

# Session2

## Introduction to Electronic Commerce



# Objectives

In this chapter, you will learn about:

- What electronic commerce is and how it is experiencing a second wave of growth with a new focus on profitability
- Why companies now concentrate on revenue models and the analysis of business processes instead of business models when they undertake electronic commerce initiatives
- How economic forces have created a business environment that is fostering the second wave of electronic commerce
- How businesses use value chains and SWOT analysis to identify electronic commerce opportunities
- The international nature of electronic commerce and the challenges that arise in engaging in electronic commerce on a global scale

# E-Commerce and E-Business

- Electronic commerce is the use of technology, in particular the Internet, to conduct business
  - e-commerce generally refers to buying or selling electronically, usually interactively
  - e-business refers to conducting business activities, including business to business activities, using electronic communication
  - e-[you fill in the blank]

# Categories of Electronic Commerce

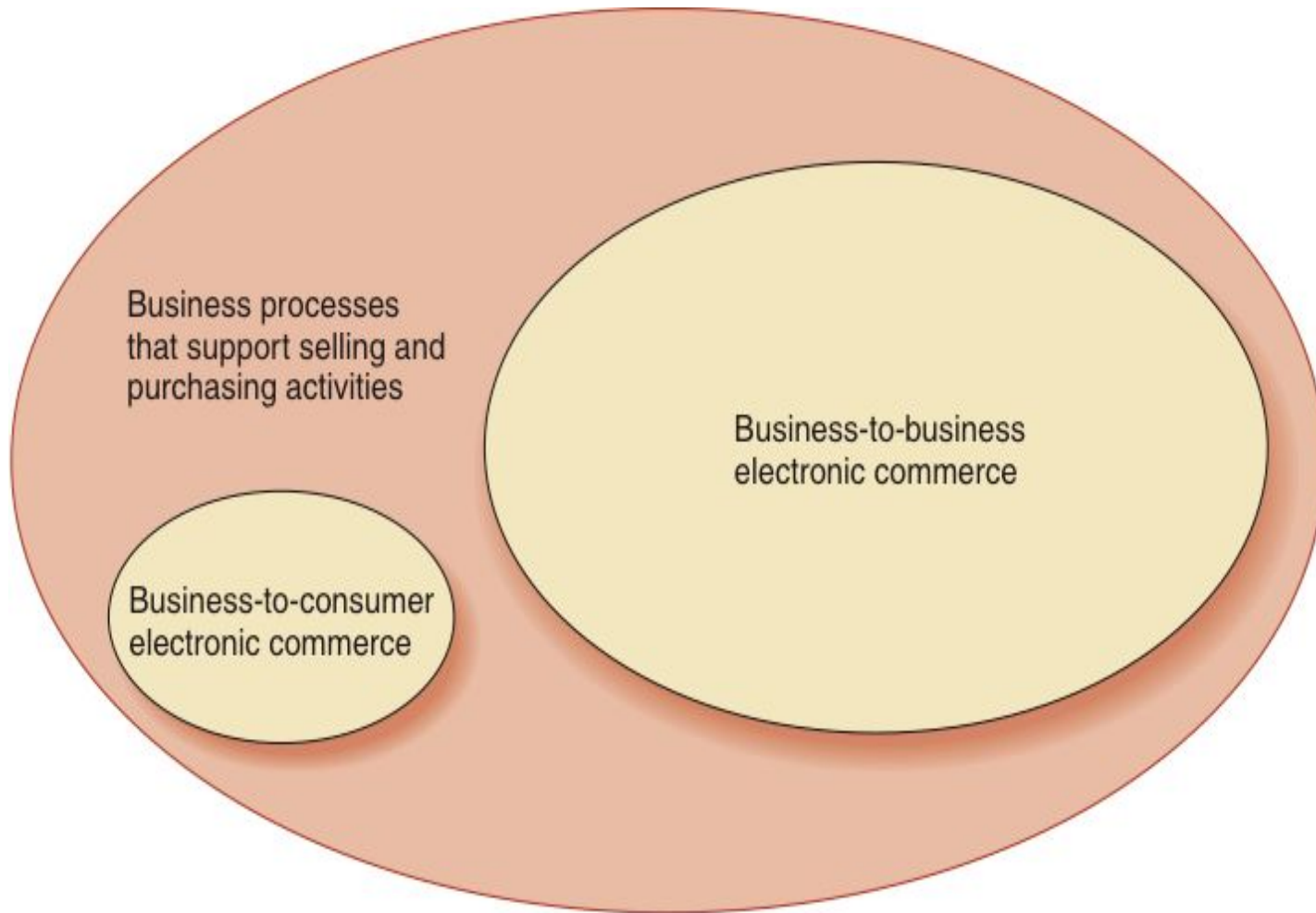
- Five general e-commerce categories:
  - Business-to-consumer (b2c)
  - Business-to-business (b2b)
  - Business processes
  - Consumer-to-consumer (c2c)
  - Business-to-government (b2g)
- Supply management or procurement
  - Departments are devoted to negotiating purchase transactions with suppliers

