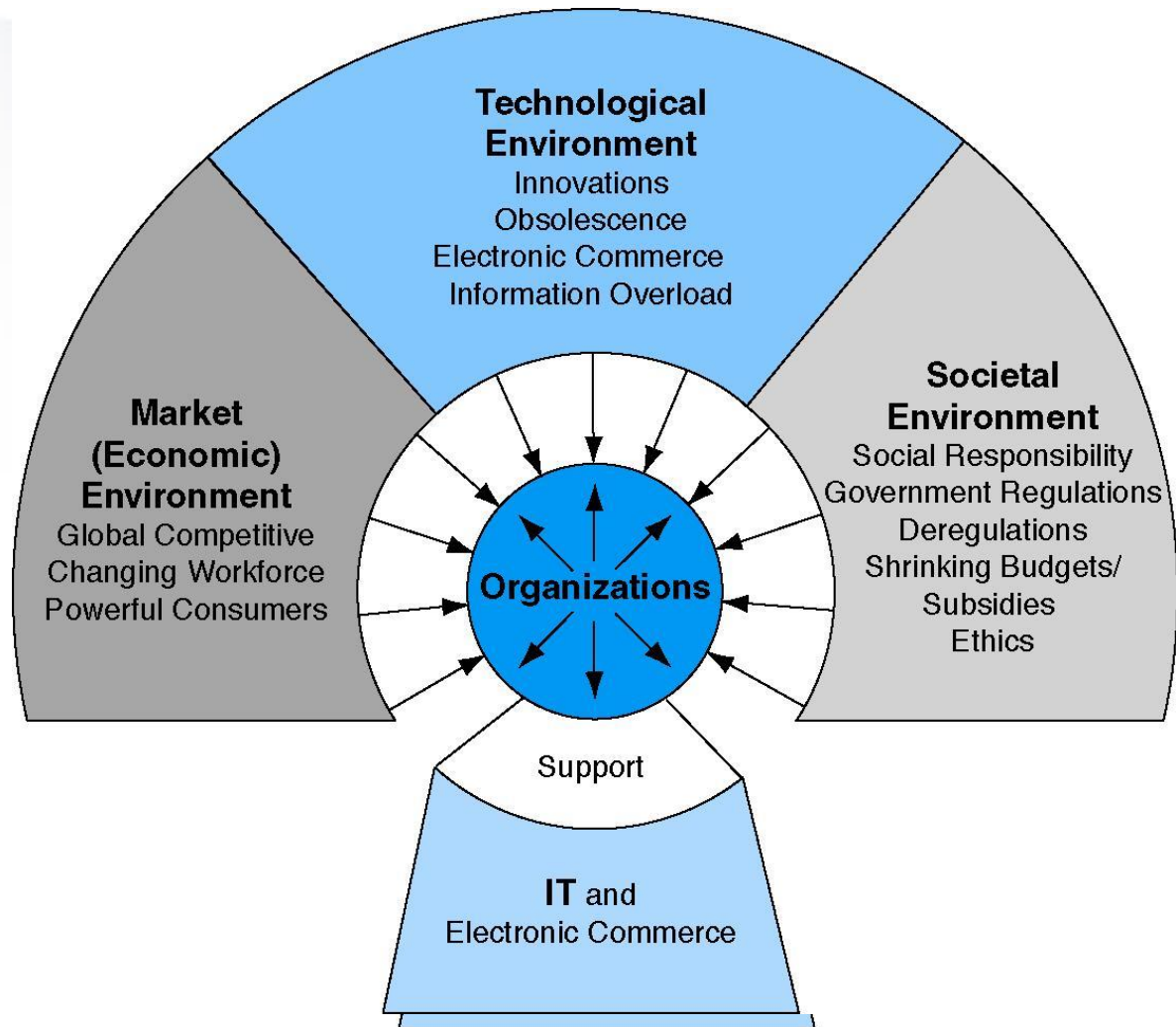
Business Environment Drives EC



- The environment–response–support model

Companies must not only take traditional actions such as lowering costs and closing unprofitable facilities, but also introduce innovative actions such as customizing, creating new products, or providing superb customer service

Exhibit 1.4 Major Business Pressures and the Role of EC



Business Environment Drives EC



- Categories of business pressures
 - market (economic)
 - societal
 - technological

Business Environment Drives EC



- Organizational response strategies
 - Strategic systems
 - Agile systems
 - Continuous improvement efforts and business process restructuring
 - Customer relationship management
 - Business alliances
 - Electronic markets

Business Environment Drives EC



- Reductions in Cycle Time and Time-to-Market
cycle time reduction

Shortening the time it takes for a business to complete a productive activity from its beginning to end

- Empowerment of Employees

EC allows the decentralization of decision making and authority via empowerment and distributed systems, but simultaneously supports a centralized control

- Supply Chain Improvements

EC can help reduce supply chain delays, reduce inventories, and eliminate other inefficiencies

Business Environment Drives EC



- Mass Customization: Make-to-Order in Large Quantities

mass customization

Production of large quantities of customized items

- Intrabusiness: From Sales Force Automation to Inventory Control

knowledge Management (KM)

The process of creating or capturing knowledge, storing and protecting it, updating and maintaining it, and using it

EC Business Models



business model

A method of doing business by which a company can generate revenue to sustain itself

- Business models are a subset of a business plan or a business case
 - See Chapters 14 and 16 and Online Tutorial T1

EC Business Models



- The Structure of Business Models
 - A description of the *customers* to be served and the company's relationships with these customers (*customers' value proposition*)
 - A description of all *products* and *services* the business will offer
 - A description of the *business process* required to make and deliver the products and services

EC Business Models



- The Structure of Business Models
 - A list of the *resources* required and the identification of which ones are available, which will be developed in-house, and which will need to be acquired
 - A description of the organization *supply chain*, including *suppliers* and other *business partners*
 - A description of the revenues expected (*revenue model*), anticipated costs, sources of financing, and estimated profitability (*financial viability*)

EC Business Models



- **Revenue Models**
revenue model

Description of how the company or an EC project will earn revenue

- **Major revenue models**

- Sales
- Transaction fees
- Subscription fees
- Advertising fees
- Affiliate fees
- Other revenue sources

EC Business Models



- **Value proposition**

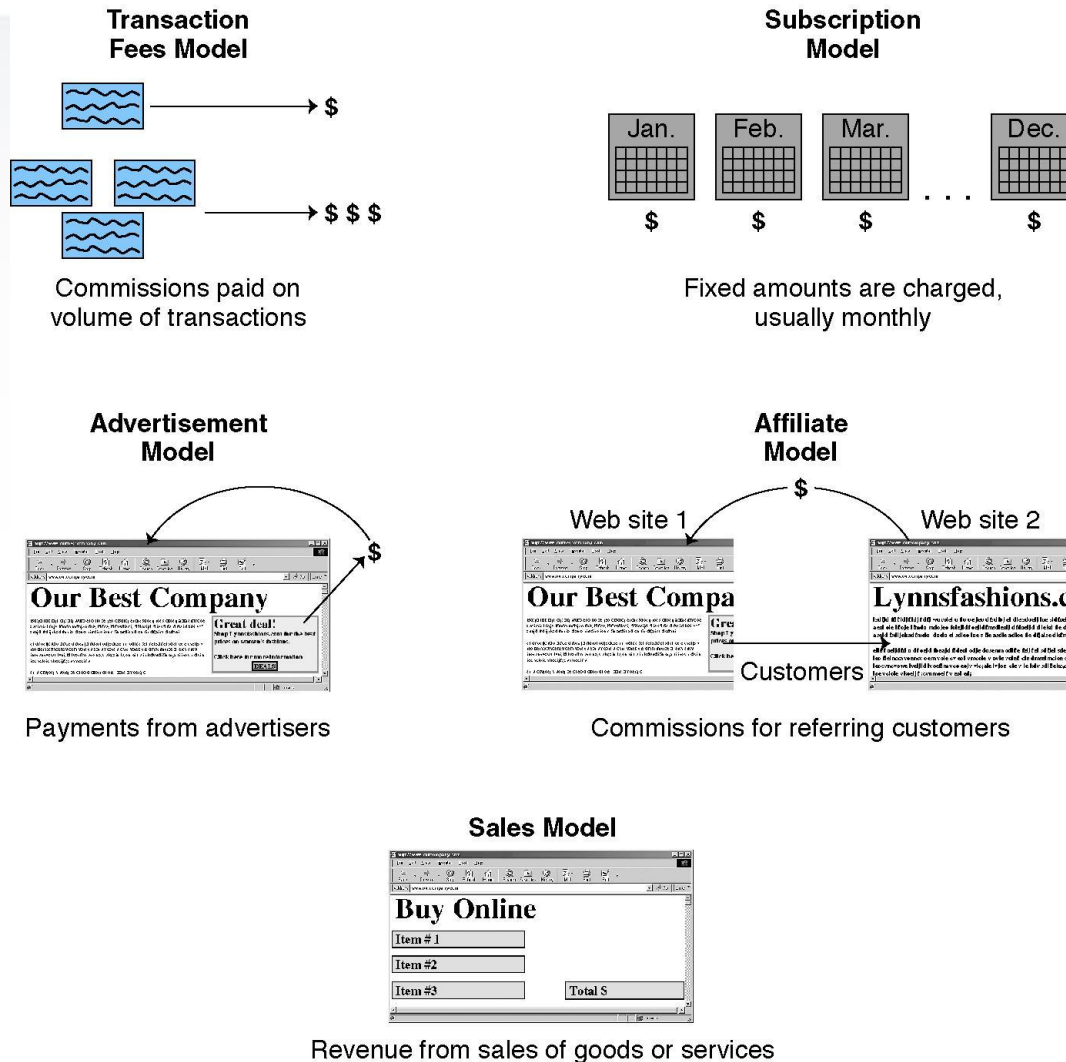
- value proposition**

- The benefits a company can derive from using EC

- **How do e-marketplaces create value?** (Amit and Zott 2001)

- Search and transaction cost efficiency
 - Complementarities
 - Lock-in
 - Novelty

Exhibit 1.6 Common Revenue Models



EC Business Models



- Typical EC Business Models
 - **Online direct marketing**
 - **Electronic tendering systems**
tendering (reverse auction)

Model in which a buyer requests would-be sellers to submit bids; the lowest bidder wins

name-your-own-price model

Model in which a buyer sets the price he or she is willing to pay and invites sellers to supply the good or service at that price

EC Business Models



- Typical EC Business Models

- Find the best price

- affiliate marketing**

- An arrangement whereby a marketing partner (a business, an organization, or even an individual) refers consumers to the selling company's Web site

- viral marketing**

- Word-of-mouth marketing in which customers promote a product or service to friends or other people

EC Business Models



- Typical EC Business Models

- group purchasing**

- Quantity purchasing that enables groups of purchasers to obtain a discount price on the products purchased

- SMEs**

- Small-to-medium enterprises

- e-co-ops**

- Another name for online group purchasing organizations

EC Business Models



- Typical EC Business Models

- Online auctions
- Product and service customization

- customization**

- Creation of a product or service according to the buyer's specifications

- Electronic marketplaces and exchanges
- Information brokers

EC Business Models



- Typical EC Business Models
 - Bartering
 - Deep discounting
 - Value-chain integrators
 - Value-chain service providers
 - Supply chain improvers

Benefits of EC



Benefits to Organizations

- Global Reach
- Cost Reduction
- Supply Chain Improvements
- Extended Hours
- Customization
- New Business Models
- Vendors' Specialization
- Rapid Time-to-Market
- Lower Communication Costs
- Efficient Procurement
- Improved Customer Relations
- Up-to-Date Company Material
- No City Business Permits and Fees
- Other Benefits

Benefits of EC



Benefits to Consumers

- Ubiquity
- More Products and Services
- Customized Products and Services
- Cheaper Products and Services
- Instant Delivery
- Information Availability
- Participation in Auctions
- Electronic Communities
- No Sales Tax

Benefits of EC



- Benefits to Society
 - Telecommuting
 - Higher Standard of Living
 - Homeland Security
 - Hope for the Poor
 - Availability of Public Services

Exhibit 1.7 Limitations of EC



EXHIBIT 1.7 Limitations of Electronic Commerce

Technological Limitations

Lack of universal standards for quality, security, and reliability.
The telecommunications bandwidth is insufficient, especially for m-commerce.
Software development tools are still evolving.
It is difficult to integrate Internet and EC software with some existing (especially legacy) applications and databases.
Special Web servers are needed in addition to the network servers, which add to the cost of EC.
Internet accessibility is still expensive and/or inconvenient.
Order fulfillment of large-scale B2C requires special automated warehouses.

Nontechnological Limitations

Security and privacy concerns deter customers from buying.
Lack of trust in EC and in unknown sellers hinders buying.
Many legal and public policy issues, including taxation, have not yet been resolved.
National and international government regulations sometimes get in the way.
It is difficult to measure some of the benefits of EC, such as advertising. Mature measurement methodologies are not yet available.
Some customers like to feel and touch products. Also, customers are resistant to the change from shopping at a brick-and-mortar store to a virtual store.
People do not yet sufficiently trust paperless, faceless transactions.
In many cases, the number of sellers and buyers that are needed for profitable EC operations is insufficient.
Online fraud is increasing.
It is difficult to obtain venture capital due to the failure of many dot-coms.

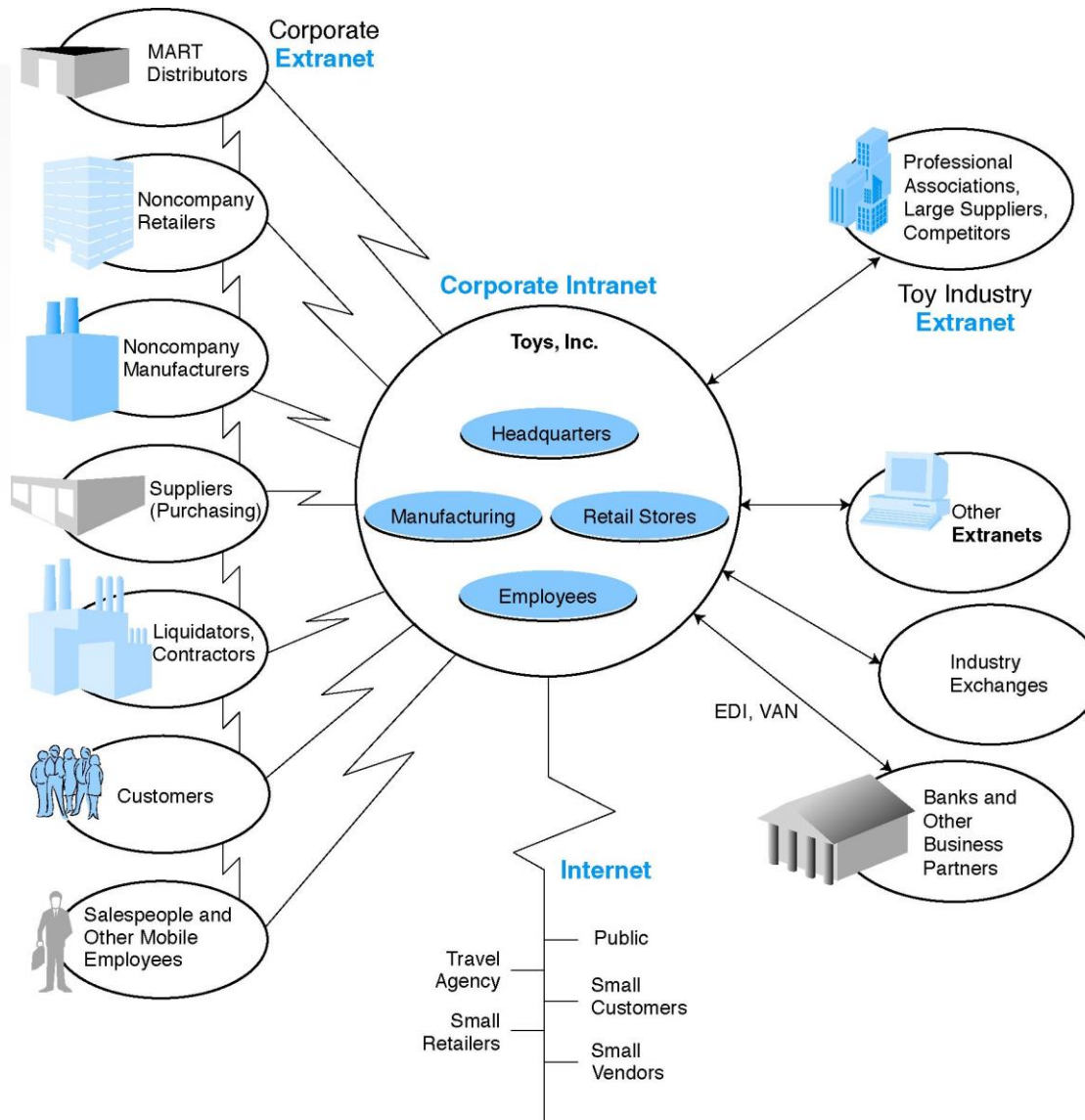
Networks for EC



corporate portal

A major gateway through which employees, business partners, and the public can enter a corporate Web site

Exhibit 1.8 The Networked Organization



Managerial Issues



1. Is it real?
2. Why is B2B e-commerce so attractive?
3. There are so many EC failures—how can one avoid them?
4. How do we transform our organization into a digital one?
5. How should we evaluate the magnitude of business pressures and technological advancement?
6. What should be my company's strategy toward EC?
7. What are the top challenges of EC?

Summary



1. Definition of EC and description of its various categories.
2. The content and framework of EC.
3. The major types of EC transactions.
4. The role of the digital revolution.
5. The role of the business environment as an EC driver.

Summary



6. The major EC business models.
7. Benefits of EC to organizations, consumers, and society.
8. Limitations of EC.
9. Contribution to organizations responding to environmental changes.

Chapter 2

E-Marketplaces: Structures, Mechanisms, Economics, and Impacts



Learning Objectives



1. Define e-marketplaces and list their components.
2. List the major types of e-marketplaces and describe their features.
3. Describe the various types of EC intermediaries and their roles.
4. Describe electronic catalogs, shopping carts, and search engines.
5. Describe the various types of auctions and list their characteristics.
6. Discuss the benefits, limitations, and impacts of auctions.

Learning Objectives



7. Describe bartering and negotiating online.
8. Define m-commerce and explain its role as a market mechanism.
9. Discuss liquidity, quality, and success factors in e-marketplaces.
10. Describe the economic impact of EC.
11. Discuss competition in the digital economy.
12. Describe the impact of e-marketplaces on organizations.

E-Marketplaces



- Markets (electronic or otherwise) have three main functions:
 1. Matching buyers and sellers;
 2. Facilitating the exchange of information, goods, services, and payments associated with market transactions; and
 3. Providing an institutional infrastructure, such as a legal and regulatory framework, which enables the efficient functioning of the market.

E-Marketplaces



- *Electronic marketplaces (e-marketplaces or marketspaces)*, changed several of the processes used in trading and supply chains
 - Greater information richness
 - Lower information search costs for buyers
 - Diminished information asymmetry between sellers and buyers
 - Greater temporal separation between time of purchase and time of possession
 - Greater temporal proximity between time of purchase and time of possession
 - Ability of buyers and sellers to be in different locations

E-Marketplaces



marketspace

A marketplace in which sellers and buyers exchange goods and services for money (or for other goods and services), but do so electronically

E-Marketplaces



- Marketspace components

- Customers
- Sellers
- Products and services

- digital products**

- Goods that can be transformed into digital format and delivered over the Internet

- Infrastructure

E-Marketplaces



- **Marketspace components**

- front end**

- The portion of an e-seller's business processes through which customers interact, including the seller's portal, electronic catalogs, a shopping cart, a search engine, and a payment gateway

- back end**

- The activities that support online order-taking. It includes fulfillment, inventory management, purchasing from suppliers, payment processing, packaging, and delivery

E-Marketplaces



- Marketspace components
intermediary

A third party that operates between sellers and buyers.

- Other business partners
- Support services

Types of E-Marketplaces: From Storefronts to Portals



- Electronic Storefronts

- storefront**

- A single company's Web site where products or services are sold

- Most common mechanisms are a(n):

- electronic catalog
 - search engine
 - electronic cart
 - e-auction facilities
 - payment gateway

Types of E-Marketplaces: From Storefronts to Portals



e-mall (online mall)

An online shopping center where many online stores are located

- Types of Stores and Malls
 - General stores/malls
 - Specialized stores/malls
 - Regional versus global stores
 - Pure online organizations versus click-and-mortar stores

Types of E-Marketplaces: From Storefronts to Portals



- Types of E-Marketplaces

e-marketplace

An online market, usually B2B, in which buyers and sellers exchange goods or services; the three types of e-marketplaces are private, public, and consortia

private e-marketplaces

Online markets owned by a single company; may be either sell-side or buy-side e-marketplaces.