Category	Description	Example
Business-to-consumer (B2C)	Businesses sell products or services to individual consumers.	Walmart.com sells merchandise to consumers through its Web site.
Business-to-business (B2B)	Businesses sell products or services to other businesses.	Grainger.com sells industrial supplies to large and small businesses through its Web site.
Business processes that support buying and selling activities	Businesses and other organizations maintain and use information to identify and evaluate customers, suppliers, and employees. Increasingly, businesses share this information in carefully managed ways with their customers, suppliers, employees, and business partners.	Dell Computer uses secure Internet connections to share current sales and sales forecast information with suppliers. The suppliers can use this information to plan their own production and deliver component parts to Dell in the right quantities at the right time.

**FIGURE 1-2** Electronic commerce categories

Category	Description	Example
Consumer-to-consumer (C2C)	Participants in an online marketplace can buy and sell goods to each other. Because one party is selling, and thus acting as a business, this book treats C2C transactions as part of B2C electronic commerce.	Consumers and businesses trade with each other in the eBay.com online marketplace.
Business-to-government (B2G)	Businesses sell goods or services to governments and government agencies. This book treats B2G transactions as part of B2C electronic commerce.	CAL-Buy portal allows businesses to sell online to the state of California.

**FIGURE 1-2 Continued** Electronic commerce categories



**FIGURE 1-1** Elements of electronic commerce



# Important Electronic Commerce Terminology

- Transaction
  - An exchange of value
- Business processes
  - The group of logical, related, and sequential activities and transactions in which businesses engage
- Telecommuting or telework
  - Employees log in to company computers through the Internet instead of traveling to the office

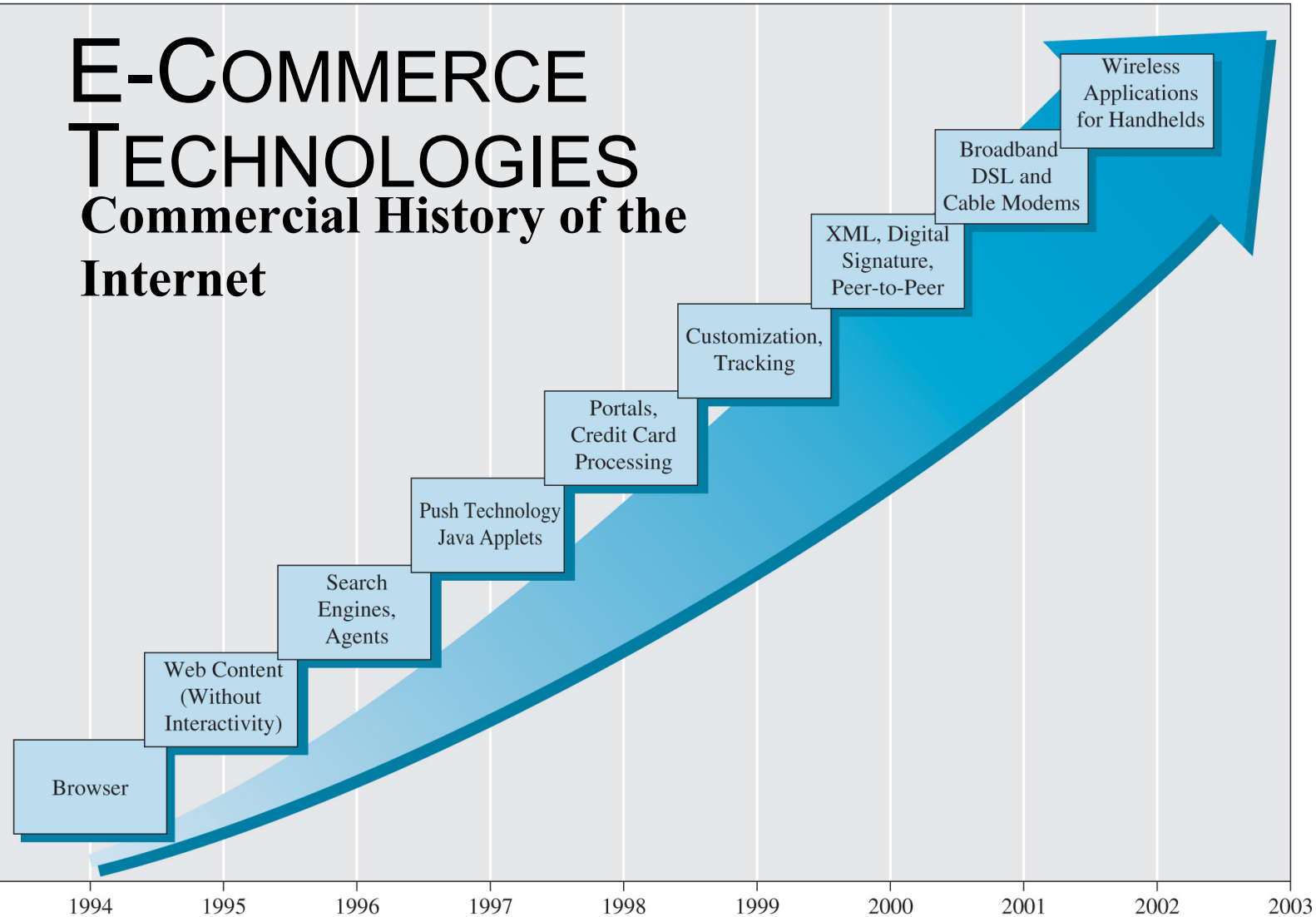


# The History of Electronic Commerce

- Electronic funds transfers (EFTs)
  - Also called wire transfers
  - Electronic transmissions of account exchange information over private communications networks
- Electronic data interchange (EDI)
  - Transmitting computer-readable data in a standard format to another business

# E-COMMERCE TECHNOLOGIES

## Commercial History of the Internet



**Internet Technology Innovations  
for E-Commerce**

# The History of Electronic Commerce

- Trading partners
  - Businesses that engage in EDI with each other
- Value-added network (VAN)
  - Independent firm that offers connection and transaction-forwarding services to buyers and sellers engaged in EDI

Year	B2C Sales: Actual and Estimated \$ Billions	B2B Sales (including EDI): Actual and Estimated \$ Billions
2007	240	6800
2006	190	5300
2005	150	4100
2004	130	2800
2003	100	1600
2002	80	900
2001	70	730
2000	50	600
1999	25	550
1998	10	520
1997	5	490
1996	Less than 1	460

Adapted from reports by ClickZ Network ([http://www.clickz.com/stats/stats\\_toolbox/](http://www.clickz.com/stats/stats_toolbox/)); eMarketer (<http://www.emarketer.com/>); Forrester Research (<http://www.forrester.com/>); and the *Statistical Abstract of the United States*, 2004–2005, Washington: U.S. Census Bureau.

**FIGURE 1-3** Actual and estimated online sales in B2C and B2B categories

# The First Wave of Electronic Commerce

- Defining characteristics of the first wave:
  - Dominant influence of U.S. businesses
  - Extensive use of the English language
  - Many new companies started with outside investor money
  - Unstructured use of e-mail
  - Over-reliance on advertising as a revenue source

# The Second Wave of Electronic Commerce

- Second wave:
  - Global enterprises in many countries are participating in electronic commerce
  - Established companies fund electronic commerce initiatives with their own capital
  - Customized e-mail strategies are now integral to customer contact

# Business & Revenue Models and Business Processes

- Business model
  - A set of processes that combine to yield a profit
- Revenue model
  - A specific collection of business processes used to:
    - Identify customers
    - Market to those customers
    - Generate sales to those customers



# Typical Business Models in EC

- Online direct marketing
- Electronic tendering systems (e.g., reverse auction)
- Name your own price
- Affiliate marketing
- Viral marketing
- Group purchasing
- Online auctions
- Product and service customization  
*customization*
- Electronic marketplaces and exchanges
- Value-chain integrators
- Value-chain service providers
- Information brokers
- Bartering
- Deep discounting
- Membership
- Supply chain improvers