Types of E-Marketplaces: From Storefronts to Portals



- Types of E-Marketplaces

- sell-side e-marketplace**

- A private e-marketplace in which a company sells either standard or customized products to qualified companies

- buy-side e-marketplace**

- A private e-marketplace in which a company makes purchases from invited suppliers

Types of E-Marketplaces: From Storefronts to Portals



public e-marketplaces

B2B marketplaces, usually owned and/or managed by an independent third party, that include many sellers and many buyers; also known as *exchanges*

information portal

A single point of access through a Web browser to business information inside and/or outside an organization

Types of E-Marketplaces: From Storefronts to Portals



- Six major types of portals
 - Commercial (public) portals
 - Corporate portals
 - Publishing portals
 - Personal portals
 - Mobile portals
 - Voice portals

Types of E-Marketplaces: From Storefronts to Portals



mobile portal

A portal accessible via a mobile device

voice portal

A portal accessed by telephone or cell phone

Intermediation in EC

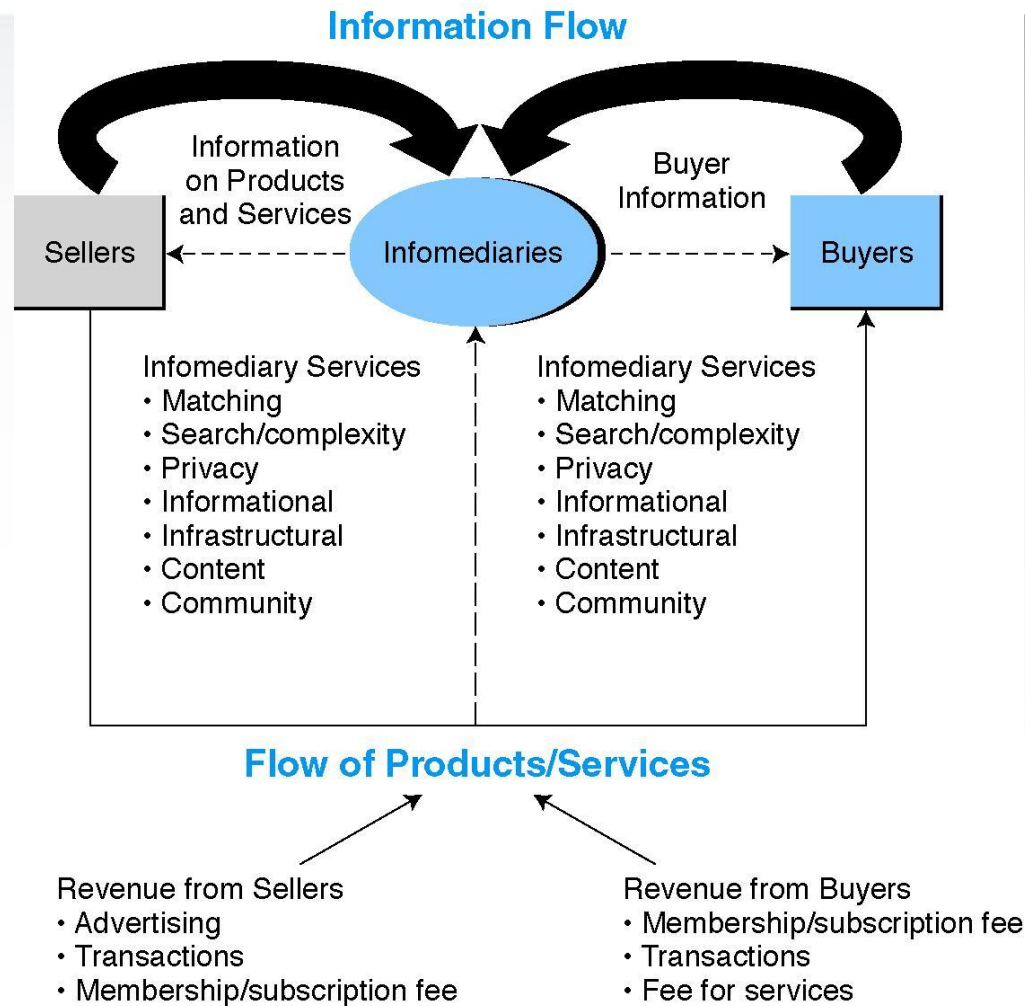


infomediaries

Electronic intermediaries that control information flow in cyberspace, often aggregating information and selling it to others

- **Five limitations of direct interaction**
 - Search costs
 - Lack of privacy
 - Incomplete information
 - Contract risk
 - Pricing inefficiencies

Exhibit 2.3 Infomediaries and the Information Flow Model



Intermediation in EC



e-distributor

An e-commerce intermediary that connects manufacturers (suppliers) with business buyers by aggregating the catalogs of many suppliers in one place—the intermediary's Web site

Intermediation in EC



disintermediation

Elimination of intermediaries between sellers and buyers

reintermediation

Establishment of new intermediary roles for traditional intermediaries that have been disintermediated

Electronic Catalogs and Other Market Mechanisms



electronic catalogs

The presentation of product information in an electronic form; the backbone of most e-selling sites

- **Classification of electronic catalogs**
 1. The dynamics of the information presentation
 2. The degree of customization
 3. Integration with business processes

Electronic Catalogs and Other Market Mechanisms



- Online catalogs
 - Ease of updating
 - Ability to be integrated with the purchasing process
 - Coverage of a wide spectrum of products
 - Interactivity
 - Customization
 - Strong search capabilities

Electronic Catalogs and Other Market Mechanisms



- Two approaches to creating customized catalogs
 - Let the customers identify the parts of interest to them from the total catalog
 - Let the system automatically identify customer characteristics based on the customer's transaction records

Electronic Catalogs and Other Market Mechanisms



search engine

A computer program that can access a database of Internet resources, search for specific information or keywords, and report the results

software (intelligent) agent

Software that can perform routine tasks that require intelligence

Electronic Catalogs and Auctions as EC Market Mechanisms



electronic shopping cart

An order-processing technology that allows customers to accumulate items they wish to buy while they continue to shop

auction

A competitive process in which a seller solicits consecutive bids from buyers (forward auctions) or a buyer solicits bids from sellers (backward auctions). Prices are determined dynamically by the bids

Auctions As EC Market Mechanisms



- Limitations of Traditional Off-line Auctions
 - The rapid process may give potential buyers little time to make a decision
 - Bidders do not have much time to examine the goods
 - Bidders must usually be physically present at auctions
 - Difficult for sellers to move goods to an auction site
 - Commissions are fairly high

Auctions As EC Market Mechanisms



electronic auction (e-auction)

Auctions conducted online

dynamic pricing

Prices that change based on supply and demand relationships at any given time

Auctions As EC Market Mechanisms



- Types of auctions
 - One Buyer, One Seller
 - One Seller, Many Potential Buyers

forward auction

An auction in which a seller entertains bids from buyers

Auctions As EC Market Mechanisms

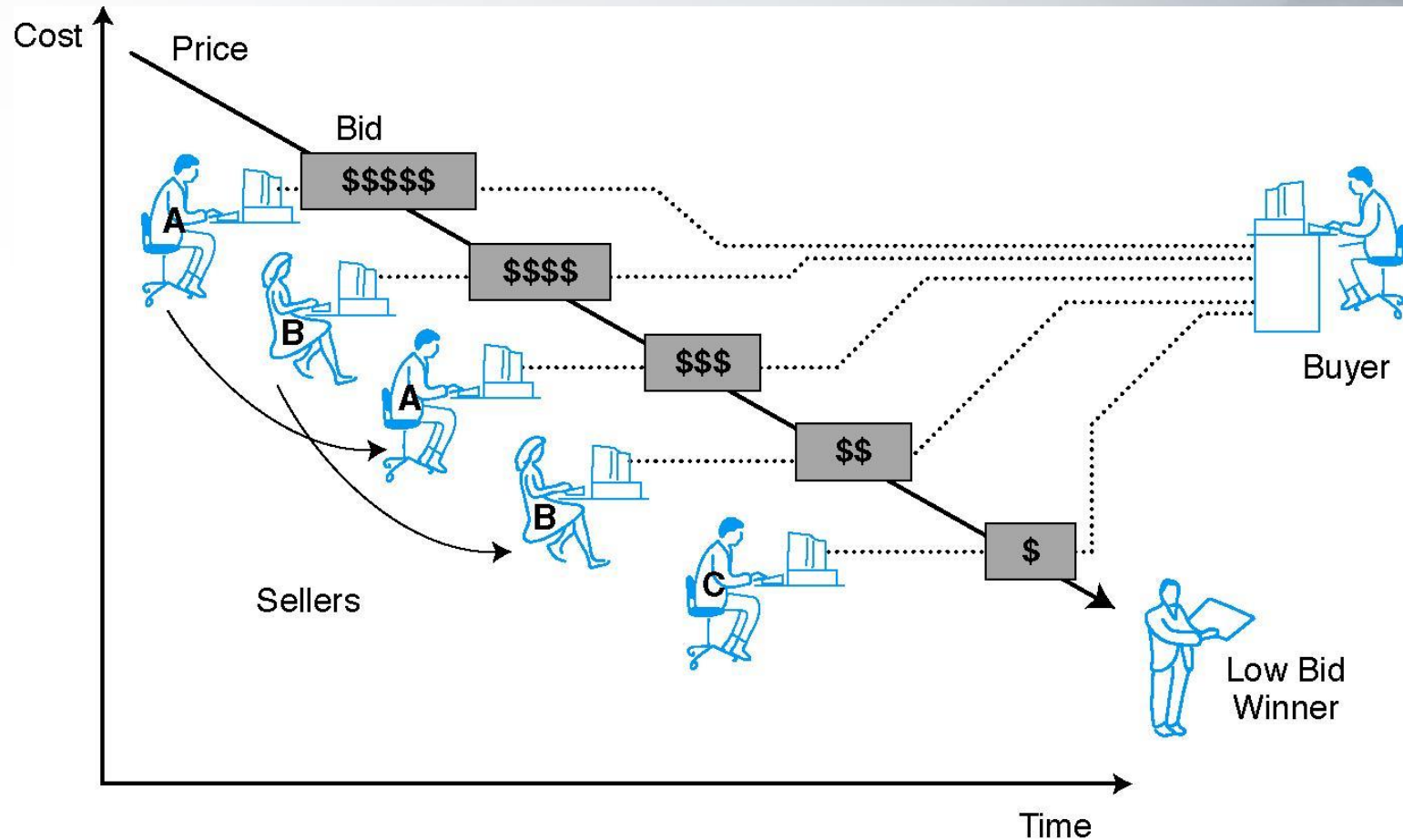


- Types of auctions
 - **One Buyer, Many Potential Sellers**

reverse auction (bidding or tendering system)

Auction in which the buyer places an item for bid (*tender*) on a request for quote (RFQ) system, potential suppliers bid on the job, with the price reducing sequentially, and the lowest bid wins; primarily a B2B or G2B mechanism

Exhibit 2.5 The Reverse Auction Process



Auctions As EC Market Mechanisms



- Types of auctions
 - **One Buyer, Many Potential Sellers**

“name-your-own-price” model

Auction model in which a would-be buyer specifies the price (and other terms) he or she is willing to pay to any willing and able seller. It is a C2B model that was pioneered by Priceline.com

Auctions As EC Market Mechanisms



- Types of auctions
 - Many Sellers, Many Buyers

double auction

Auctions in which multiple buyers and their bidding prices are matched with multiple sellers and their asking prices, considering the quantities on both sides

Auctions As EC Market Mechanisms



- Limitations of E-Auctions
 - Minimal security
 - Possibility of fraud
 - Limited participation
- Impacts of E-Auctions
 - Auctions as a coordination mechanism
 - Auctions as a social mechanism to determine a price
 - Auctions as a highly visible distribution mechanism
 - Auctions as an EC component

Bartering and Negotiating Online



bartering

The exchange of goods or services

e-bartering (electronic bartering)

Bartering conducted online, usually by a bartering exchange

bartering exchange

A marketplace in which an intermediary arranges barter transactions

Bartering and Negotiating Online



- **Online negotiating**—Three factors may facilitate online negotiation:
 1. The products and services that are bundled and customized
 2. The computer technology that facilitates the negotiation process
 3. The software (intelligent) agents that perform searches and comparisons, thereby providing quality customer service and a base from which prices can be negotiated

EC in the Wireless Environment: M-Commerce



mobile computing

Permits real-time access to information, applications, and tools that, until recently, were accessible only from a desktop computer

mobile commerce (m-commerce)

E-commerce conducted via wireless devices

m-business

The broadest definition of m-commerce, in which e-business is conducted in a wireless environment

Competition in the Digital Economy



Internet ecosystem

The business model of the Internet economy

differentiation

Providing a product or service that is unique

personalization

The ability to tailor a product, service, or Web content to specific user preferences

Competition in the Digital Economy



- Competitive Factors in the Internet Economy
 - Lower prices
 - Customer service
 - Barriers to entry are reduced
 - Virtual partnerships multiply
 - Market niches abound

Competition in the Digital Economy

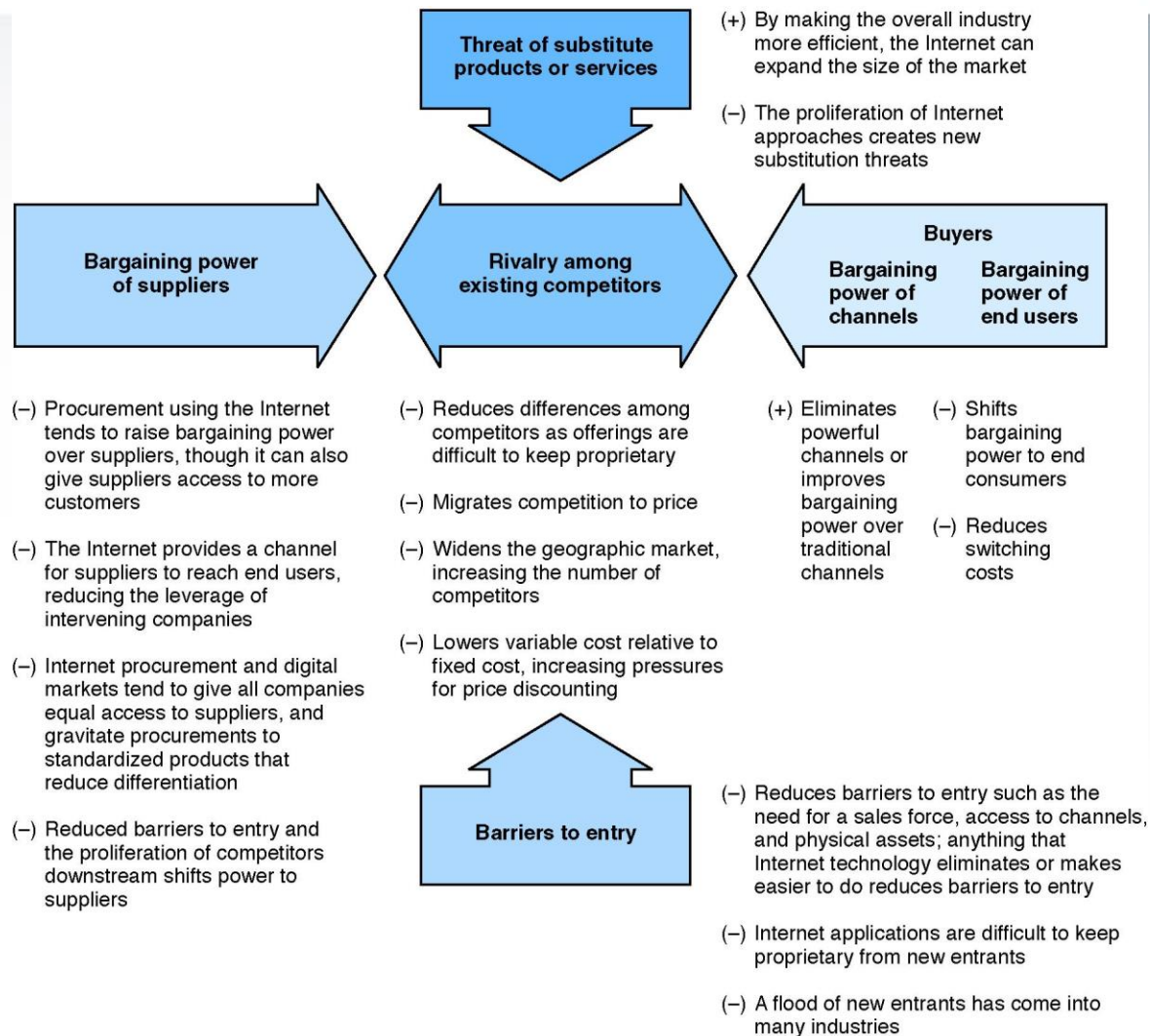


- Porter's Competitive Analysis in an Industry

competitive forces model

Model, devised by Porter, that says that five major forces of competition determine industry structure and how economic value is divided among the industry players in an industry; analysis of these forces helps companies develop their competitive strategy

Exhibit 2.6 Porter's Competitive Forces Model



Impacts of EC on Business Processes and Organizations



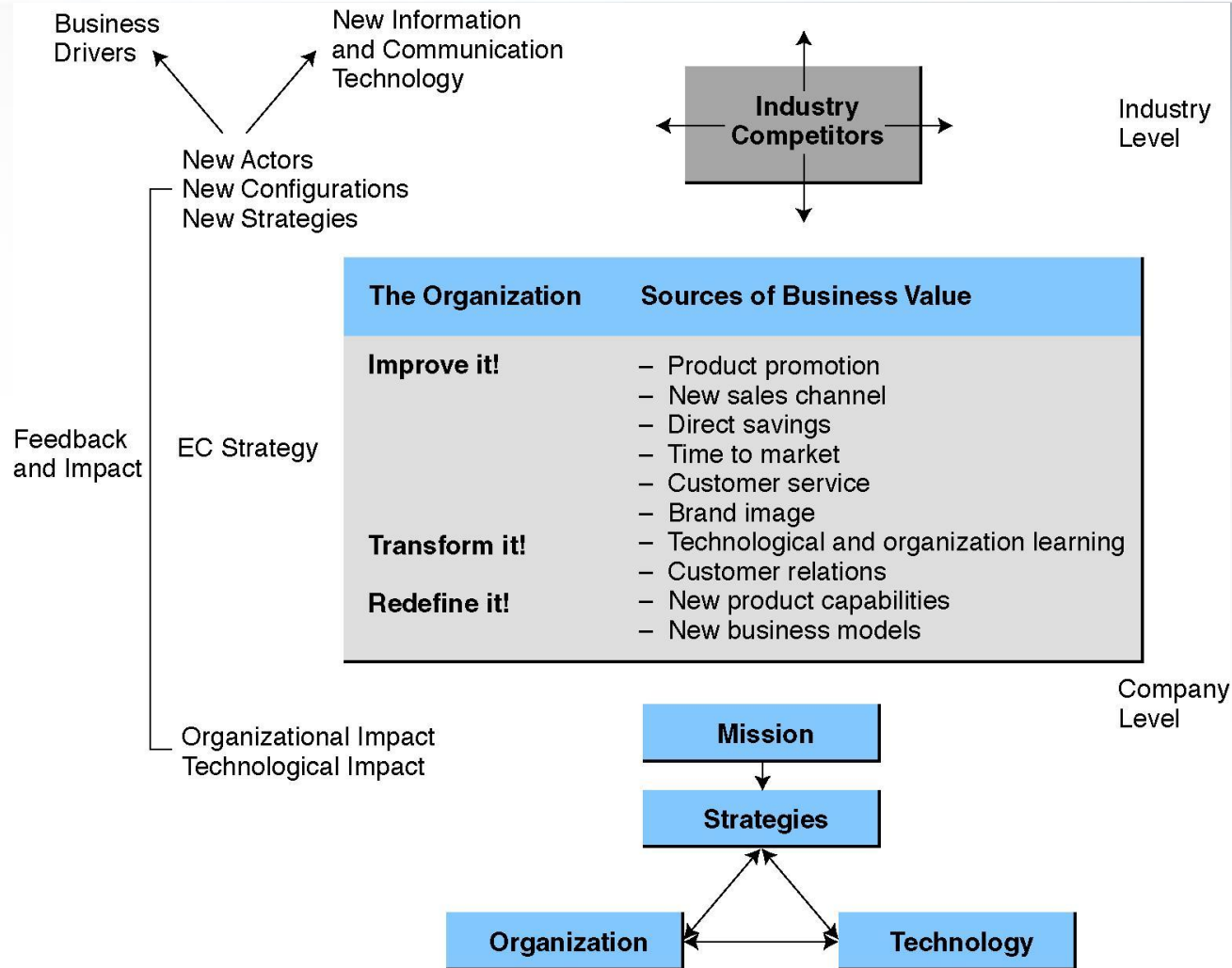
- **Improving Direct Marketing**

- Product promotion
- New sales channel
- Direct savings
- Reduced cycle time
- Improved customer service
- Brand or corporate image

- **Other Impacts on Direct Marketing**

- Customization
- Advertising
- Ordering systems
- Market operations

Exhibit 2.7 The Analysis-of-Impacts Framework



Impacts of EC on Business Processes and Organizations



- Transforming Organizations
 - Technology and organizational learning:
 - Corporate change must be planned and managed
 - Organizations may have to struggle with different experiments and learn from their mistakes
 - The changing nature of work
 - Firms are reducing the number of employees down to a core of essential staff and outsourcing whatever work they can to countries where wages are significantly lower

Impacts of EC on Business Processes and Organizations



- Redefining Organizations

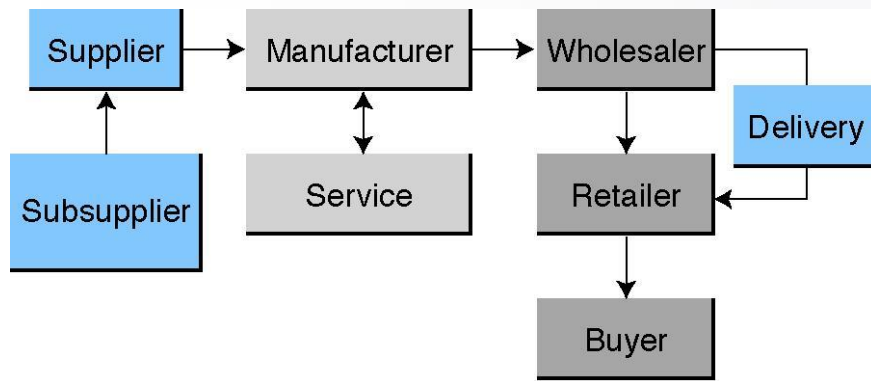
- New and improved product capabilities
- New business models
- Improving the supply chain
- Impacts on Manufacturing

build-to-order (pull system)