# Role of Merchandising

- Merchandising
  - Combination of store design, layout, and product display knowledge

# Product/Process Suitability to Electronic Commerce

- A commodity is something that ...
  - Is hard to distinguish from the same products or services provided by other sellers
  - Includes features that have become standardized and well known

# Product/Process Suitability to Electronic Commerce

- Shipping profile
  - Collection of attributes that affect how easily a product can be packaged and delivered
- High value-to-weight ratio
  - Can make overall shipping cost a small fraction of the selling price

# Advantages of Electronic Commerce

- Electronic commerce can increase sales and decrease costs
- If advertising is done well on the Web, it can get a firm's promotional message out to potential customers in every country
- Using e-commerce sales support and order-taking processes, a business can:
  - Reduce costs of handling sales inquiries
  - Provide price quotes

# Advantages of Electronic Commerce

- Ecommerce ...
  - increases purchasing opportunities for buyers
  - makes easier negotiating price and delivery terms

# Disadvantages of Electronic Commerce

- Perishable products are difficult to sell online
- It is difficult to:
  - Calculate return on investment
  - Integrate existing databases and transaction-processing software into software that enables e-commerce
- Cultural and legal obstacles also exist



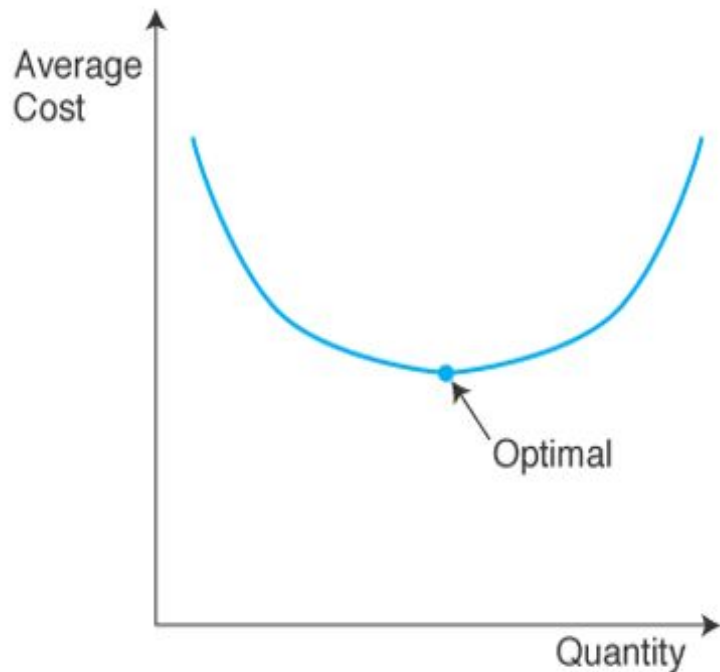
# Electronic Marketplaces

What are the functions of markets?

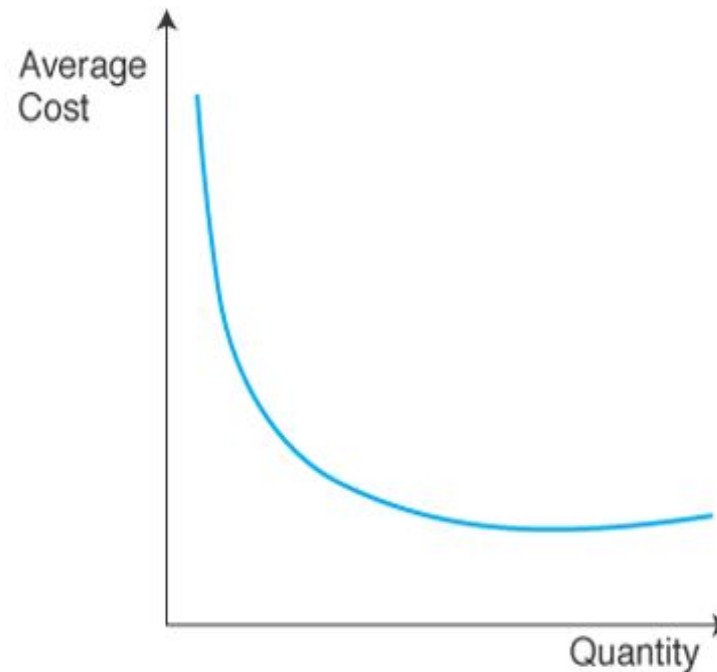
1. **matching buyers and sellers**
2. **facilitating the exchange of information, goods, services, and payments associated with market transactions**
3. **providing an institutional infrastructure, such as a legal and regulatory framework, that enables the efficient functioning of the market**

# Economics of E-Marketplaces

**Exhibit 2.6** Cost Curve of (a) Regular and (b) Digital Products



(a) Regular Products



(b) Digital Products

# Transaction Costs

- Transaction costs are the total costs that a buyer and seller incur
  - Significant components of transaction costs:
    - Cost of information search and acquisition
    - Investment of the seller in equipment or in the hiring of skilled employees to supply products or services to the buyer

# Using Electronic Commerce to Reduce Transaction Costs

- Businesses and individuals can use electronic commerce to reduce transaction costs by:
  - Improving the flow of information
  - Increasing coordination of actions

# Network Economic Structures

- Network economic structures: Companies coordinate their strategies, resources, and skill sets by forming long-term, stable relationships with other companies and individuals based on shared purposes
  - Strategic alliances: Relationships created within the network economic structure
    - Virtual companies/organizations: Strategic alliances that occur between or among companies operating on the Internet
    - Strategic partners: Entities that come together as a team for a specific project or activity

# Network Effects

- Law of diminishing returns
  - Most activities yield less value as the amount of consumption increases
- Network effect
  - As more people or organizations participate in a network, the value of the network to each participant increases

# E-COMMERCE TECHNOLOGIES

- *Will we see continued growth in e-commerce (Internet) applications?*

- Consider Metcalfe's Law:

*The value of a network to each of its members is proportional to the number of other users, expressed as  $(n^2 - n) / 2$*

- There are increasing returns to be gained as more organizations and people use the Web