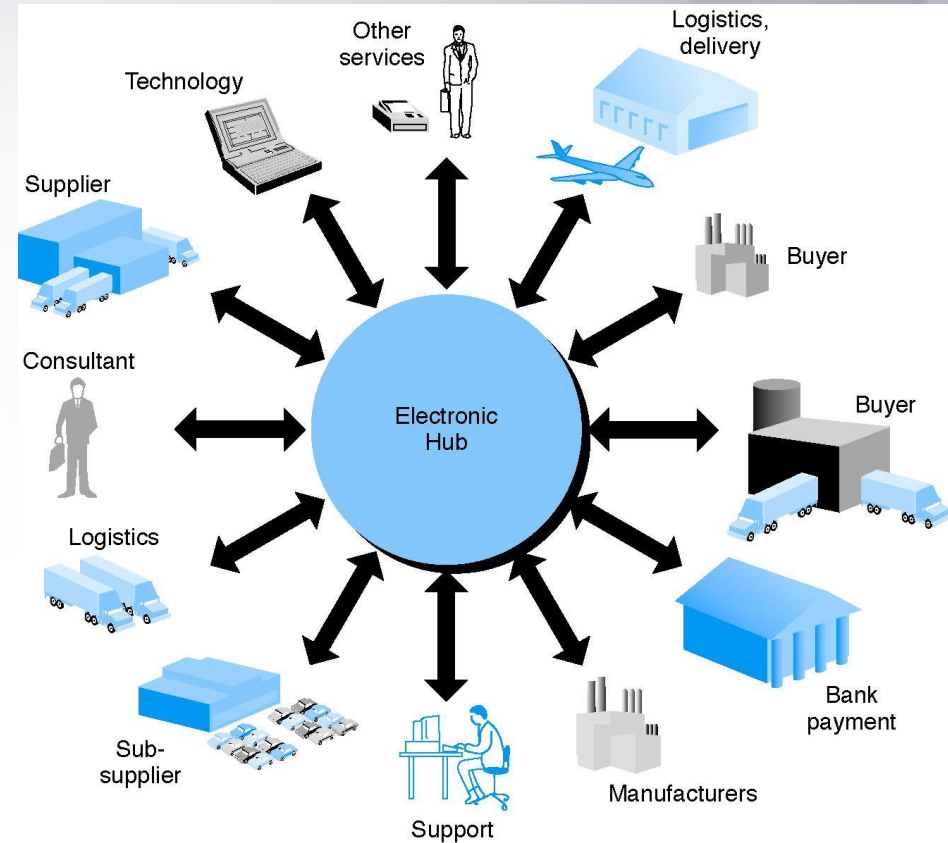
A manufacturing process that starts with an order (usually customized). Once the order is paid for, the vendor starts to fulfill it

- Real-time demand-driven manufacturing
- Virtual manufacturing
- Assembly lines

Exhibit 2.10 Changes in the Supply Chain

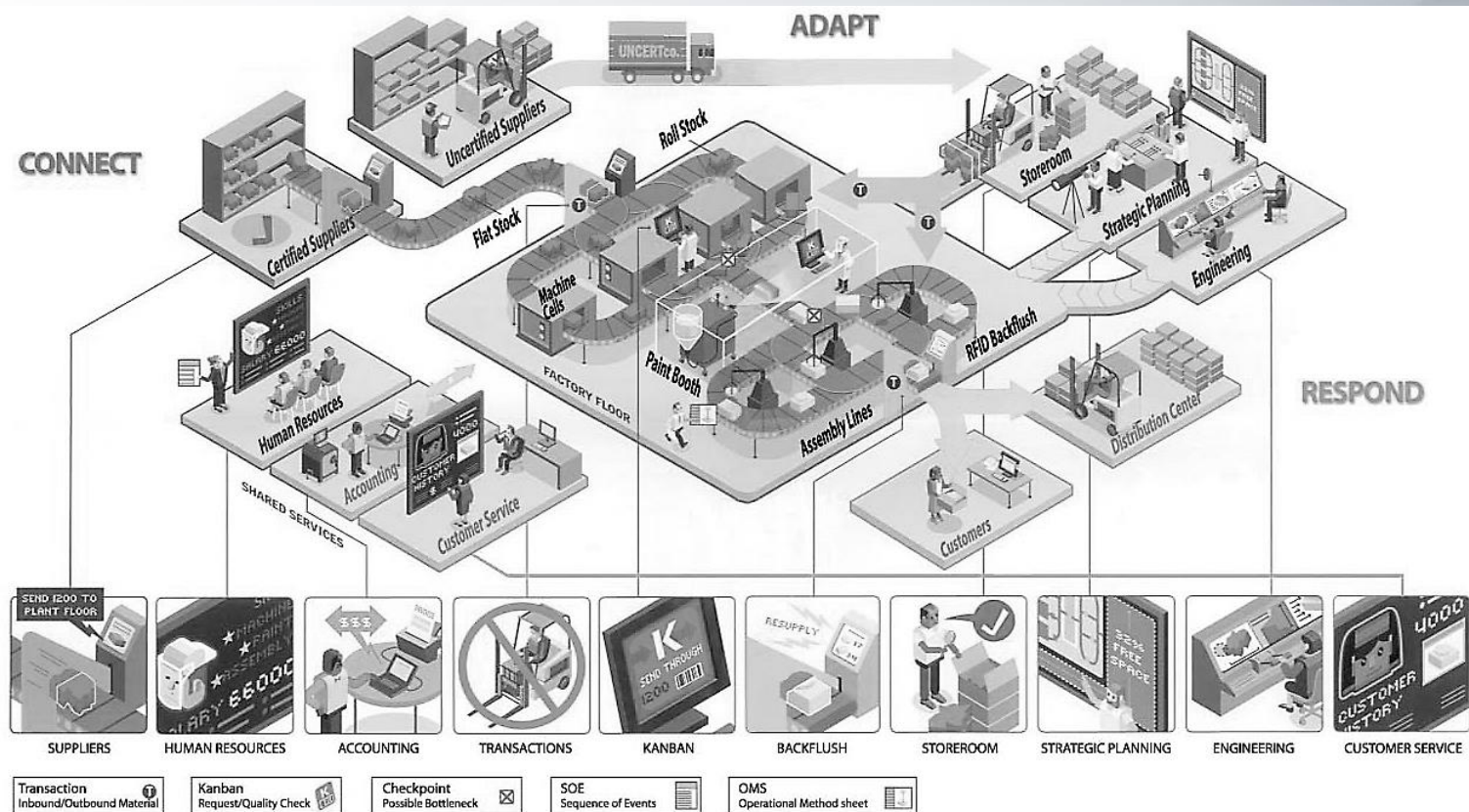


a. Traditional Intermediaries



b. Hub-Based Chain

Exhibit 2.11 Real-Time Demand-Driven Manufacturing



Impacts of EC on Business Processes and Organizations



- Redefining Organizations
 - Impacts on Finance and Accounting

E-markets require special finance and accounting systems. Most notable of these are electronic payment systems
 - Impacts on Human Resource Management and Training
 - EC is changing how people are recruited, evaluated, promoted, and developed
 - EC also is changing the way training and education are offered to employees
 - Companies are cutting training costs by 50% or more, and virtual courses and programs are mushrooming

Managerial Issues



1. What about intermediaries?
2. Should we auction?
3. Should we barter?
4. What m-commerce opportunities are available?
5. How do we compete in the digital economy?
6. What organizational changes will be needed?

Summary



1. E-marketplaces and their components.
2. The role of intermediaries.
3. The major types of e-marketplaces.
4. Electronic catalogs, search engines, and shopping carts.
5. Types of auctions and their characteristics.

Summary



6. The benefits and limitations of auctions.
7. Bartering and negotiating.
8. The role of m-commerce.
9. Competition in the digital economy.
10. The impact of e-markets on organizations.

Chapter 3

Retailing in Electronic Commerce: Products and Services



Learning Objectives



1. Describe electronic retailing (e-tailing) and its characteristics.
2. Define and describe the primary e-tailing business models.
3. Describe how online travel and tourism services operate and their impact on the industry.

Learning Objectives



4. Discuss the online employment market, including its participants, benefits, and limitations.
5. Describe online real estate services.
6. Discuss online stock-trading services.
7. Discuss cyberbanking and online personal finance.
8. Describe on-demand delivery by e-grocers.

Learning Objectives



9. Describe the delivery of digital products and online entertainment.
10. Discuss various e-tail consumer aids, including comparison-shopping aids.
11. Identify the critical success factors and failure avoidance tactics for direct online marketing and e-tailing.
12. Describe reintermediation, channel conflict, and personalization in e-tailing.

Internet Marketing and Electronic Retailing



- Overview of Electronic Retailing
electronic retailing (e-tailing)
Retailing conducted online, over the Internet

e-tailers

Retailers who sell over the Internet

Internet Marketing and Electronic Retailing



- Size and Growth of the B2C Market
 - Reported amounts of online sales *deviate substantially* based on how the numbers are derived
 - Annual online 2004 sales were estimated to be over \$70 billion
 - The average online shopper spent over \$350 per quarter
 - Forrester Research estimates that e-tailing will reach \$316 billion by 2010

Internet Marketing and Electronic Retailing



What Sells Well on the Internet?

- Computer hardware and software
- Consumer electronics
- Office supplies
- Sporting goods
- Books and music
- Toys
- Health and beauty
- Apparel and clothing
- Jewelry
- Cars
- Services
- Others

Internet Marketing and Electronic Retailing



- Characteristics of Successful E-Tailing
 - High brand recognition
 - A guarantee provided by highly reliable or well-known vendors
 - Digitized format
 - Relatively inexpensive items
 - Frequently purchased items
 - Commodities with standard specifications
 - Well-known packaged items that cannot be opened even in a traditional store

E-Retailing Business Models



- Classification by Distribution Channel
 1. Mail-order retailers that go online
 2. Direct marketing from manufacturers
 3. Pure-play e-tailers
 4. Click-and-mortar retailers
 5. Internet (online) malls

E-Retailing Business Models



direct marketing

Broadly, marketing that takes place without intermediaries between manufacturers and buyers; in the context of this book, marketing done online between any seller and buyer

E-Retailing Business Models



- Direct Sales by Manufacturers
 - Sellers can understand their markets better because of the direct connection to consumers
 - Consumers gain greater information about the products through their direct connection to the manufacturers

E-Retailing Business Models



virtual (pure-play) e-tailers

Firms that sell directly to consumers over the Internet without maintaining a physical sales channel

click-and-mortar retailers

Brick-and-mortar retailers that offer a transactional Web site from which to conduct business

E-Retailing Business Models



brick-and-mortar retailers

Retailers who do business in the non-Internet, physical world in traditional brick-and-mortar stores

multichannel business model

A business model where a company sells in multiple marketing channels simultaneously (e.g., both physical and online stores)

E-Retailing Business Models



- Retailing in Online Malls
 - Referring Directories
 - Malls with Shared Services
- Representative B2C Services
 - Postal Services
 - Services and Products for Adults
 - Wedding Channels
 - Gift Registries

Travel and Tourism Services Online



- Online travel is probably the most successful e-commerce implementation
- Services provided include:
 - General information
 - Reserving and purchasing tickets, accommodations, and entertainment
 - Travel tips
 - Electronic travel magazines
 - Fare comparisons

Travel and Tourism Services Online



- Benefits of Online Travel Services
 - Benefits to consumers
 - Large amount of free information available 24/7
 - Substantial discounts can be found
 - Benefits to providers
 - Airlines, hotels, and cruise lines are selling otherwise-empty spaces
 - Direct selling saves the provider's commission and its processing

Travel and Tourism Services Online



- Limitations of Online Travel Services
 - Many people do not use the Internet
 - The amount of time and the difficulty of using virtual travel agencies may be significant
 - Complex trips or those that require stopovers may not be available online because they require specialized knowledge and arrangements

Travel and Tourism Services Online



- Corporate Travel
 - To reduce corporate travel costs, companies can make arrangements that enable employees to plan and book their own trips using online optimization tools provided by travel companies, such as those offered by Rosenbluth International
 - Travel authorization software that checks availability of funds and compliance with corporate guidelines is usually provided by travel companies

Travel and Tourism Services Online



- Intelligent Agents in Travel Services
 - Software agents emulate the work and behavior of human agents in executing organizational processes like travel authorization, planning or decision making
 - Each agent is capable of acting autonomously, cooperatively, or collectively to achieve the stated goal

Employment Placement and the Job Market Online



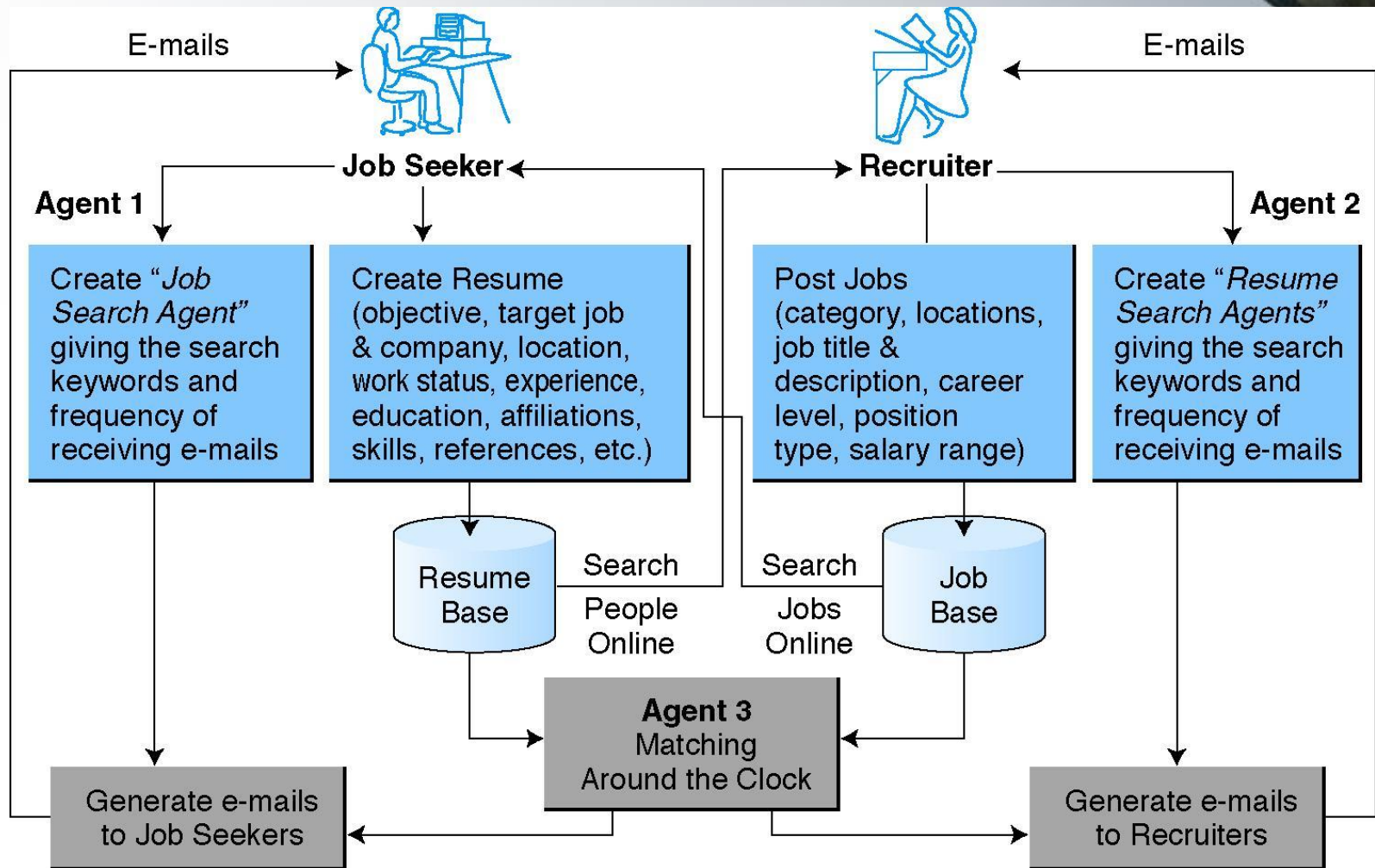
- The Internet Job Market
 - Job seekers
 - Employers seeking employees
 - Job agencies
 - Government agencies and institutions
- The Internet is a global online portal for job seekers

Employment Placement and the Job Market Online



- Limitations of the Electronic Job Market
 - Many people do not use the Internet. This limitation is even more serious with non-technology-oriented jobs
 - Security and privacy: resumes and other online communications are usually not encrypted, so one's job-seeking activities may not be secure

Exhibit 3.7 Intelligent Agents Match Resumes with Available Jobs



Real Estate, Insurance, and Stock Trading Online



- Real Estate Applications
 - Advice to consumers on buying or selling a home
 - Commercial real estate listings
 - Listings of residential real estate in multiple databases
 - The National Association of Realtors (*realtor.com*) has links to house listings in all major cities

Real Estate, Insurance, and Stock Trading Online



- Real Estate Applications
 - Maps are available
 - Information on current mortgage rates
 - Mortgage brokers can pass loan applications over the Internet and receive bids from lenders who want to issue mortgages
 - Online lenders can tentatively approve loans online
 - Automated closing of real estate transactions

Real Estate, Insurance, and Stock Trading Online



- Real Estate Applications
 - Property management companies (residential, commercial, and industrial) are using the Internet for many applications ranging from security to communication with tenants
 - Sites for persons who want to sell their homes privately, without using a real estate agent
 - Rental properties are listed

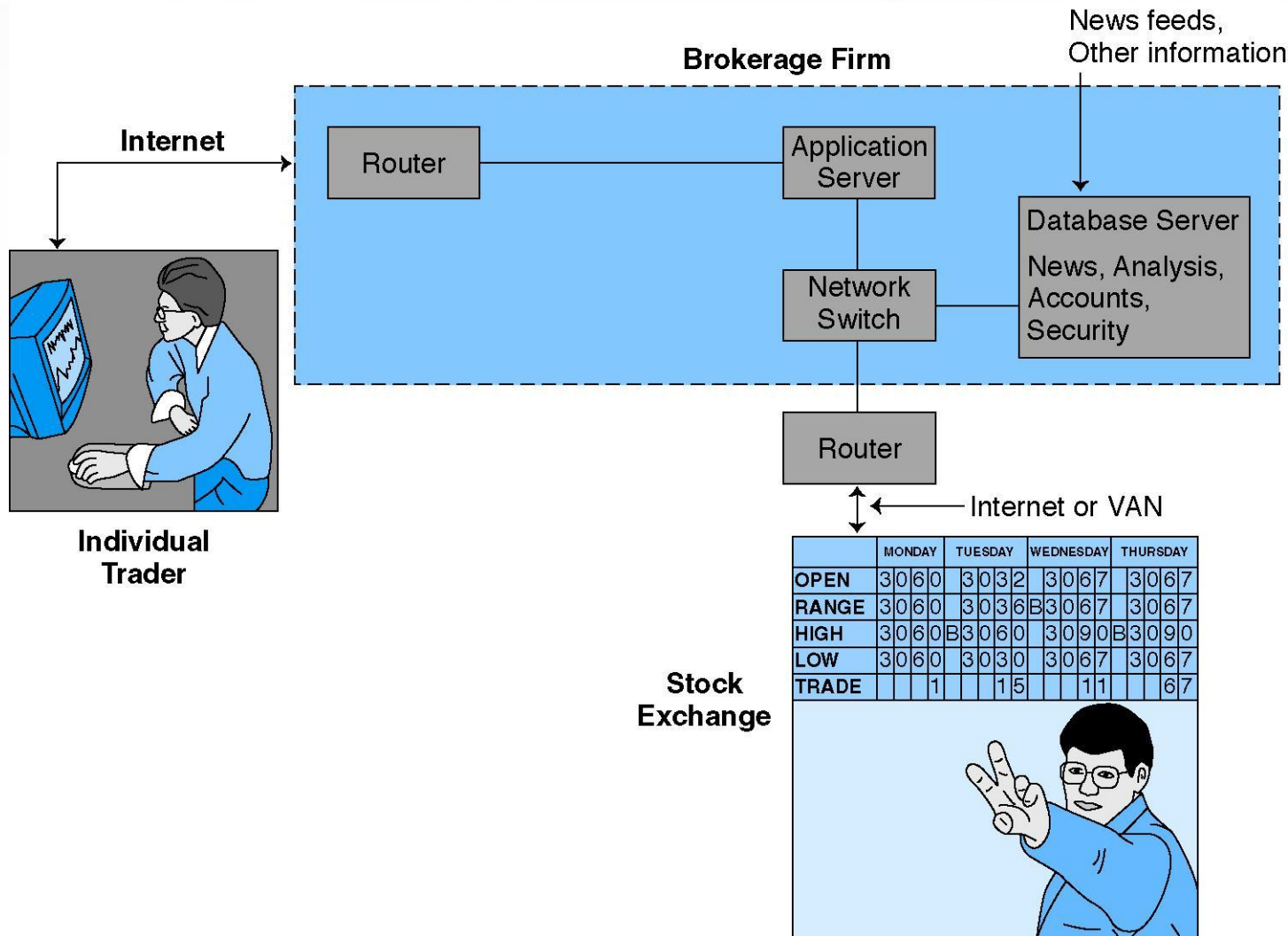
Real Estate, Insurance, and Stock Trading Online



- Insurance Online

- An increasing number of companies use the Internet to offer standard insurance policies (auto, home, life, or health) at a substantial discount
- Third-party aggregators offer free comparisons of available policies
- Several large insurance and risk-management companies offer comprehensive insurance contracts online

Exhibit 3.8 Online Electronic Stock Trading



Real Estate, Insurance, and Stock Trading Online



- Investment Information Online
 - Current financial news
 - Municipal bond prices
 - Many tools are available to help investors in the bond market
 - Free “guru” (expert) advice
 - Stock screening and evaluation tools

Real Estate, Insurance, and Stock Trading Online



- Investment Information Online
 - Articles from the *Journal of the American Association of Individual Investors*
 - Schwab Trader encourages consumers to practice trading strategies
 - The latest on funding and pricing of IPOs
 - Earnings estimates
- The major risk of online trading is security

Banking and Personal Finance Online



electronic banking (e-banking)

Various banking activities conducted from home or the road using an Internet connection; also known as cyberbanking, virtual banking, online banking, and home banking

Exhibit 3.9 Online Banking Capabilities



Informational	General bank information and history
	Financial education information
	Employment information
	Interest rate quotes
	Financial calculators
	Current bank and local news
Administrative	Account information access
	Applications for services
	Personal finance software applications
Transactional	Account transfer capabilities
	Bill-pay services
	Corporate services (e.g., cash management, treasury)
	Online insurance services
	Online brokerage services
Portal	Online trust services
	Links to financial information
	Links to community information
	Links to local business
Others	Links to nonlocal businesses (and/or advertisers)
	Wireless capabilities
	Search function

Banking and Personal Finance Online



- Virtual Banks
 - *Virtual banks* have no physical location, but only conduct online transactions
- International and Multiple-Currency Banking
 - Hong Kong and Shanghai Banking Corporation (*hsbc.com.hk*)
 - Tradecard and MasterCard for global transactions (see *tradecard.com*)
 - Bank of America and most other major banks
 - *Fxall.com* is a multidealer foreign exchange service

Banking and Personal Finance Online



- Implementation Issues in Online Financial Transactions
 - Securing financial transactions
 - Access to banks' intranets by outsiders
 - Using imaging systems
 - Pricing online versus off-line services
 - Risks

Banking and Personal Finance Online



- Online Billing and Bill Paying
 - Automatic transfer of mortgage payments
 - Automatic transfer of funds to pay monthly utility bills
 - Paying bills from online banking accounts
 - Merchant-to-customer direct billing
 - Using an intermediary for bill consolidation
 - Person-to-person direct payment
 - Pay bills at bank kiosks
 - Taxes

On-Demand Delivery Services and E-grocers



on-demand delivery service

Express delivery made fairly quickly after an online order is received

e-grocer

A grocer that takes orders online and provides deliveries on a daily or other regular schedule or within a very short period of time

Online Delivery of Digital Products, Entertainment, and Media



- Certain goods, (software, music, or news stories) may be distributed in a physical form or they may be digitized and delivered over the Internet
- For sellers, the costs associated with the manufacture, storage, and distribution of physical products can be enormous
- Inventory management also becomes a critical cost issue, and so does delivery and distribution

Online Delivery of Digital Products, Entertainment, and Media



- Interactive Entertainment
 - Web browsing
 - Internet gaming
 - Fantasy sport games
 - Single and multiplayer games
 - Adult entertainment
 - Card games
 - Participatory Web sites
 - Reading

Online Delivery of Digital Products, Entertainment, and Media



- Noninteractive Entertainment
 - Event ticketing
 - Restaurants
 - Information retrieval
 - Retrieval of audio and video entertainment
 - Live events

Online Purchase-Decision Aids



shopping portals

Gateways to e-storefronts and e-malls; may be comprehensive or niche oriented

shopping robots (shopping agents or shopbots)

Tools that scout the Web on behalf of consumers who specify search criteria

- Wireless Shopping Comparisons—Enable shoppers to compare prices any time from anywhere, including from any physical store

Online Purchase-Decision Aids



- Business Ratings Sites
- Trust Verification Sites
- Other Shopper Tools
 - Escrow services
 - Communities of consumers who offer advice and opinions
 - E-wallet (or e-purse)

Online Purchase-Decision Aids



- Other Shopper Tools
 - Amazon.com's A9 Search Engine
 - Remembers information
 - A user can make notes about any Web page and search them
 - Offers a new way to store and organize bookmarks
 - Recommends new sites and favorite old sites specifically for the user to visit

Successful Click-and-Mortar Strategies



- A traditional brick-and-mortar store with a mature Web site uses a click-and-mortar strategy to:
 - Speak with one voice
 - Leverage the multichannels
 - Empower the customer

Problems with E-tailing and Lessons Learned



- Don't ignore profitability
- Manage new risk exposure
- Watch the cost of branding
- Do not start with insufficient funds
- The Web site must be effective
- Keep it interesting

Issues in E-Tailing



disintermediation

The removal of organizations or business process layers responsible for certain intermediary steps in a given supply chain

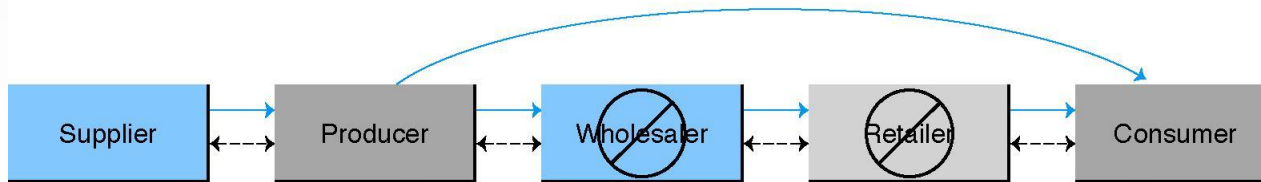
reintermediation

The process whereby intermediaries (either new ones or those that had been disintermediated) take on new intermediary roles

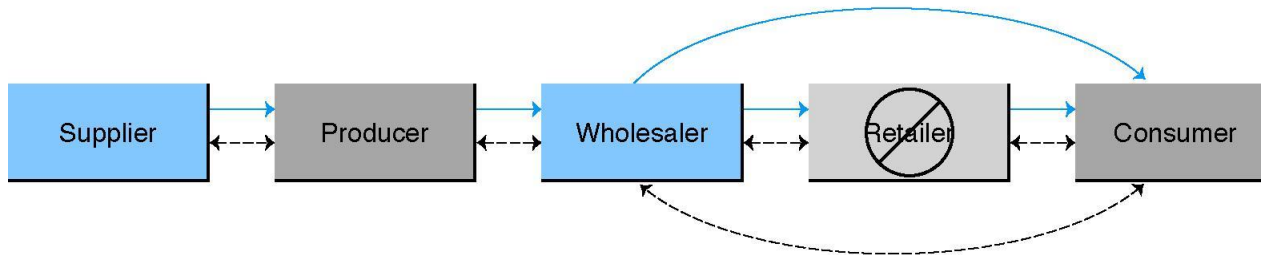
Exhibit 3.12 Disintermediation and Reintermediation in the B2C Supply Chain



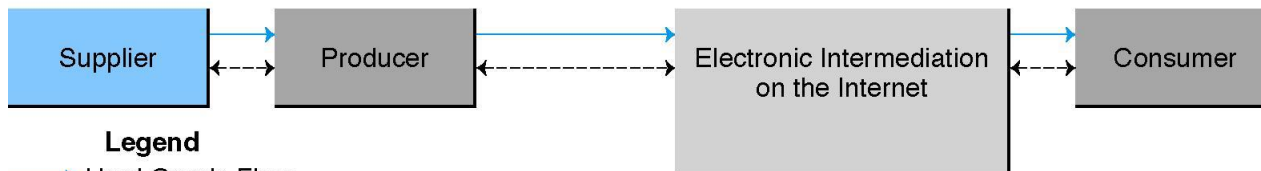
(a) Traditional Supply Chain



(b) Disintermediation in Direct Marketing (eliminate all intermediaries)



(c) Disintermediation of the Retailer



(d) Reintermediation

Legend

—> Hard Goods Flow

- - -> Information Flow



Disintermediated Function

Issues in E-Tailing



cybermediation (electronic intermediation)

The use of software (intelligent) agents to facilitate intermediation

hypermediation

Extensive use of both human and electronic intermediation to provide assistance in all phases of an e-commerce venture

Issues in E-Tailing



channel conflict

Situation in which an online marketing channel upsets the traditional channels due to real or perceived damage from competition

- Determining the right price
- Personalization
- Fraud and illegal activities
- How to make customers happy

Managerial Issues



1. What should our strategic position be?
2. Are we financially viable?
3. Should we recruit out of town?
4. Are there international legal issues regarding online recruiting?
5. Do we have ethics and privacy guidelines?
6. How will intermediaries act in cyberspace?
7. Should we set up alliances?

Summary



1. The scope of e-tailing.
2. E-tailing business models.
3. How online travel/tourism services operate.
4. The online job market and its benefits.
5. The electronic real estate market.
6. Online trading of stocks and bonds.

Summary



7. Cyberbanking and personal finance.
8. On-demand delivery service.
9. Delivery of digital products.
10. Aiding consumer purchase decisions.
11. Critical success factors.
12. Disintermediation and reintermediation.

Chapter 4

Consumer Behavior, Market Research, and Advertisement



Learning Objectives



1. Describe the factors that influence consumer behavior online.
2. Understand the decision-making process of consumer purchasing online.
3. Describe how companies are building one-to-one relationships with customers.
4. Explain how personalization is accomplished online.
5. Discuss the issues of e-loyalty and e-trust in EC.
6. Describe consumer market research in EC.

Learning Objectives



7. Describe Internet marketing in B2B, including organizational buyer behavior.
8. Describe the objectives of Web advertising and its characteristics.
9. Describe the major advertising methods used on the Web.
10. Describe various online advertising strategies and types of promotions.
11. Describe permission marketing, ad management, localization, and other advertising-related issues.
12. Understand the role of intelligent agents in consumer issues and advertising applications.

Learning about Consumer Behavior Online



- A Model of Consumer Behavior Online
 - The purpose of a consumer behavior model is to help vendors understand how a consumer makes a purchasing decision
 - *Independent* (or uncontrollable) *variables*
 - *Intervening* or *moderating variables*
 - *Dependent variables*
- Roles people play in the decision-making process:
 - Initiator
 - Influencer
 - Decider
 - Buyer
 - User

The Consumer Decision-Making Process



- A Generic Purchasing-Decision Model

product brokering

Deciding what product to buy

merchant brokering

Deciding from whom (from what merchant) to buy a product

One-to-One Marketing, Loyalty, and Trust in EC

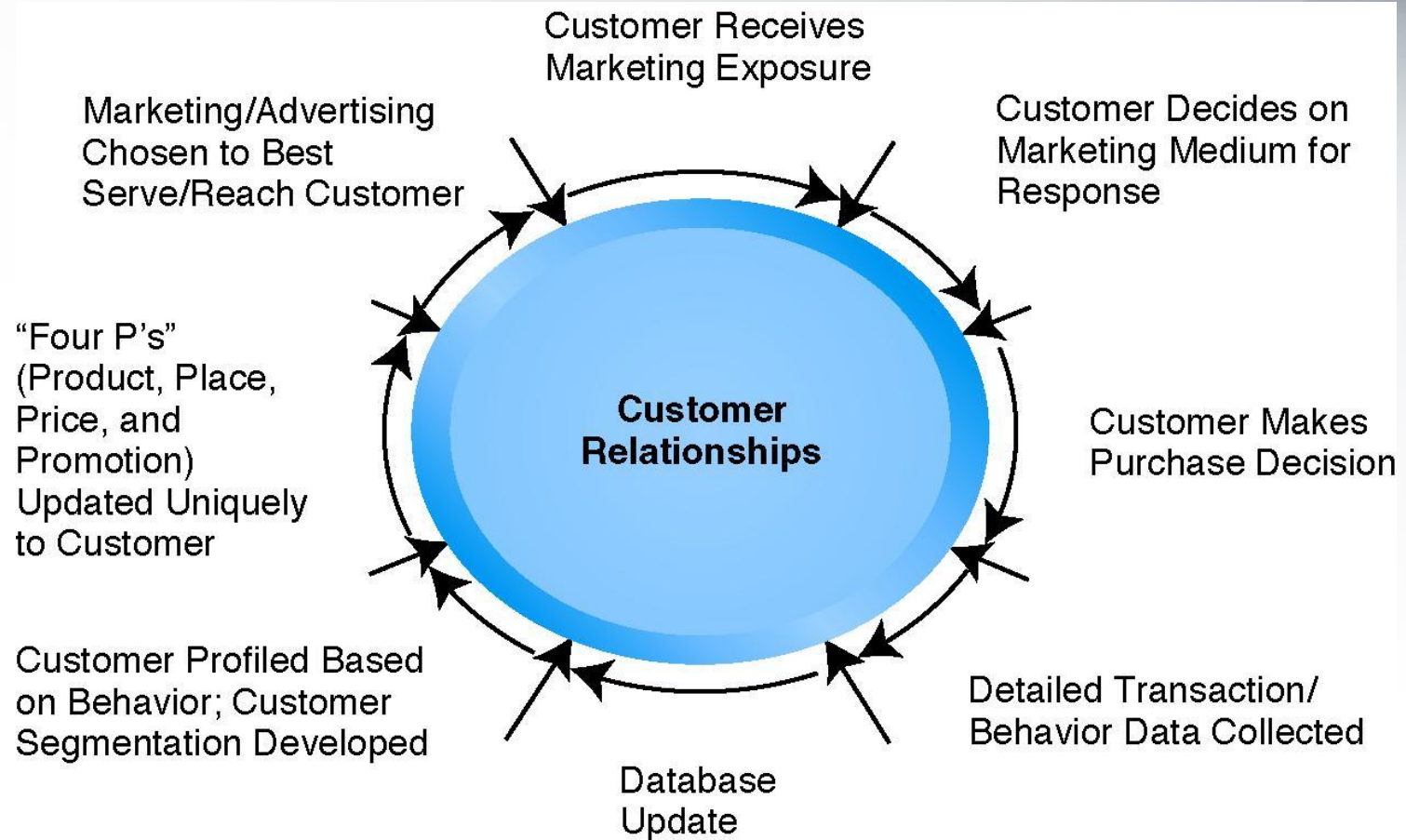


one-to-one marketing

Marketing that treats each customer in a unique way

- One of the benefits of doing business over the Internet is that it enables companies to better communicate with customers and better understand customers' needs and buying habits

Exhibit 4.3 The New Marketing Model



One-to-One Marketing, Loyalty, and Trust in EC



personalization

The matching of services, products, and advertising content with individual consumers

user profile

The requirements, preferences, behaviors, and demographic traits of a particular customer

cookie

A data file that is placed on a user's hard drive by a Web server, frequently without disclosure or the user's consent, that collects information about the user's activities at a site

One-to-One Marketing, Loyalty, and Trust in EC



collaborative filtering

A personalization method that uses customer data to predict, based on formulas derived from behavioral sciences, what other products or services a customer may enjoy; predictions can be extended to other customers with similar profiles

- Variations of collaborative filtering
 - Rule-based filtering
 - Content-based filtering
 - Activity-based filtering

One-to-One Marketing, Loyalty, and Trust in EC



- Customer Loyalty

- *Customer loyalty* is the degree to which a customer will stay with a specific vendor or brand for repeat purchasing
- Customer loyalty is expected to produce more sales and increased profits over time

e-loyalty

Customer loyalty to an e-tailer

One-to-One Marketing, Loyalty, and Trust in EC



- Satisfaction in EC
 - Satisfaction is one of the most important consumer reactions in the B2C online environment
 - Recent statistics show:
 - 80% of highly satisfied online consumers would shop again within 2 months
 - 90% would recommend the Internet retailers to others
 - However, 87% of dissatisfied consumers would permanently leave their Internet retailers without any complaints

One-to-One Marketing, Loyalty, and Trust in EC



trust

The psychological status of involved parties who are willing to pursue further interaction to achieve a planned goal

- How to Increase Trust in EC
 - Trust between buyers and sellers
 - Brand recognition
 - EC security mechanisms can help solidify trust

Market Research for EC



- The Goal of Market Research

To find information and knowledge that describes the relationships among consumers, products, marketing methods, and marketers

- The Aim of Market Research

To discover marketing opportunities and issues, to establish marketing plans, to better understand the purchasing process, and to evaluate marketing performance

Market Research for EC



market segmentation

The process of dividing a consumer market into logical groups for conducting marketing research, advertising, and sales

- Segmentation is done with the aid of tools such as data modeling and data warehousing

Market Research for EC



- Online Market Research Methods
 - Implementing Web-based surveys
 - Online focus groups
 - Hearing directly from customers
 - Customer scenarios

Market Research for EC



- Tracking Customer Movements

- transaction log**

- A record of user activities at a company's Web site

- clickstream behavior**

- Customer movements on the Internet

Market Research for EC



Web bugs

Tiny graphics files embedded on e-mail messages and in Web sites that transmit information about the users and their movements to a Web server

spyware

Software that gathers user information over an Internet connection without the user's knowledge

Market Research for EC



- Analysis of B2C Clickstream Data

clickstream data

Data that occur inside the Web environment; they provide a trail of the user's activities (the user's clickstream behavior) in the Web site

Market Research for EC



- Web Analytics
 - Enable retailers to make site adjustments on the fly, manage online marketing campaigns and EC initiatives, and track customer satisfaction
 - If a company redesigns its Web site, it can gain almost-instant feedback on how the new site is performing
 - Web analytics help marketers decide which products to promote and merchandisers achieve a better understanding of the nature of demand

Market Research for EC



- Limitations of Online Market Research
 - Too much data may be available
 - To use data properly, it should be organized, edited, condensed, and summarized
 - The solution to this problem is to automate the process by using data warehousing and data mining
 - Some of the limitations of online research methods are:
 - Accuracy of responses
 - Loss of respondents because of equipment problems
 - The ethics and legality of Web tracking
 - Lack of representativeness in samples of online users

Internet Marketing in B2B



- Organizational Buyer Behavior
 - Organizations buy large quantities of *direct materials* and *indirect materials*
 - Transaction volumes are far larger
 - Terms of negotiations and purchasing are complex

Internet Marketing in B2B



- Methods for B2B Online Marketing
 - Targeting customers
 - Electronic wholesalers
 - Other B2B marketing services
 - Affiliate programs
 - Infomediaries and online data mining services

Web Advertising



- Overview of Web Advertising
interactive marketing

Online marketing, enabled by the Internet, in which advertisers can interact directly with customers and consumers can interact with advertisers/vendors

- Two major business models for advertising online:
 - Using the Web as a channel to advertise a firm's own products and services
 - Making a firm's site a public portal site and using captive audiences to advertise products offered by other firms

Web Advertising



- Some Internet Advertising Terminology

ad views

The number of times users call up a page that has a banner on it during a specific time period; known as *impressions* or *page views*

Button

Page

click (click-through or ad click)

A count made each time a visitor clicks on an advertising banner to access the advertiser's Web site

Web Advertising



CPM (cost per thousand impressions)

The fee an advertiser pays for each 1,000 times a page with a banner ad is shown

conversion rate

The percentage of visitors who actually make a purchase

click-through rate (or ratio)

The percentage of visitors that are exposed to a banner ad and click on it

Web Advertising



click-through ratio

The ratio between the number of clicks on a banner ad and the number of times it is seen by viewers; measures the success of a banner in attracting visitors to click on the ad

hit

A request for data from a Web page or file

visit

A series of requests during one navigation of a Web site; a pause of a certain length of time ends a visit

Web Advertising



unique visit

A count of the number of visitors to a site, regardless of how many pages are viewed per visit

stickiness

Characteristic that influences the average length of time a visitor stays in a site

Web Advertising



- Why Internet Advertising?
 - Television viewers are migrating to the Internet
 - Advertisers are limited in the amount of information they can gather about the television and print ads
 - Other reasons why Web advertising is growing rapidly:
 - Cost
 - Richness of format
 - Personalization
 - Timeliness
 - Location-basis
 - Digital branding

Web Advertising



advertising networks

Specialized firms that offer customized Web advertising, such as brokering ads and targeting ads to select groups of consumers

Advertising Methods



- Banners

- banner**

- On a Web page, a graphic advertising display linked to the advertiser's Web page

- keyword banners**

- Banner ads that appear when a predetermined word is queried from a search engine

- random banners**

- Banner ads that appear at random, not as the result of the user's action

Advertising Methods



- Benefits of Banner Ads
 - By clicking on them users are transferred to an advertiser's site, and frequently directly to the shopping page of that site
 - The ability to customize them for individual surfers or a market segment of surfers
 - Viewing of banners is fairly high because “forced advertising” is used
 - Banners may include attention-grabbing multimedia

Advertising Methods



- Limitations of Banner Ads
 - Cost
 - A limited amount of information can be placed on the banner
 - Viewers have become somewhat immune to banners and simply do not notice them as they once did

Advertising Methods



banner swapping

An agreement between two companies to each display the other's banner ad on its Web site

banner exchanges

Markets in which companies can trade or exchange placement of banner ads on each other's Web sites

Advertising Methods



pop-up ad

An ad that appears in a separate window before, during, or after Internet surfing or when reading e-mail

pop-under ad

An ad that appears underneath the current browser window, so when the user closes the active window, he or she sees the ad

interstitial

An initial Web page or a portion of it that is used to capture the user's attention for a short time while other content is loading

Advertising Methods



- E-Mail Advertising
 - E-Mail Advertising Management—Four guidelines that marketers should consider to leverage customer insights throughout the e-mail marketing campaign lifecycle:
 1. Thinking about customer experience;
 2. Making privacy protection a part of their brand promise;
 3. Ensuring their recipients know about their privacy protection; and
 4. Measuring impact.