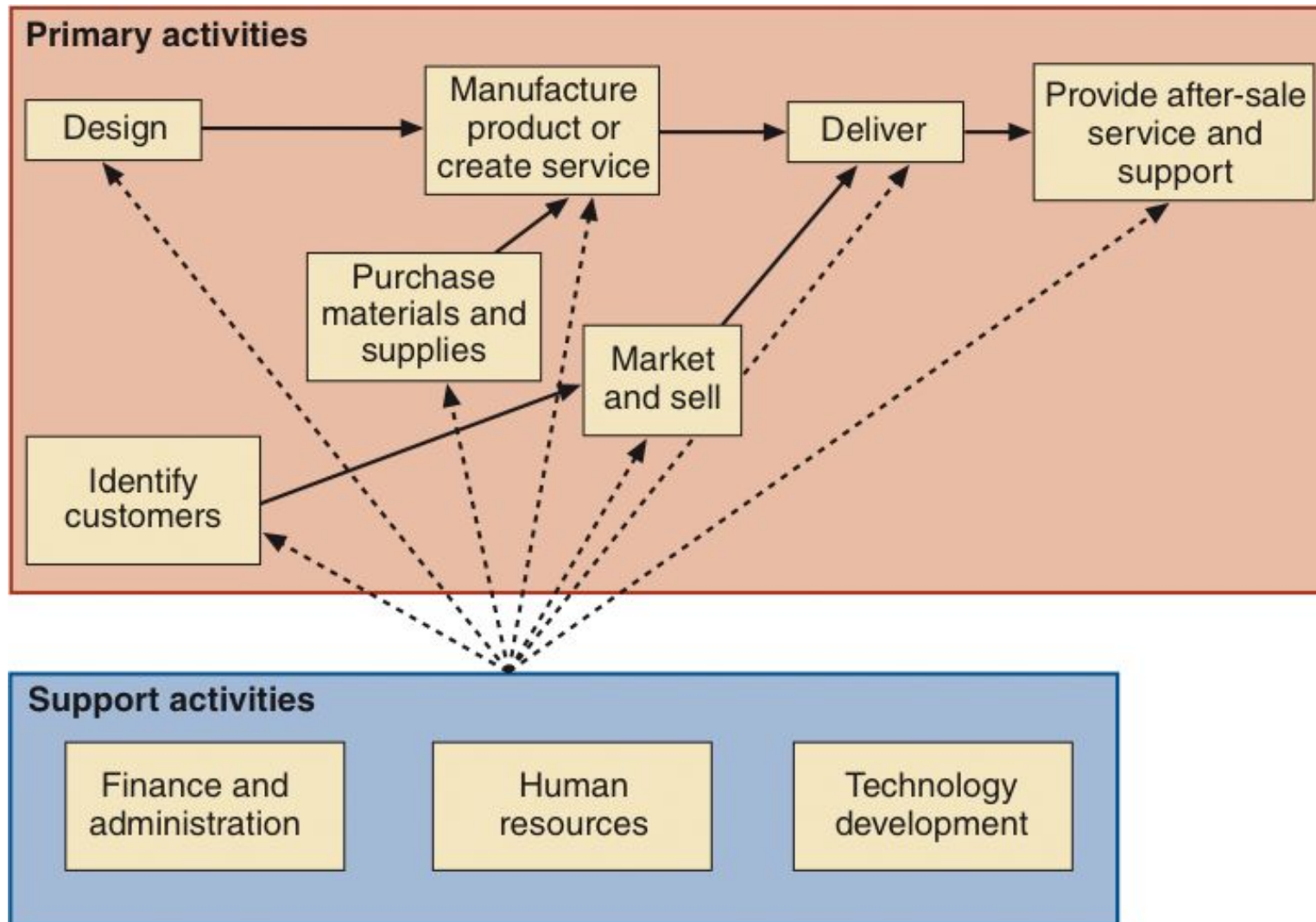


# Identifying Electronic Commerce Opportunities

- Firm
  - Multiple business units owned by a common set of shareholders
- Industry
  - Multiple firms that sell similar products to similar customers

# Strategic Business Unit Value Chains

- Value chain
  - A way of organizing the activities that each strategic business unit undertakes
- Primary activities include:
  - Designing, producing, promoting, marketing, delivering, and supporting the products or services it sells
- Supporting activities include:
  - Human resource management and purchasing



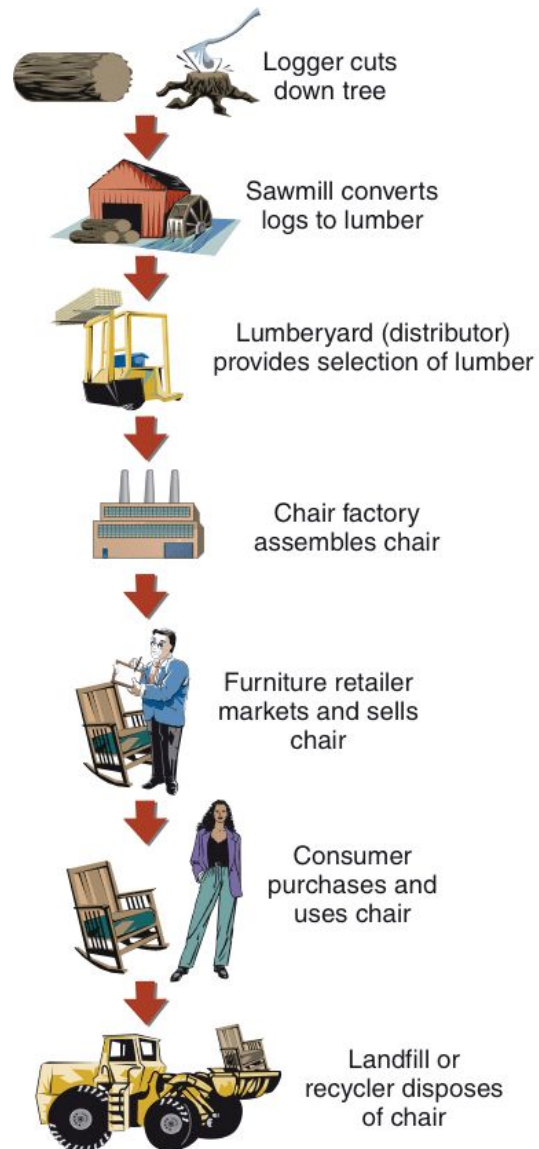
**FIGURE 1-9** Value chain for a strategic business unit

# An Alternative View of a Value Chain



# Industry Value Chains

- Value system
  - Larger stream of activities into which a particular business unit's value chain is embedded
  - Also referred to as industry value chain



**FIGURE 1-10** Industry value chain for a wooden chair

# SWOT Analysis: Evaluating Business Unit Opportunities

- In SWOT analysis:
  - An analyst first looks into the business unit to identify its strengths and weaknesses
  - The analyst then reviews the operating environment and identifies opportunities and threats



### **Strengths**

- What does the company do well?
- Is the company strong in its market?
- Does the company have a strong sense of purpose and the culture to support that purpose?