Advertising Methods



- Search Engine Advertisement—The major advantage of using URLs as an advertising tool is that it is *free*
 - Improving a company's search-engine ranking (optimization)
 - Paid search-engine inclusion
- Advertising in chat rooms
- Advertising in newsletters

Advertising Methods



advertorial

An advertisement “disguised” to look like editorial content or general information

associated ad display (text links)

An advertising strategy that displays a banner ad related to a term entered in a search engine

Advertising Strategies and Promotions Online



affiliate marketing

A marketing arrangement by which an organization refers consumers to the selling company's Web site

viral marketing

Word-of-mouth marketing by which customers promote a product or service by telling others about it

Webcasting

A free Internet news service that broadcasts personalized news and information, including seminars, in categories selected by the user

Advertising Strategies and Promotions Online

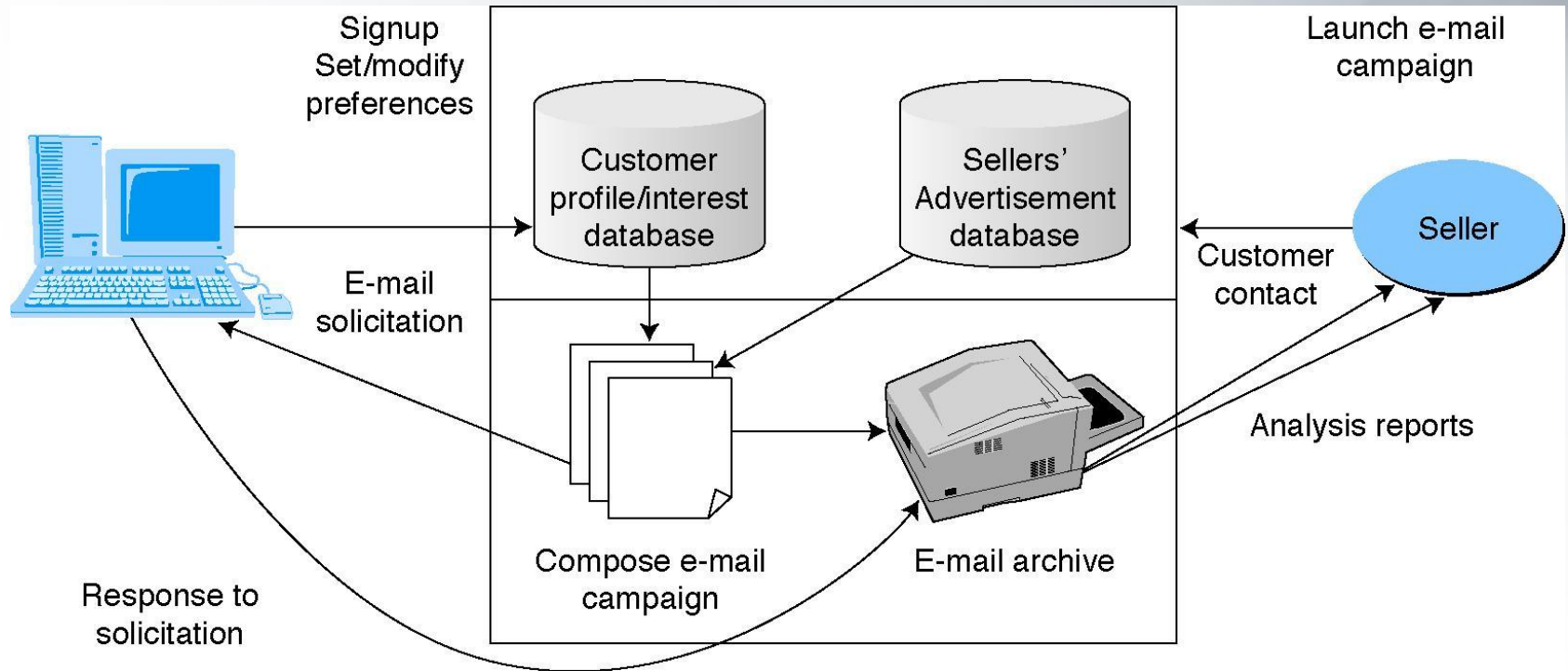


- Customizing Ads
- Online Events, Promotions, and Attractions

admediation

Third-party vendors that conduct promotions, especially large-scale ones

Exhibit 4.10 Framework for Admediation



Advertising Strategies and Promotions Online



- Online Events, Promotions, and Attractions
 - Major considerations when implementing an online ad campaign:
 - Target audience of online surfers clearly understood
 - Traffic to the site should be estimated, and a powerful enough server used handle the expected traffic volume
 - Assessment of results is needed to evaluate the budget and promotion strategy
 - Consider co-branding

Special Advertising Topics



- Permission Advertising
spamming

Using e-mail to send unwanted ads (sometimes floods of ads)

permission advertising (permission marketing)

Advertising (marketing) strategy in which customers agree to accept advertising and marketing materials

Special Advertising Topics



ad management

Methodology and software that enable organizations to perform a variety of activities involved in Web advertising (e.g., tracking viewers, rotating ads)

localization

The process of converting media products developed in one environment (e.g., country) to a form culturally and linguistically acceptable in countries outside the original target market

Internet radio

A Web site that provides music, talk, and other entertainment, both live and stored, from a variety of radio stations

Special Advertising Topics



- Ad Content
 - The content of ads is extremely important, and companies use ad agencies to help in content creation for the Web just as they do for other advertising media
 - Content is especially important to increase *stickiness*

Software Agents in Marketing and Advertising Applications



- A Framework for Classifying EC Agents: Agents that Support:
 - Need identification (what to buy)
 - Product brokering (from whom to buy)
 - Merchant brokering and comparisons
 - Buyer-seller negotiation
 - Purchase and delivery
 - After-sale service and evaluation

Software Agents in Marketing and Advertising Applications



- **Character-Based Animated Interactive Agents**
avatars

Animated computer characters that exhibit humanlike movements and behaviors

- social computing**

An approach aimed at making the human-computer interface more natural

- chatbots**

Animation characters that can talk (chat)

Managerial Issues



1. Do we understand our customers?
2. Should we use intelligent agents?
3. Who will conduct the market research?
4. Are customers satisfied with our Web site?
5. Can we use B2C marketing methods and research in B2B?
6. How do we decide where to advertise?

Managerial Issues



7. What is our commitment to Web advertising, and how will we coordinate Web and traditional advertising?
8. Should we integrate our Internet and non-Internet marketing campaigns?
9. What ethical issues should we consider?
10. Are any metrics available to guide advertisers?

Summary



1. Essentials of online consumer behavior.
2. The online consumer decision-making process.
3. Building one-to-one relationships with customers.
4. Online personalization.
5. Increasing loyalty and trust.
6. EC customer market research.
7. B2B Internet marketing and organizational buyers.

Summary



8. Objectives and characteristics of Web advertising.
9. Major online advertising methods.
10. Various advertising strategies and types of promotions.
11. Permission marketing, ad management, and localization.
12. Intelligent agents.

Chapter 8

Innovative EC Systems: From E-Government and E-Learning to C2C



Learning Objectives



1. Describe e-government to citizens (G2C), to businesses (G2B), and to others.
2. Describe various e-government initiatives.
3. Discuss online publishing, e-books, and blogging.
4. Describe e-learning and virtual universities.
5. Describe knowledge management and dissemination as an e-business.
6. Describe C2C activities.
7. Understand how peer-to-peer technology works in intrabusiness, in B2B, and in C2C.

E-Government: An Overview



- Scope and Definitions

- e-government**

- The use of IT and e-commerce to provide access to government information and delivery of public services to citizens and business partners

- government-to-citizens (G2C)**

- E-government category that includes all the interactions between a government and its citizens

E-Government: An Overview



- Government to Citizens
 - Electronic Voting

bioelectronic voting

Voting *process* that involves many steps ranging from registering, preparing, voting, and counting (voting and counting all done electronically)

Netizen

A citizen surfing the Internet

- Electronic Benefits Transfer

E-Government: An Overview



- Government-to-Business
government-to-business (G2B)
E-government category that includes interactions between governments and businesses (government selling to businesses and providing them with services and businesses selling products and services to government)
 - Government E-Procurement
 - Group Purchasing
 - Forward E-Auctions
 - Tax Collection and Management

E-Government: An Overview



- Government-to-Business
 - Government e-procurement
 - Group purchasing
 - Forward e-auctions
 - Tax collection and management

E-Government: An Overview



government-to-government (G2G)

E-government category that includes activities within government units and those between governments

government-to-employees (G2E)

E-government category that includes activities and services between government units and their employees

E-Government: An Overview



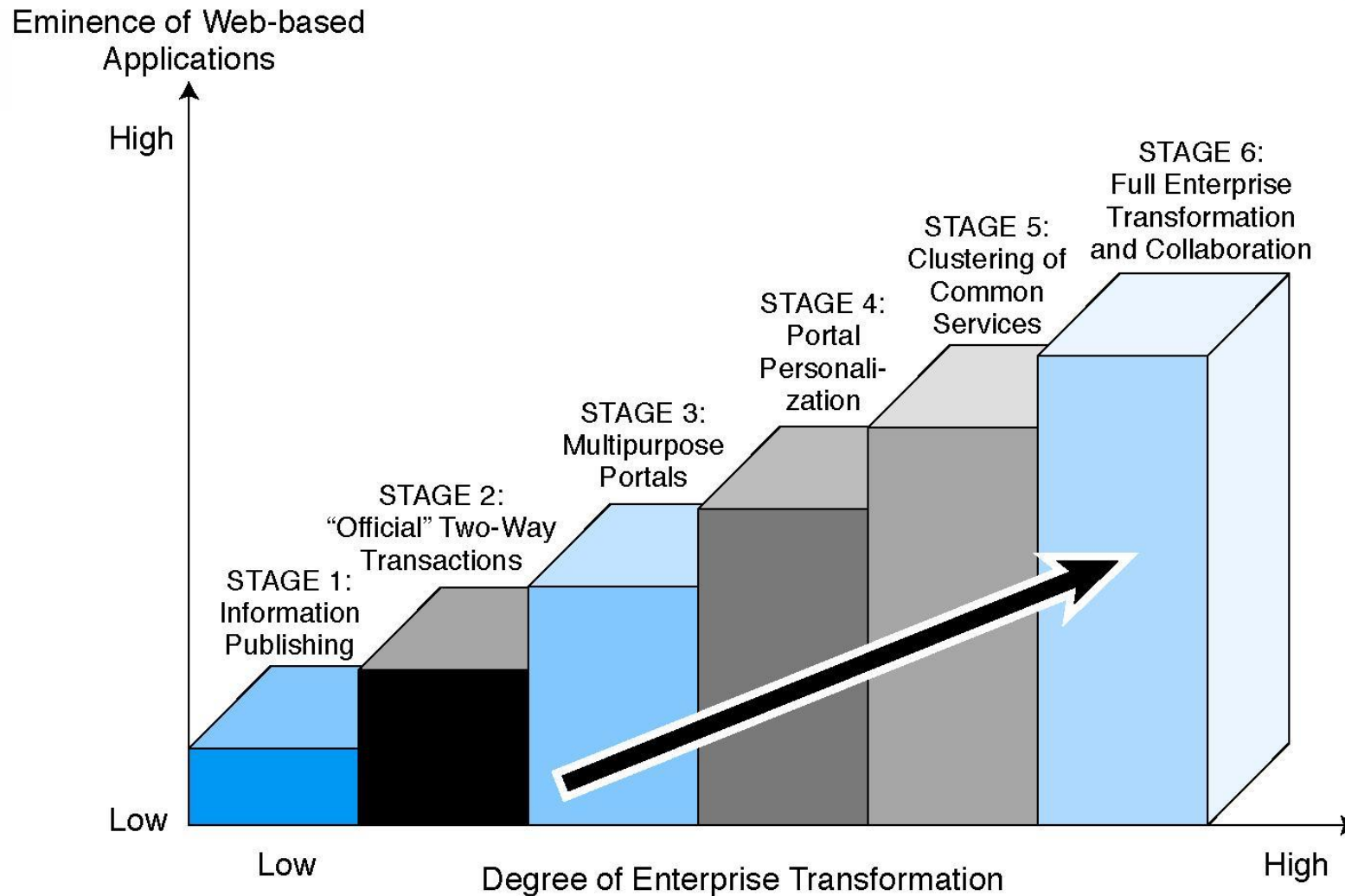
- Government-to-employees and internal efficiency and effectiveness
 - Internal Efficiency and Effectiveness
 - E-payroll
 - E-records management
 - E-training
 - Enterprise case management
 - Integrated acquisition
 - Integrated human resources
 - Recruitment one-stop

Implementing E-Government



- The Transformation to E-Government
 - Stage 1: Information publishing/dissemination
 - Stage 2: “Official” two-way transactions with one department at a time
 - Stage 3: Multipurpose portals
 - Stage 4: Portal personalization
 - Stage 5: Clustering of common services
 - Stage 6: Full integration and enterprise transformation.

Exhibit 8.2 The Stages of E-Government

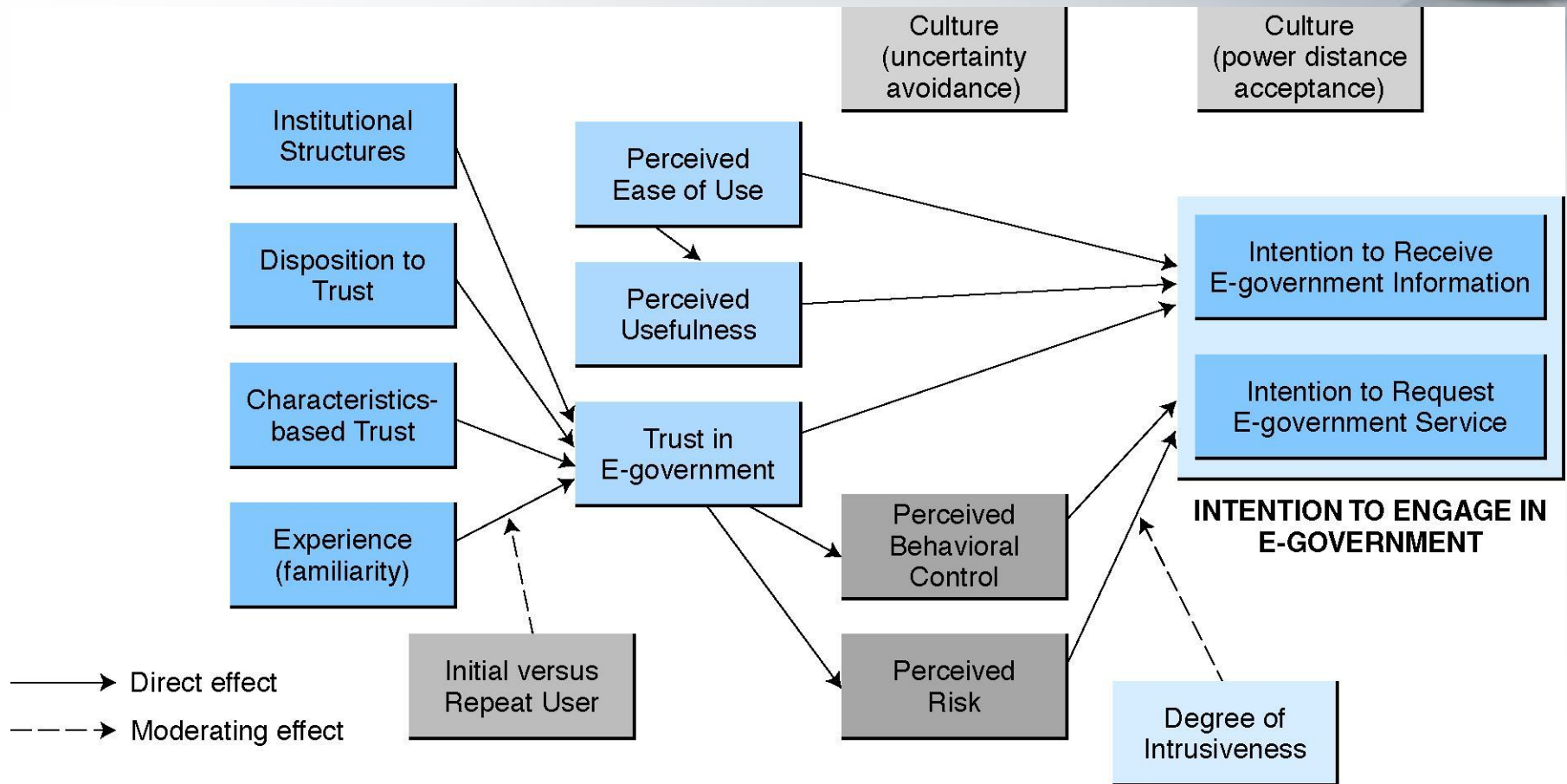


Implementing E-Government



- Implementation Issues of E-Government
 - Transformation speed
 - G2B implementation
 - Security and privacy issues
 - Wireless applications
- Citizen Adoption of E-Government
- Non-Internet E-Government

Exhibit 8.3 E-Government Adoption



Online Publishing, E-Books, and Blogging



online publishing

The electronic delivery of newspapers, magazines, books, news, music, videos, and other digitizable information over the Internet

e-zines

Electronic magazine or newsletter delivered over the Internet via e-mail

Online Publishing, E-Books, and Blogging



- Online Publishing Approaches and Methods
 - Online-archive approach
 - New-medium approach
 - Publishing-intermediation approach
 - Dynamic approach
 - Content providers and distributors
 - Publishing of music, videos, games, and entertainment

Online Publishing, E-Books, and Blogging



- Online Publishing Approaches and Methods

Webcasting

Live shows broadcast on the Web

Webinars

Seminars on the Web (Web-based seminars)

Online Publishing, E-Books, and Blogging



- **Electronic Books**

- e-book**

- A book in digital form that can be read on a computer screen or on a special device

- E-books can be delivered and read via:
 - Web access
 - Web download
 - A dedicated reader
 - A general-purpose reader
 - A Web server

Online Publishing, E-Books, and Blogging



- Electronic Books
 - Types of E-Books
 - Traditional book format
 - Online bookshelf
 - The download
 - The Rubics-cube hyperlink book
 - The interactive, build-your-own (BYO) decision book

Online Publishing, E-Books, and Blogging



- Advantages of E-Books
 - To readers
 - Portability
 - Easy search capabilities and links
 - Easy downloading
 - The ability to quickly and inexpensively copy material, including figures
 - Easy integration of content with other text

Online Publishing, E-Books, and Blogging



- Advantages of E-Books
 - To publishers
 - Lower production, marketing, and delivery costs
 - Lower updating and reproduction costs
 - Ability to reach many readers
 - Ease of combining several books so professors can customize textbooks by using materials
 - Lower advertising costs

Online Publishing, E-Books, and Blogging



- Limitations of E-Books
 - Require hardware and software that may be too expensive for some readers
 - Some people have difficulty reading large amounts of material on a screen
 - Batteries may run down
 - Multiple and competing standards
 - Only a few books are available as e-books

Online Publishing, E-Books, and Blogging



- Electronic Books
 - E-Book Issues
 - How to protect the publisher's/author's copyright
 - How to secure content (e.g., use encryption, employ Digital Rights Management)
 - How to distribute and sell e-books
 - How much to charge for an e-book versus a hard copy, and how to collect payment for e-books
 - How to best support navigation in an e-book

Online Publishing, E-Books, and Blogging



- Which standards to use
- How to increase reading speed. On the average screen, reading is 25% slower than hard-copy reading
- How to transform readers from hard-copy books to e-books; how to deal with resistance to change
- How to design an e-book (e.g., how to deal with fonts, typefaces, colors, etc., online)
- How publishers can justify e-books in terms of profit and market share

Online Publishing, E-Books, and Blogging



- **Print-on-Demand Process**
 1. A publisher creates a digital master, typically in Adobe Systems' Acrobat format, and sends it to a specialized print-on-demand company. The files are stored on the printing company's network
 2. When an order is placed, a print-on-demand machine prints out the text of the document or book and then covers, binds, and trims it. The entire process can take about a minute for a 300-page book
 3. The books are packaged and shipped to the publisher or the consumer

Online Publishing, E-Books, and Blogging



- Blogging (Weblogging)

Weblogging/blogging

Technology for personal publishing on the Internet

blog

A personal Web site that is open to the public to read and to interact with others using the blog; dedicated to specific topics or issues

wikiLog (wikiblog)

A blog that allows everyone to participate as a peer; any one may add, delete, or change content

E-Learning



- The Basics of E-Learning

e-learning

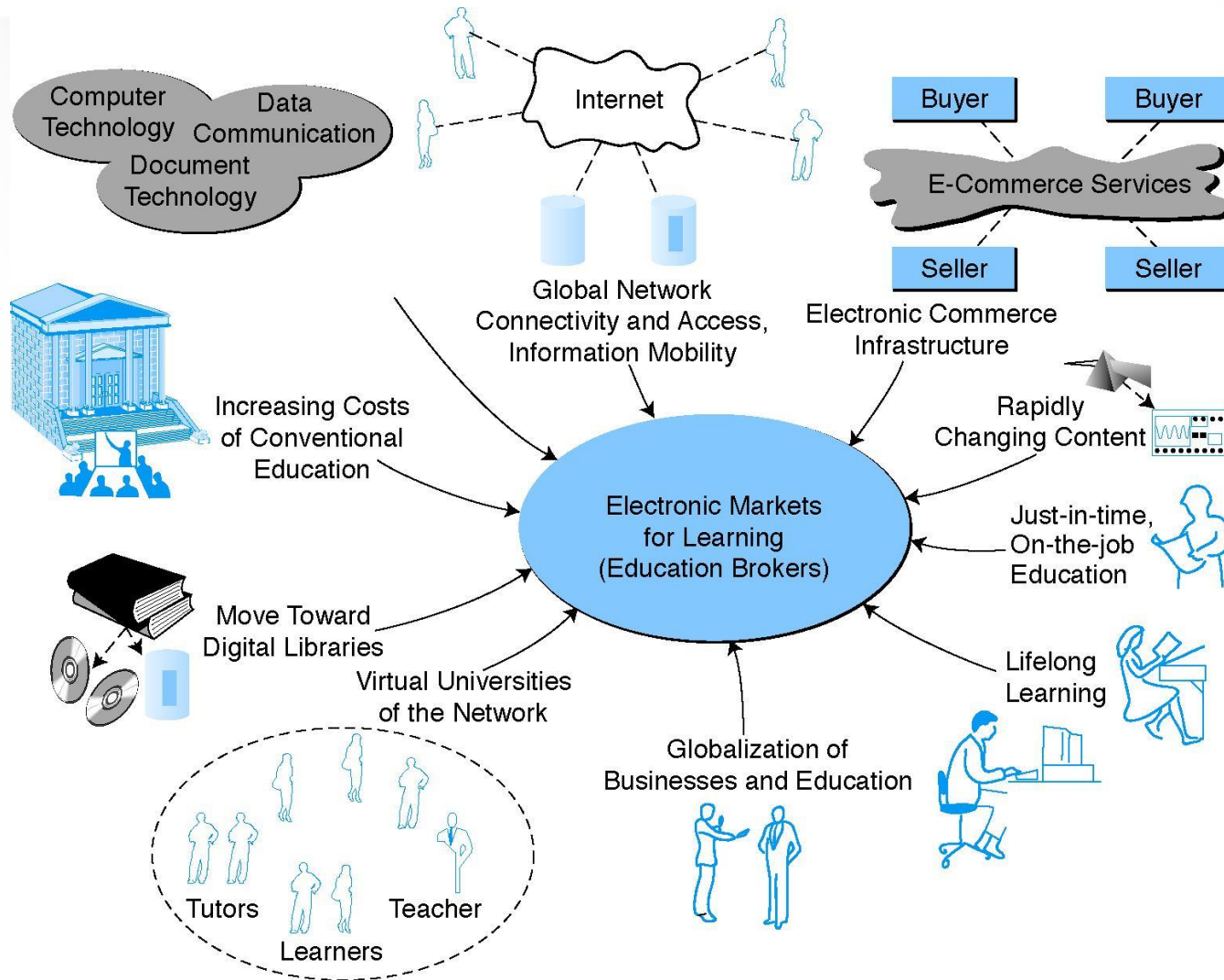
The online delivery of information for purposes of education, training, or knowledge management

E-Learning



- Benefits and Drawbacks of E-Learning
 - Benefits of e-Learning
 - Time reduction
 - Large volume and diversity
 - Cost reduction
 - Higher content retention
 - Flexibility
 - Updated and consistent material
 - Fear-free environment

Exhibit 8.4 The Effects of E-Commerce Forces in Education



E-Learning



- Drawbacks and Challenges of E-Learning
 - Need for instructor retraining
 - Equipment needs and support services
 - Lack of face-to-face interaction and campus life.
 - Assessment
 - Maintenance and updating
 - Protection of intellectual property
 - Computer literacy
 - Student retention

E-Learning



- Preventing E-Learning Failures

distance learning

Formal education that takes place off campus, usually, but not always, through online resources

virtual university

An online university from which students take classes from home or other off-site locations, usually via the Internet

E-Learning



- Online Corporate Training
 - The Drivers of e-Training
 - Technological change
 - Competition and cost pressures
 - Globalization
 - Continual learning
 - Network connectivity

E-Learning



- Implementing E-Learning and E-Training in Learning Centers

edutainment

The combination of education and entertainment, often through games

- E-Learning Tools
 - WebCT
 - BlackBoard
 - Others

Knowledge Management and E-Commerce



knowledge management (KM)

The process of capturing or creating knowledge, storing it, updating it constantly, interpreting it, and using it whenever necessary

organizational knowledge base

The repository for an enterprise's accumulated knowledge

Knowledge Management and E-Commerce



- KM Types and Activities
 - Organizational knowledge is embedded in these resources:
 1. *human capital*
 2. *structured capital (organizational capital)*
 3. *customer capital*
 - Knowledge Sharing
- How is Knowledge Management Related to E-Commerce?
 - To better perform its EC tasks, organizations need knowledge, which is provided by KM

Knowledge Management and E-Commerce



- Knowledge Portals

knowledge portal

A single point of access software system intended to provide timely access to information and to support communities of knowledge workers

information intelligence

Information, data, knowledge, and semantic infrastructure that enable organizations to create more business applications

Knowledge Management and E-Commerce



- Online Advice and Consulting
 - Medical advice
 - Management consulting
 - Legal advice
 - Gurus
 - Financial advice
 - Other advisory services

Knowledge Management and E-Commerce



- Expert Advice Within Organizations
expert location systems

Interactive computerized systems that help employees find and connect with colleagues who have expertise required for specific problems—whether they are across the country or across the room—in order to solve specific, critical business problems in seconds

Customer-to-Customer E-Commerce



customer-to-customer (C2C)

E-commerce in which both the buyer and the seller are individuals, not businesses; involves activities such as auctions and classified ads

Exhibit 8.6 How Expert Location Systems (Save) Work



Step 1:

An employee submits a question into the expertise location management system.

Step 2:

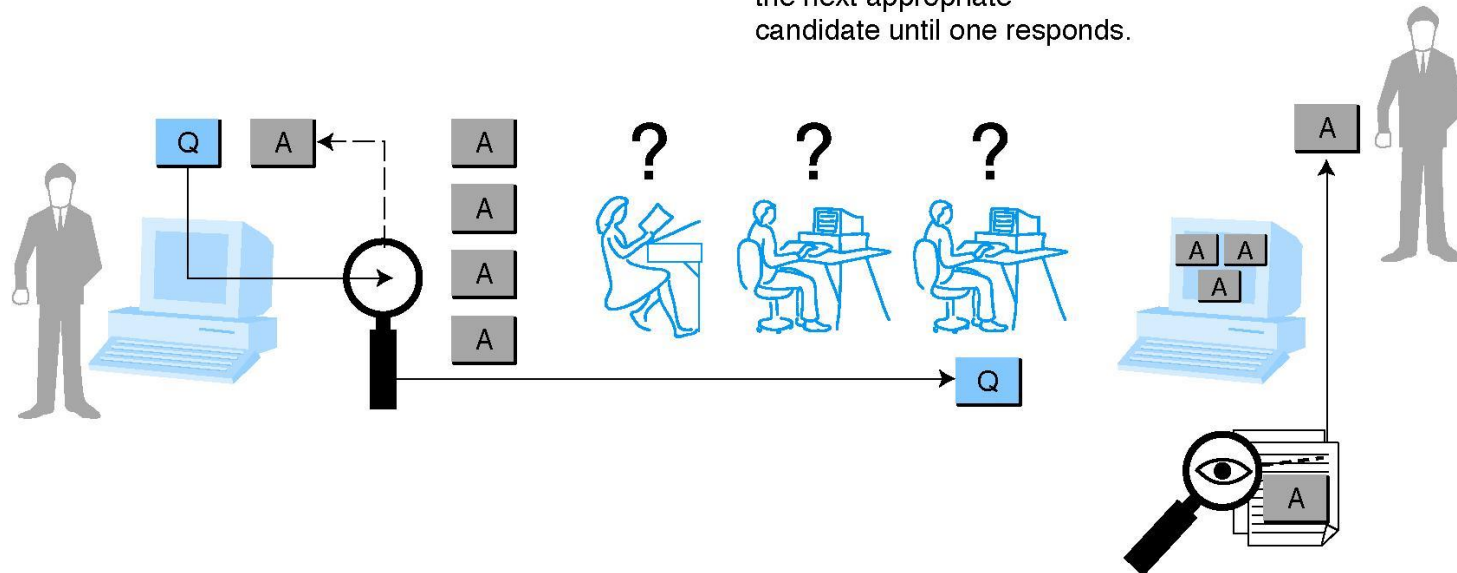
The software searches its database to see if an answer to the question already exists. If it does, the info (research reports, spreadsheets, etc.) is returned to the employee. If not, the software searches documents and archived communications for an "expert."

Step 3:

Once a qualified candidate is located, the system asks if he is able to answer a question from a colleague. If so, he submits a response. If the candidate is unable (perhaps he is in a meeting or otherwise indisposed), he can elect to pass on the question. The question is then routed to the next appropriate candidate until one responds.

Step 4:

After the response is sent, it is reviewed for accuracy and sent back to the querist. At the same time, it is added to the knowledge database. This way, if the question comes up again, it will not be necessary to seek real time assistance.



Customer-to-Customer E-Commerce



- C2C Auctions
- Classified Ads
- Personal Services
- C2C Exchanges
- Selling Virtual Properties
- Support Services for C2C

Peer-to-Peer Networks and Applications



peer-to-peer (P2P)

A network architecture in which workstations (or PCs) share data and processing with each other directly rather than through a central server

Peer-to-Peer Networks and Applications



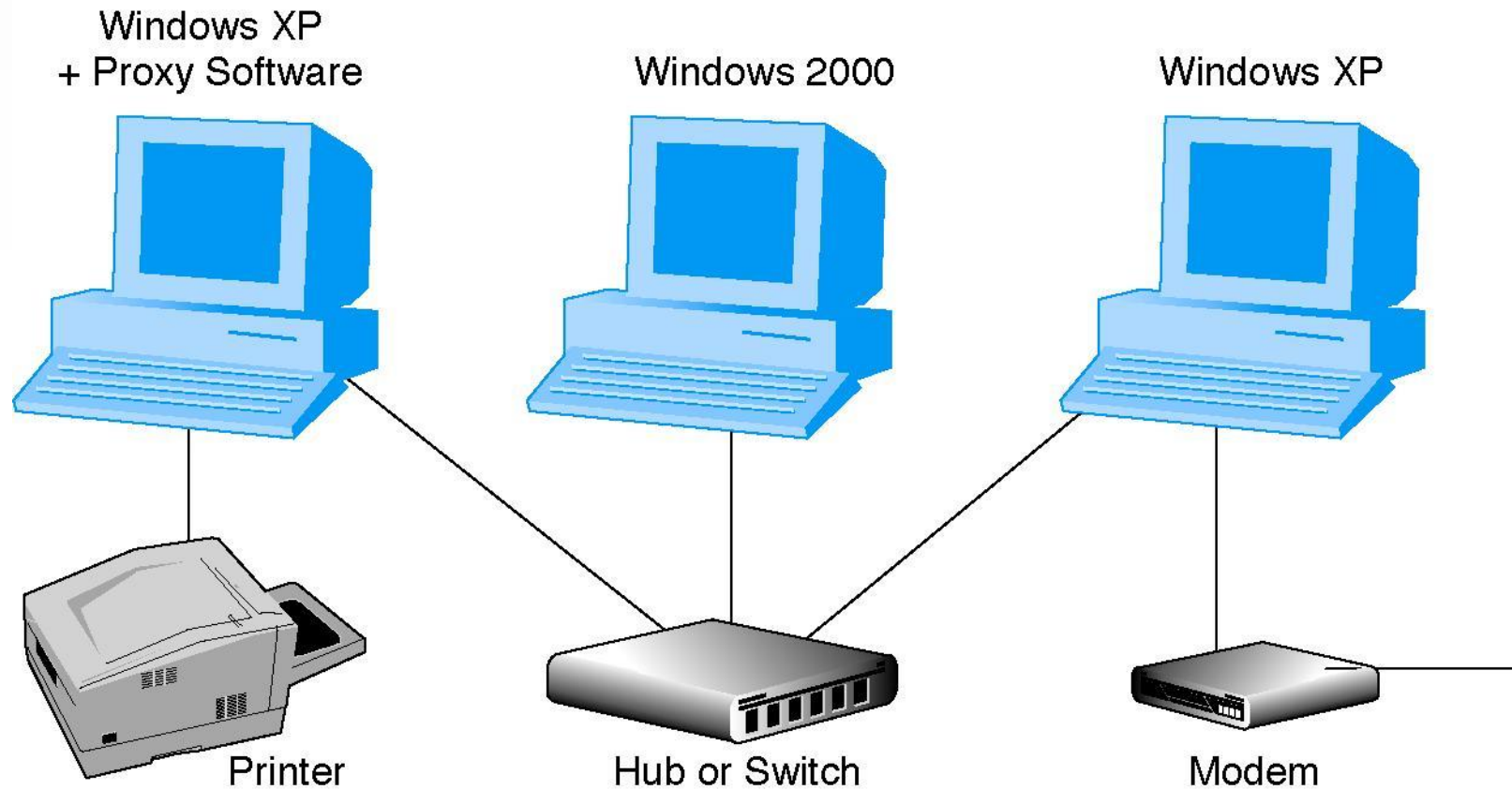
- Characteristics of P2P Systems
 - Provide real-time access to other users through techniques such as instant messaging and multichannel collaboration applications
 - User computers can act as both clients and servers
 - Maximize the use of physical attributes such as processor cycles, storage space, bandwidth, and location on the network
 - Employ user interfaces that load outside of a Web browser

Peer-to-Peer Networks and Applications



- Models of P2P Applications
 - Collaboration
 - Content distribution
 - Business process automation
 - Distributed search

Exhibit 8.7 Peer-To-Peer Networks



Peer-to-Peer Networks and Applications



- C2C P2P Applications
 - Napster—the File-sharing utility
 - Other File-Sharing Programs
 - Gnutella
 - Kazaa
 - Other Commercial P2P Applications in C2C
 - Users can sell digital goods directly from their computers rather than going through centralized servers

Peer-to-Peer Networks and Applications



- Intrabusiness P2P Application
 - Internal collaboration
- B2B P2P Application
 - People can share information, but they are not required to send it to an unknown server, as they do when using a regular exchange
- B2C P2P Applications
 - Marketing
 - Advertising
 - B2C payments

Managerial Issues



1. What are the e-government opportunities?
2. Are there e-learning and e-training opportunities?
3. Can we capitalize on C2C?
4. How well are we managing our knowledge?
5. Are there P2P applications?

Summary



1. E-government to citizens, businesses, and others.
2. Other e-government activities.
3. Online publishing and e-books.
4. E-learning and virtual universities.
5. Knowledge management and dissemination as an e-business.
6. C2C activities.
7. Peer-to-peer technology and applications.

Chapter 9

Mobile Commerce and Pervasive Computing



Learning Objectives



1. Define mobile commerce and understand its relationship to e-commerce.
2. Understand the mobile computing environment that supports m-commerce.
3. Describe the four major types of wireless telecommunications networks.
4. Discuss the value-added attributes and fundamental drivers of m-commerce.
5. Discuss m-commerce applications in finance, advertising, and provision of content.

Learning Objectives



6. Describe the application of m-commerce within organizations.
7. Understand B2B and supply chain management applications of m-commerce.
8. Describe consumer and personal applications of m-commerce.
9. Understand the technologies and potential application of location-based m-commerce.
10. Describe the major inhibitors and barriers of m-commerce.
6. Discuss the key characteristics and current uses of pervasive computing.

Mobile Computing

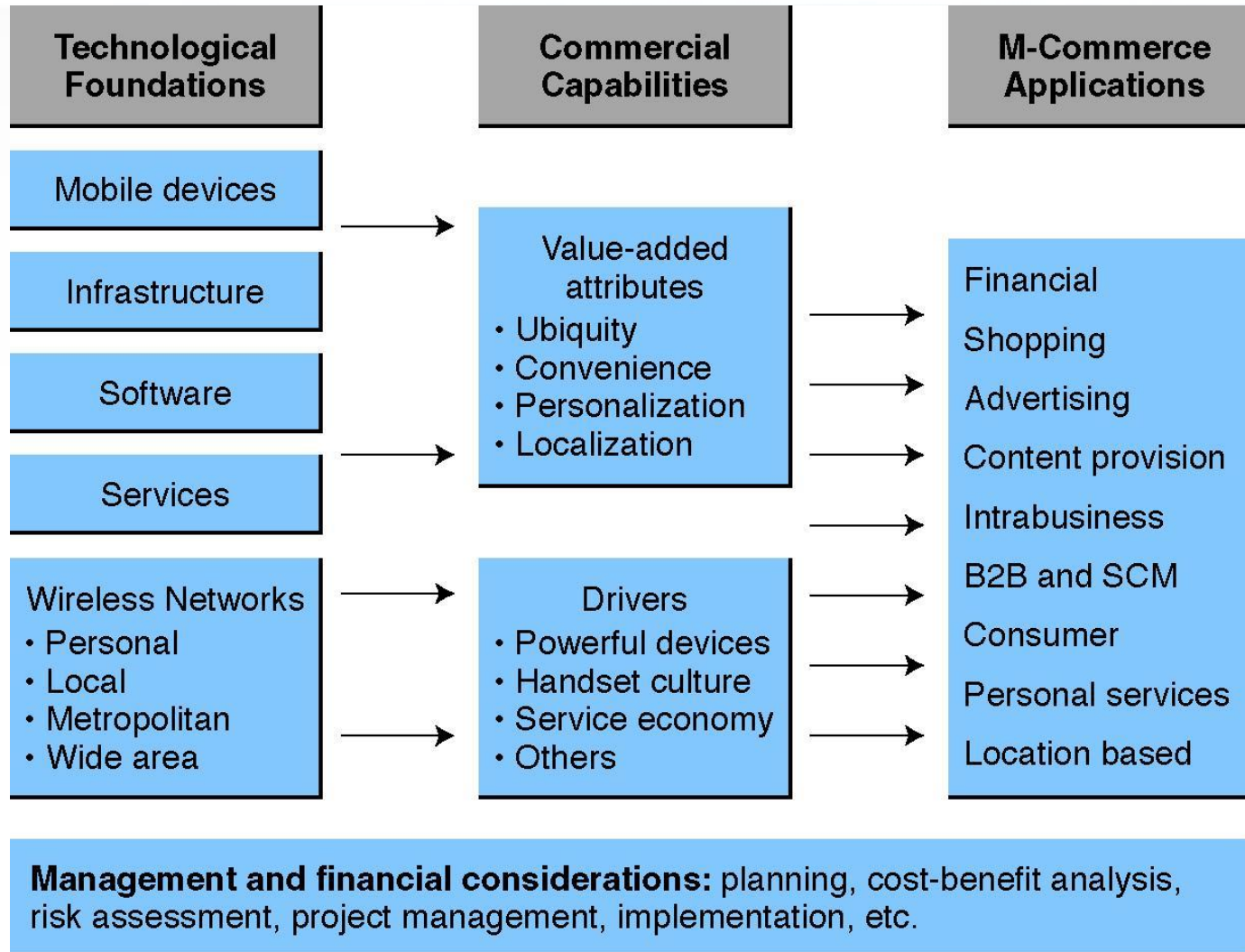


- Overview of Mobile Commerce

- mobile commerce (m-commerce, m-business)**

- Any business activity conducted over a wireless telecommunications network

Exhibit 9.1 The Mobile Commerce Landscape



Mobile Computing



- Mobile Computing Devices

- personal digital assistant (PDA)**

- A handheld computer principally used for personal information management

- smartphone**

- Internet-enabled cell phones that can support mobile applications

- blackberry**

- A handheld device principally used for e-mail

Mobile Computing



- Mobile Computing Devices

- wireless mobile computing (mobile computing)**

- Computing that connects a mobile device to a network or another computing device, anytime, anywhere

- synchronization**

- The exchange of updated information with other computing devices

Exhibit 9.2 The Wireless Mobile Environment



Mobile	Laptop computer PDA	Cellular phone Wireless laptop or PDA Blackberry, smartphone, Ogo, etc.
	Desktop computer Landline phone Cable television	Free-to-air television Amateur radio Commercial radio
Wired		Wireless

Mobile Computing



- **Mobile Computing Software**

- microbrowser**

- Wireless Web browser designed to operate with small screens and limited bandwidth and memory requirements

- Wireless Application Protocol (WAP)**

- A suite of network protocols designed to enable different kinds of wireless devices to access WAPreadable files on an Internet-connected Web server

Mobile Computing



Wireless Markup Language (WML)

A scripting language used to create content in the WAP environment; based on XML, minus unnecessary content to increase speed

Compact Hypertext Markup Language (cHTML)

A scripting language used to create content in i-mode

Mobile Computing



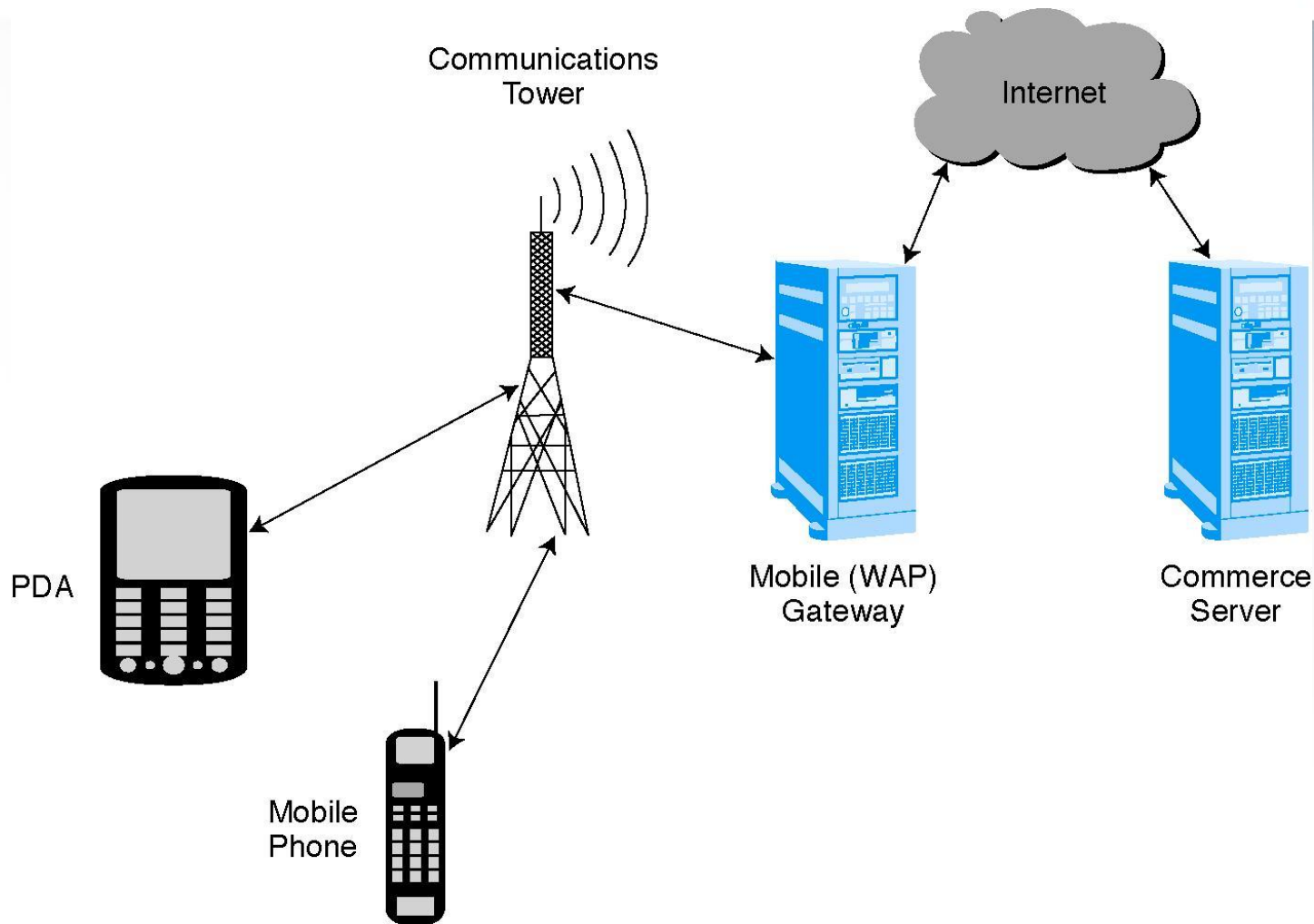
Extensible Hypertext Markup Language (xHTML)

A general scripting language; compatible with HTML; set by W3 Consortium

Voice XML (VXML)

An extension of XML designed to accommodate voice

Exhibit 9.4 WAP Architecture



Mobile Computing



- **Mobile Computing Services**

- Short Message Service (SMS)**

- A service that supports the sending and receiving of short text messages on mobile phones

- Enhanced Messaging Service (EMS)**

- An extension of SMS that can send simple animation, tiny pictures, sounds, and formatted text

- Multimedia Messaging Service (MMS)**

- The next generation of wireless messaging; MMS will be able to deliver rich media

Mobile Computing



- Mobile Computing Services

micropayments

Electronic payments for small-purchase amounts (generally less than \$10)

global positioning system (GPS)

A worldwide satellite-based tracking system that enables users to determine their position anywhere on the earth

Mobile Computing



- Mobile Computing Services

interactive voice response (IVR)

A computer voice system that enables users to request and receive information and to enter and change data through a telephone

voice portal

A Web site with an audio interface that can be accessed through a telephone call

Wireless Telecommunications Networks



- **Personal Area Networks**

- personal area network (PAN)**

- A wireless telecommunications network for device-to-device connections within a small range

- Bluetooth**

- A set of telecommunications standards that enables wireless devices to communicate with each other over short distances

Wireless Telecommunications Networks



- **Wireless Local Area Networks**

- wireless local area network (WLAN)**

- A telecommunications network that enables users to make medium-range wireless connections to the Internet or another network

- Wi-Fi (wireless fidelity)**

- The common name used to describe the IEEE 802.11 standard used on most WLANs

Wireless Telecommunications Networks



- **Wireless Local Area Networks**

- 802.11b**

- The most popular Wi-Fi standard; it is inexpensive and offers sufficient speed for most devices; however, interference can be a problem

- 802.11a**

- This Wi-Fi standard is faster than 802.11b but has a smaller range

- 802.11g**

- This fast but expensive Wi-Fi standard is mostly used in businesses

Wireless Telecommunications Networks



- ## Wireless Local Area Networks

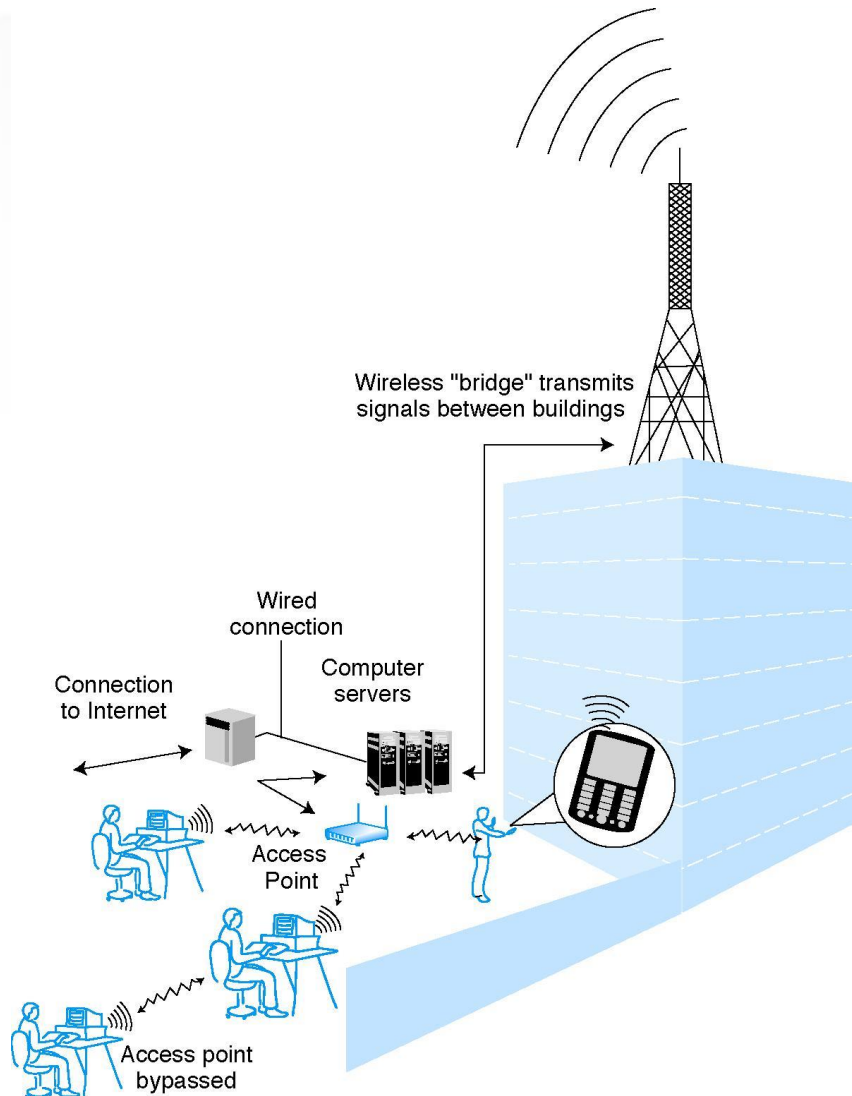
wireless access point

An antenna that connects a mobile device to a wired LAN

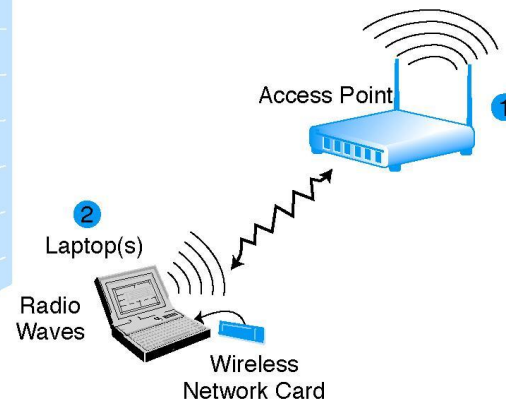
hotspot

An area or point where a wireless laptop or PDA can make a connection to a wireless local area network

Exhibit 9.5 How Wi-Fi Works



- 1 Radio-equipped access point connected directly to the Internet (or via an antenna and satellite). It generates and receives radio waves (up to 300 ft.).
- 2 Several client devices, equipped with PC cards generate and receive radio waves.



Wireless Telecommunications Networks



- Wireless Metropolitan Area Networks

WiMax

A wireless standard (IEEE 802.16) for making broadband network connections over a large area

wireless metropolitan area network (WMAN)

A telecommunications network that enables users to make long-range wireless connections to the Internet or another network

Wireless Telecommunications Networks



- Wireless Wide Area Networks

wireless wide area network (WWAN)

A telecommunications network that offers wireless coverage over a large geographical area, typically over a cellular phone network

Wireless Telecommunications Networks

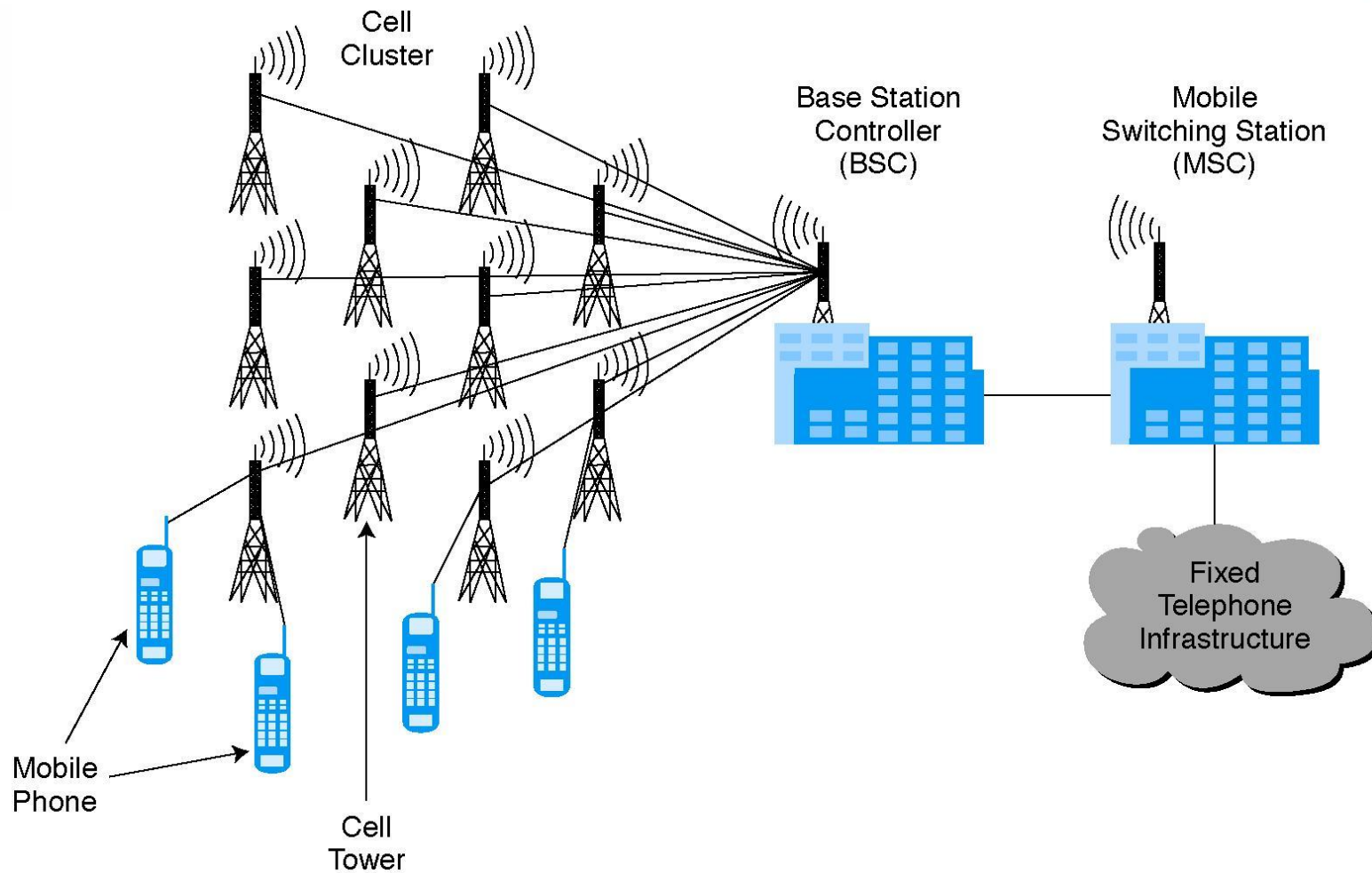


- Wireless Wide Area Networks
 - Physical Topology of a WWAN

subscriber identification module (SIM) card

An extractable storage card used for identification, customer location information, transaction processing, secure communications, and the like

Exhibit 9.6 Cellular Telephone Network



Wireless Telecommunications Networks



- WWAN Communication Bandwidths
 - **1G.** The first generation of wireless technology, which was analog based
 - **2G.** The second generation of digital wireless technology; accommodates voice and text
 - **2.5G.** An interim wireless technology that can accommodate voice, text, and, limited graphics
 - **3G.** The third generation of digital wireless technology; supports rich media such as video
 - **4G.** The expected next generation of wireless technology that will provide faster display of multimedia

Wireless Telecommunications Networks



- Wireless Wide Area Networks
 - WWAN Communication Protocols
 - Frequency Division Multiple Access (FDMA)
 - Time Division Multiple Access (TDMA)
 - Code Division Multiple Access (CDMA)
 - WWAN Network Systems
 - Global System for Mobile Communications (GSM)**
An open, nonproprietary standard for mobile voice and data communications

Mobile Commerce



- Attributes of M-Commerce
 - Ubiquity
 - Convenience
 - Interactivity
 - Personalization
 - Localization

Mobile Financial Applications



- Mobile Banking
- Wireless Electronic Payment Systems
 - Wireless Wallets
 - m-wallet (mobile wallet)**
Technologies that enable cardholders to make purchases with a single click from their wireless device
- Wireless Bill Payments
 - A number of companies now provide the option of paying bills directly from a cell phone

Mobile Shopping, Advertising, and Content Provision



- Wireless Shopping
 - An increasing number of online vendors allow customers to shop from wireless devices
 - Enables customers to use cell phones or wireless PDAs to:
 - Perform quick searches
 - Compare prices
 - Use a shopping cart
 - Order
 - View the status of their order

Mobile Shopping, Advertising, and Content Provision



- Targeted Advertising
 - Marketers send user-specific advertising messages to wireless devices
 - Location-sensitive advertising informs buyers about shops, malls, and restaurants close to where the mobile device owner is located

mobile portal

A customer interaction channel that aggregates content and services for mobile users

Mobile Intrabusiness Applications



- Support of Mobile Employees

- sales force mobilization**

- The process of equipping sales force employees with wireless computing devices

- Job Dispatch

- wearable devices**

- Mobile wireless computing devices for employees who work on buildings and other climbable workplaces

Mobile Intrabusiness Applications



- ## Customer Support

Mobile access extends the reach of CRM to both employees and business partners on a 24/7 basis, to any place where recipients are located

Mobile Intrabusiness Applications



- Non-Internet Intrabusiness Applications
 - Wireless networking, used to pick items out of storage in warehouses
 - Delivery-status updates
 - Collection of data
 - Monthly pay slips sent as SMS messages sent to employees' mobile phones
 - Property adjusters report from the scene of an accident
 - Sales representatives check orders and inventories during their visits to customers

B2B M-Commerce and Supply Chain Management



- Use of wireless communication to share information along the supply chain and to collaborate with partners
- By integrating the mobile computing device into supply chain communications, it is possible to:
 - Make mobile reservations of goods
 - Remotely check availability of a particular item in the warehouse
 - Order a customized product from the manufacturing department
 - Provide secure access to confidential financial data from a management information system

Mobile Consumer and Personal Service Applications



- Mobile Games
- Wireless Telemedicine
- Other Mobile Computing Services for Consumers
- Non-Internet Mobile Applications for Consumers

Location-Based Mobile Commerce



location-based m-commerce

Delivery of m-commerce transactions to individuals in a specific location, at a specific time

- The services provided through location-based m-commerce focus on five key areas:
 - Location
 - Navigation
 - Tracking
 - Mapping
 - Timing

Location-Based Mobile Commerce



Global Positioning System (GPS)

A worldwide satellite-based tracking system that enables users to determine their position anywhere on the earth

geographical information system (GIS)

An information system that integrates GPS data onto digitized map displays

Location-Based Mobile Commerce



- Emergency Response Cell Phone Calls

wireless 911 (e-911)

In the United States, emergency response calls from cellular phones

automatic crash notification (ACN)

Device that automatically sends the police the location of a vehicle that has been involved in a crash

Location-Based Mobile Commerce



telematics

The integration of computers and wireless communications to improve information flow using the principles of telemetry

- **Barriers to Location-Based M-Commerce**
 - Accuracy of devices
 - The cost-benefit justification
 - Limited network bandwidth
 - Invasion of privacy

Security and Other Barriers to Mobile Commerce



- M-Commerce Security Issues
 - Malicious Code
 - Transaction Security
 - Wireless Communication
 - Physical Security of Mobile Devices
 - Ease of Use
- Technological Barriers to M-Commerce
- Ethical, Legal, and Health Issues in M-Commerce

Security and Other Barriers to Mobile Commerce



- **Project Failures in M-Commerce**
 - Do not start without appropriate infrastructure
 - Do not start a full-scale implementation; use a small pilot for experimentation
 - Pick an appropriate architecture (e.g., some users do not need to be persistently connected)
 - Talk with a range of users, some experienced and some not, about usability issues
 - Users must be involved; hold biweekly meetings if possible
 - Employ wireless experts
 - Wireless is a different medium from other forms of communication. Remember that people are not used to the wireless paradigm

Pervasive Computing



- Overview of Pervasive Computing

- pervasive computing**

- Invisible, everywhere computing that is embedded in the objects around us

- Principles of Pervasive Computing

- Decentralization
 - Diversification
 - Connectivity
 - Simplicity

Pervasive Computing



- Overview of Pervasive Computing
contextual computing

The enhancement of a user's interactions by understanding the user, the context, and the applications and information required

Pervasive Computing



- Pervasive Computing Initiatives

radio frequency identification (RFID)

Technology that uses radio waves to identify items

electronic product code (EPC)

An RFID code that identifies the manufacturer, producer, version, and serial number of individual consumer products

Pervasive Computing



- Pervasive Computing Initiatives
 - Smart Homes
 - Lighting
 - Energy management
 - Water control
 - Home security and communications
 - Home entertainment
 - Smart Appliances
 - Smart Cars
 - Smart Clothes

Pervasive Computing



- Pervasive Computing Initiatives

- sensor network**

- A series of interconnected sensors that monitor the environment in which they are placed

- Sensor networks can:
 - Protect the environment
 - Public safety
 - Monitor business and agricultural areas

Pervasive Computing



- Barriers to Pervasive Computing
 - For pervasive systems to be widely deployed, it is necessary to overcome many of the technical, ethical, and legal barriers associated with mobile computing

Managerial Issues



1. What's our timetable?
2. Which applications first?
3. Is it real or just a buzzword?
4. Which system to use?

Summary



1. What is m-commerce?
2. Characteristics of mobile devices.
3. Wireless software development is difficult.
4. M-commerce support services.
5. Wireless telecommunications networks.
6. Value-added attributes of m-commerce.
7. Drivers of m-commerce.

Summary



- 8. Finance, advertising, and content-providing applications.
- 9. Intrabusiness applications.
- 10. B2B and SCM applications.
- 11. Consumer applications.
- 12. Location-based commerce.
- 13. Limitations of m-commerce.
- 14. Pervasive computing.

Chapter 10

E-Auctions



Learning Objectives



1. Define the various types of e-auctions and list their characteristics.
2. Describe the processes involved in conducting forward and reverse e-auctions.
3. Describe the benefits and limitations of e-auctions.
4. Describe some unique e-auction models.

Learning Objectives



5. Describe the various services that support e-auctions.
6. Describe the hazards of e-auction fraud and discuss possible countermeasures.
7. Describe bartering and negotiating.
8. Describe e-auction deployment and implementation issues.
9. Analyze future directions of mobile e-auctions.

Fundamentals of Dynamic Pricing and E-Auctions



auction

Market mechanism by which buyers make bids and sellers place offers; characterized by the competitive and dynamic nature by which the final price is reached

electronic auctions (e-auctions)

Auctions conducted online

dynamic pricing

Prices that are determined based on supply and demand relationships at any given time

Exhibit 10.1 Types of Dynamic Pricing



Buyers	One	Negotiation, Bartering, Bargaining	Reverse auctions, RFQ, Tendering
	Many	Forward (regular) auctions	Dynamic exchanges
		One	Many
		Sellers	

Fundamentals of Dynamic Pricing and E-Auctions



- One Buyer, One Seller
 - Popular in B2B
 - Each party can use negotiation, bargaining, or bartering
 - The resulting price will be determined by:
 - Bargaining power
 - Supply and demand in the item's market
 - Business-environment factors

Fundamentals of Dynamic Pricing and E-Auctions



- One Seller, Many Potential Buyers

- forward auction**

- An auction in which a seller offers a product to many potential buyers

- sealed-bid auction**

- Auction in which each bidder bids only once; a silent auction, in which bidders do not know who is placing bids or what the prices are

- Vickrey auction**

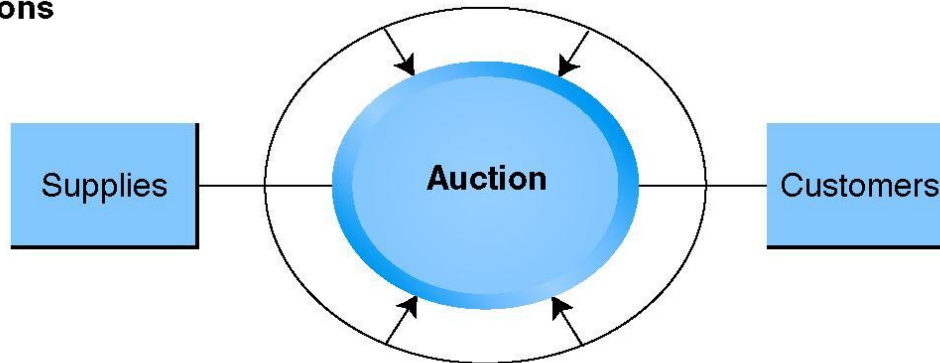
- An auction in which the highest bidder wins but pays only the second-highest bid

Exhibit 10.2 Types of Forward Auctions



Liquidation Auctions

Seek first to maximize existing channels and reduce inventory before using auction

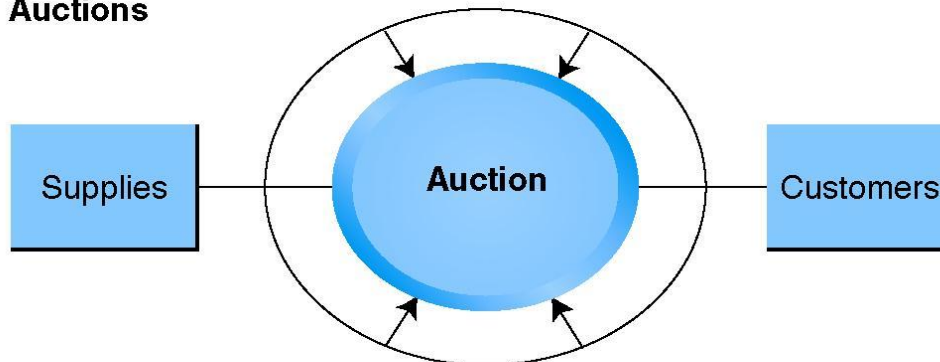


Seek lowest price on widely available goods and services

Disincentives to use auction shrink supply over time

Market Efficiency Auctions

Prefer market format that maximizes visibility with potential buyers



Seek access to unique/rare products or services

Incentives to use auction increase supply over time

Fundamentals of Dynamic Pricing and E-Auctions



- One Buyer, Many Potential Sellers

reverse auction

Auction in which the buyer places an item for bid (*tender*) on a request for quote (RFQ) system, potential suppliers bid on the job, with the price reducing sequentially, and the lowest bid wins; used mainly in B2B and G2B e-commerce

Fundamentals of Dynamic Pricing and E-Auctions



- One Buyer, Many Potential Sellers
 - B2B Reverse Auctions
 - C2C Reverse Auctions
 - “Name-Your-Own-Price” Model

“name-your-own-price” model

Auction model in which would-be buyers specify the price (and other terms) they are willing to pay to any willing seller; a C2B model, pioneered by Priceline.com

Fundamentals of Dynamic Pricing and E-Auctions



- Many Sellers, Many Buyers
 - Buyers and their bidding prices are matched with sellers and their asking prices based on the quantities on both sides and the dynamic interaction between the buyers and sellers

Benefits, Limitations, and Strategic Uses of E-Auctions



- Benefits of E-Auctions
 - Benefits to Sellers
 - Increased revenues
 - Optimal price setting
 - Removal of expensive intermediaries
 - Better customer relationships
 - Liquidation
 - Lower transaction costs
 - Lower administrative costs

Benefits, Limitations, and Strategic Uses of E-Auctions



- Benefits of E-Auctions
 - Benefits of E-Auctions to Buyers
 - Opportunities to find unique items and collectibles
 - Lower prices
 - Entertainment
 - Anonymity
 - Convenience

Benefits, Limitations, and Strategic Uses of E-Auctions



- Benefits of E-Auctions
 - Benefits to E-Auctioneers
 - Higher repeat purchases
 - A stickier Web site
 - Expansion of the auction business

Benefits, Limitations, and Strategic Uses of E-Auctions



- Limitations of E-Auctions
 - Possibility of fraud
 - Limited participation
 - Security
 - Auction software
 - Long cycle time
 - Monitoring time
 - Equipment for buyers
 - Order fulfillment costs

Benefits, Limitations, and Strategic Uses of E-Auctions



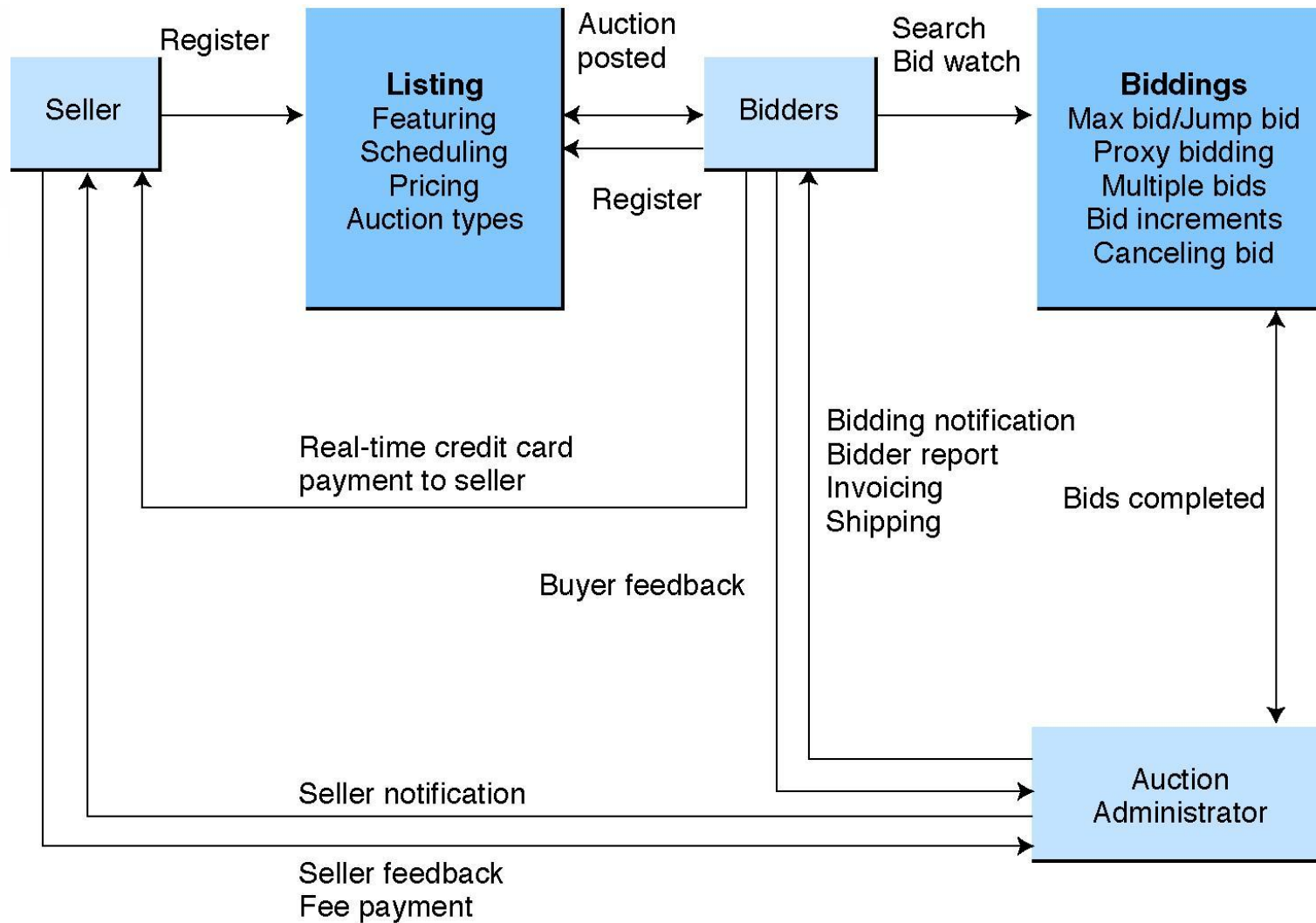
- Strategic Uses of Auctions and Pricing Mechanisms
 - Through dynamic pricing, buyers and sellers are able to adjust pricing strategies and optimize product inventory levels very quickly
 - Suppliers can quickly flush excess inventory and liquidate idle assets
 - Buyers may gather the power to procure goods and services at the prices they desire

The “Name-Your-Own-Price” C2B Model



- Enables consumers to achieve significant savings by naming their own price for goods and services
- Same concept as C2B reverse auction, in which vendors bid on a job by submitting offers and the lowest priced vendor or the one that meets the buyer's requirements gets the job

Exhibit 10.4 The E-Auction Process



The E-Auctions Process and Software Support



- Phase 1: Searching and Comparing
 - Finding When and Where an Item Will Be Auctioned
 - Auction Aggregators and Notification

auction aggregators

Companies that use software agents to visit Web auction sites, find information, and deliver it to users

- Browsing Site Categories
- Basic and Advanced Searching

The E-Auctions Process and Software Support



- Phase 2: Getting Started at an Auction
 - Registration and Participants' Profiles
 - Listing and Promoting
 - Pricing
- Phase 3: Bidding
 - Bid Watching and Multiple Bids
 - sniping**
Entering a bid during the very last seconds of an auction and outbidding the highest bidder (in the case of selling items)
 - Proxy Bids

The E-Auctions Process and Software Support



- Phase 4: Post-auction Follow-Up
 - Post-auction activities
 - Bidding notifications
 - End-of-auction notices
 - Seller notices
 - Postcards and thank-you notes
 - User communication
 - Chat groups
 - Mailing lists
 - Message boards

The E-Auctions Process and Software Support



- Phase 4: Post-auction Follow-Up
 - Feedback and ratings
 - Invoicing and billing
 - Payment methods
 - P2P transfer service
 - Escrow service
 - Credit card payment
 - Shipping and postage

The E-Auctions Process and Software Support



- Additional Terms and Rules

vertical auction

Auction that takes place between sellers and buyers in one industry or for one commodity

auction vortals

Another name for a vertical auction portal

Double Auctions, Bundle Trading, and Pricing Issues



single auction

Auction in which at least one side of the market consists of a single entity (a single buyer or a single seller)

double auction

Auction in which multiple buyers and sellers may be making bids and offers simultaneously; buyers and their bidding prices and sellers and their asking prices are matched, considering the quantities on both sides

Double Auctions, Bundle Trading, and Pricing Issues



bundle trading

The selling of several related products and/or services together

- Prices in Auctions: Higher or Lower?
 - Pricing Strategies in Online Auctions
 - Sellers have the option to use different auction mechanisms, such as English, Dutch, sealed-bid first price, and sealed-bid second price
 - Buyers should develop a strategy regarding how much to increase a bid and when to stop bidding

E-Auction Fraud and Its Prevention



- Types of E-Auction Fraud

- bid shielding**

- Having phantom bidders bid at a very high price when an auction begins; they pull out at the last minute, and the bidder who bid a much lower price wins

- shilling**

- Placing fake bids on auction items to artificially jack up the bidding price

E-Auction Fraud and Its Prevention



- Types of E-Auction Fraud
 - Fake photos and misleading descriptions
 - Improper grading techniques
 - Bid siphoning
 - Selling reproductions as originals
 - Failure to pay
 - Failure to pay the auction house

E-Auction Fraud and Its Prevention



- Types of E-Auction Fraud
 - High shipping costs and handling fees
 - Failure to ship merchandise
 - Loss and damage claims
 - Fake escrow services
 - Switch and return
 - Other frauds

E-Auction Fraud and Its Prevention



- Protecting Against E-Auction Fraud
 - User identity verification
 - Authentication service
 - Grading services
 - Feedback forum
 - Insurance policy
 - Escrow services

E-Auction Fraud and Its Prevention



- Protecting Against E-Auction Fraud
 - Nonpayment punishment
 - Appraisal services
 - Physical inspection
 - Item verification
 - Other security services

Bartering and Negotiating Online



- Bartering Online

- bartering**

- The *exchange* of goods and services

- electronic bartering (e-bartering)**

- Bartering conducted online, usually by a bartering exchange

Bartering and Negotiating Online



- Negotiation and Bargaining

online negotiation

A back-and-forth electronic process of bargaining until the buyer and seller reach a mutually agreeable price; usually done by software (intelligent) agents

Bartering and Negotiating Online



- Negotiation and Bargaining
 - Technologies for Electronic Bargaining
 1. Search
 2. Selection
 3. Negotiation
 4. Continuing selection and negotiation
 5. Transaction completion

Issues in E-Auction Implementation



- Using Intermediaries
 - The following are some of the popular third-party auction sites:
 - General sites
 - Specialized sites
 - B2B-oriented sites
- Using Trading Assistants
- Auction Rules

Issues in E-Auction Implementation



- Strategic Issues
- Auctions in Exchanges
- Infrastructure for E-Auctions
 - Building Auction Sites
- Auctions on Private Networks
 - Pigs in Singapore and Taiwan
 - Livestock in Australia

Exhibit 10.6 Integrated Auction Business Model

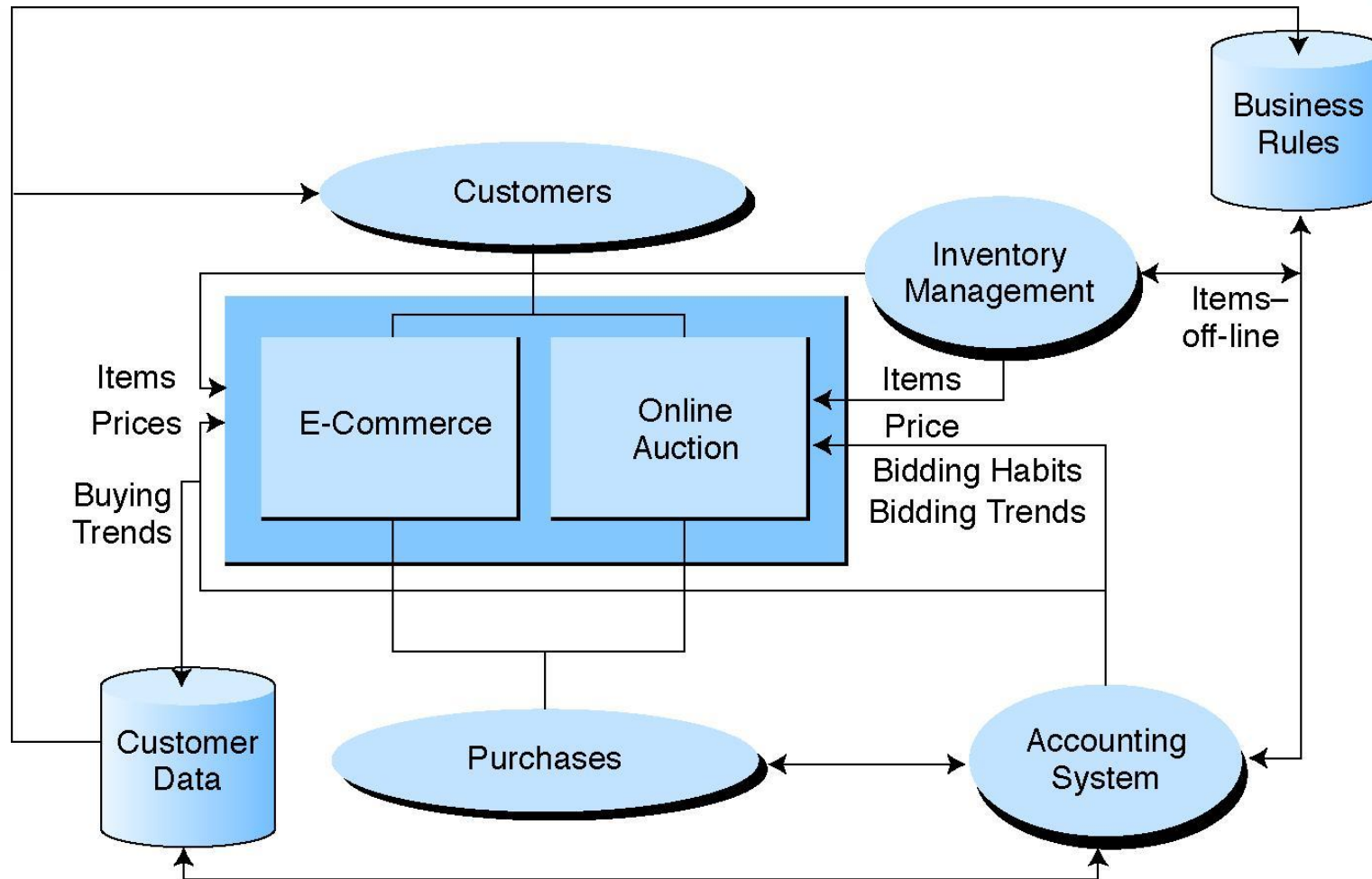
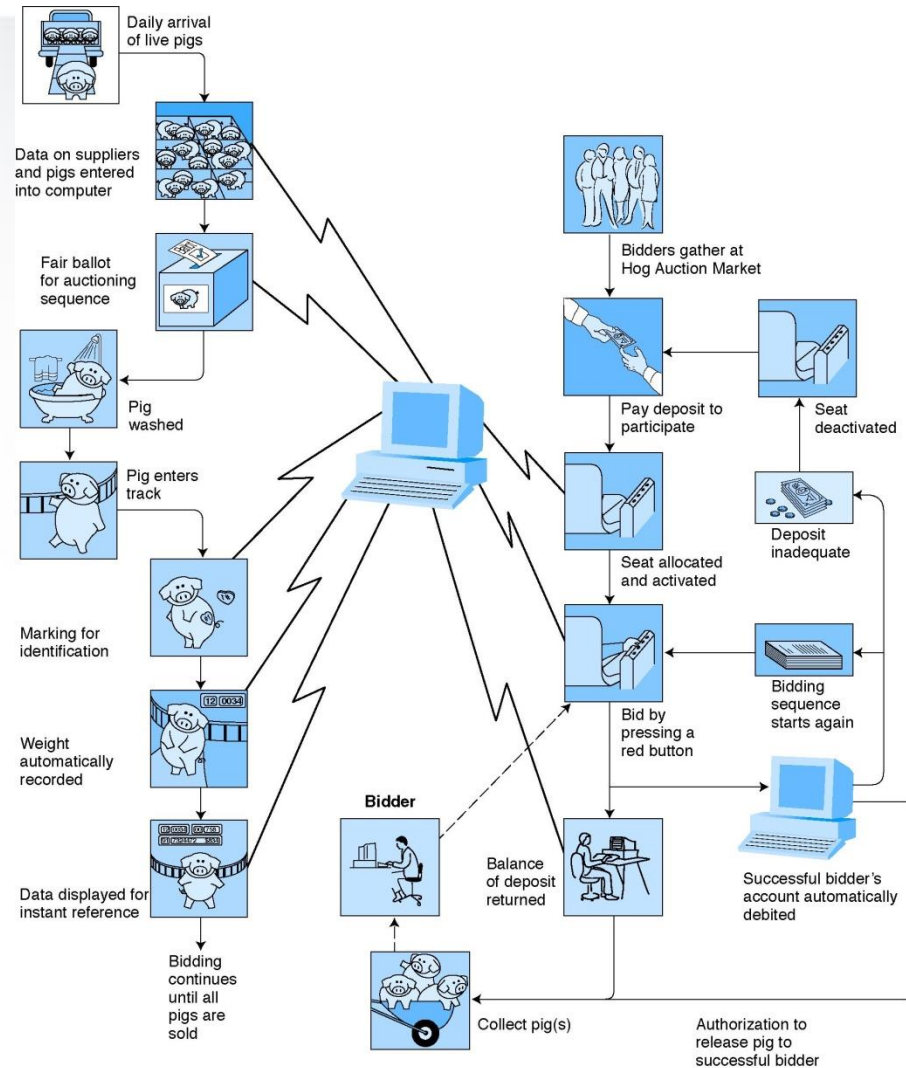


Exhibit 10.7 Auctioning Pigs in Singapore



Mobile E-Auctions and the Future of Auctions



- Benefits and Limitations of Mobile Auctions
 - Benefits
 - Convenience and ubiquity
 - Privacy
 - Simpler and faster
 - Limitations
 - Visual quality
 - Memory capacity
 - Security

Mobile E-Auctions and the Future of Auctions



- The Future of E-Auctions
 - Global Auctions
 - Selling Art Online in Real-Time Auctions
 - Strategic Alliances

Managerial Issues



1. Should we have our own auction site or use a third party site?
2. What are the costs and benefits of auctions?
3. What auction strategies would we use?
4. What about support services?

Managerial Issues



5. What would we auction?
6. What is the best bartering strategy?
7. How can we promote our auction?
8. Should we combine auctions with other models?

Summary



1. The various types of auctions and their characteristics.
2. The processes of forward and reverse auctions.
3. Benefits and limitations of auctions.
4. Unique auction models.

Summary



5. Services that support auctions.
6. Hazards of e-auction fraud and countermeasures.
7. Bartering and negotiating.
8. Auction deployment and implementation.
9. Future directions and the role of mobile auctions.

Chapter 12

Electronic Payment Systems



Learning Objectives



1. Understand the shifts that are occurring with regards to non-cash and online payments.
2. Discuss the players and processes involved in using credit cards online.
3. Discuss the different categories and potential uses of smart cards.
4. Discuss various online alternatives to credit card payments and identify under what circumstances they are best used.

Learning Objectives



5. Describe the processes and parties involved in e-checking.
6. Describe payment methods in B2B EC, including payments for global trade.
7. Discuss electronic bill and invoice presentment and payment.
8. Understand the sales tax implications of e-payments.

The Payment Revolution



- Crucial Factors
 - Independence
 - Interoperability and portability
 - Security
 - Anonymity
 - Divisibility
 - Ease of use
 - Transaction fees
 - Regulations

Using Payments Cards Online



payment card

Electronic card that contains information that can be used for payment purposes

- Three forms of payment cards:
 - Credit cards
 - Charge cards
 - Debit cards

Using Payments Cards Online



- Processing Credit Cards Online
authorization

Determines whether a buyer's card is active and whether the customer has sufficient funds

settlement

Transferring money from the buyer's to the merchant's account

Using Payments Cards Online



- Processing Credit Cards Online

payment service provider (PSP)

A third-party service connecting a merchant's EC systems to the appropriate acquirers. PSPs must be registered with the various card associations they support

Using Payments Cards Online



- Key participants in processing credit card payments online include the following:
 - Acquiring bank
 - Credit card association
 - Customer
 - Issuing bank
 - Merchant
 - Payment processing service
 - Processor

Using Payments Cards Online



- **Fraudulent Credit Card Transactions**

- Address Verification System (AVS)**

- Detects fraud by comparing the address entered on a Web page with the address information on file with cardholder's issuing bank

Using Payments Cards Online



card verification number (CVN)

Detects fraud by comparing the verification number printed on the signature strip on the back of the card with the information on file with the cardholder's issuing bank

Using Payments Cards Online



- Fraudulent Credit Card Transactions
 - Additional tools used to combat fraud include:
 - Manual review
 - Fraud screens and decision models
 - Negative files
 - Card association payer authentication services

Using Payments Cards Online



virtual credit card

An e-payment system in which a credit card issuer gives a special transaction number that can be used online in place of regular credit card numbers

Smart Cards



smart card

An electronic card containing an embedded microchip that enables predefined operations or the addition, deletion, or manipulation of information on the card

Smart Cards



- Types of Smart Cards

- contact card**

- A smart card containing a small gold plate on the face that when inserted in a smart card reader makes contact and passes data to and from the embedded microchip

Smart Cards



- Types of Smart Cards

- contactless (proximity) card**

- A smart card with an embedded antenna, by means of which data and applications are passed to and from a card reader unit or other device without contact between the card and the card reader

Smart Cards



smart card reader

Activates and reads the contents of the chip on a smart card, usually passing the information on to a host system

smart card operating system

Special system that handles file management, security, input/output (I/O), and command execution and provides an application programming interface (API) for a smart card

Smart Cards



- Applications of Smart Cards in Health Care
 - Storing vital medical information in case of emergencies
 - Preventing patients from obtaining multiple prescriptions from different physicians
 - Verifying a patient's identity and insurance coverage
 - Speeding up the hospital or emergency room admissions process

Smart Cards



- Applications of Smart Cards in Health Care
 - Storing vital medical information in case of emergencies
 - Providing medical practitioners with secure access to a patient's complete medical history
 - Speeding up the payment and claims process
 - Enabling patients to access their medical records over the Internet

Smart Cards



- Securing Smart Cards
 - Smart cards store or provide access to either valuable assets or to sensitive information
 - Because of this, they must be secured against theft, fraud, or misuse

Stored-Value Cards



stored-value card

A card that has monetary value loaded onto it and that is usually rechargeable

E-Micropayments



e-micropayments

Small online payments, typically under US \$10

e-check

A legally valid electronic version or representation of a paper check

E-Checking



- Benefits of e-check processing:
 - It reduces the merchant's administrative costs by providing faster and less paper-intensive collection of funds
 - It improves the efficiency of the deposit process for merchants and financial institutions

E-Checking



- Benefits of e-check processing:
 - It speeds the checkout process for consumers
 - It provides consumers with more information about their purchases on their account statements

Electronic Bill Presentment and Payment



electronic bill presentment and payment (EBPP)

Presenting and enabling payment of a bill online.

Electronic Bill Presentment and Payment



- Types of E-Billing
 - Online banking
 - Biller direct
 - Bill consolidator

Electronic Bill Presentment and Payment



- Advantages of E-Billing
 - Reduction in expenses related to billing and processing payments
 - Reduces customer's expenses

Managerial Issues



1. What B2C payment methods should we use?
2. What B2B payment methods should we use?
3. How secure are e-payments?