### **Weaknesses**

- What does the company do poorly?
- What problems could be avoided?
- Does the company have serious financial liabilities?

### **Opportunities**

- Are industry trends moving upward?
- Do new markets exist for the company's products/services?
- Are there new technologies that the company can exploit?

### **Threats**

- What are competitors doing well?
- What obstacles does the company face?
- Are there troubling changes in the company's business environment (technologies, laws, and regulations)?

**FIGURE 1-11** SWOT analysis questions

### **Strengths**

- Sell directly to consumers
- Keep costs below competitors' costs

### **Weaknesses**

- No strong relationships with computer retailers

### **Opportunities**

- Consumer desire for one-stop shopping
- Consumers know what they want to buy
- Internet could be a powerful marketing tool

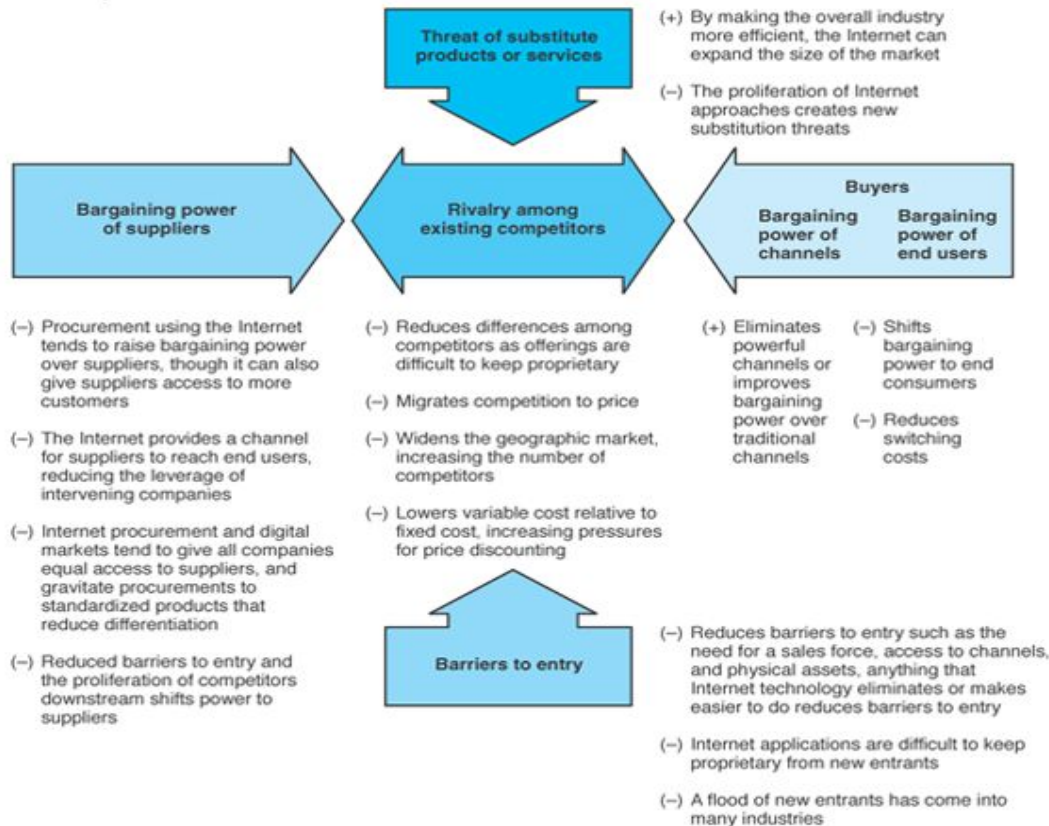
### **Threats**

- Competitors have stronger brand names
- Competitors have strong relationships with computer retailers

**FIGURE 1-12** Results of Dell's SWOT analysis

# Porter's Competitive Forces Model: How the Internet Influences Industry Structure

**Exhibit 2.9** Porter's Competitive Forces Model: How the Internet Influences Industry Structure



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# International Nature of Electronic Commerce

- Companies with established reputations:
  - Often create trust by ensuring that customers know who they are
  - Can rely on their established brand names to create trust on the Web
- Customers' inherent lack of trust in “strangers” on the Web is logical and to be expected

# Language Issues

- To do business effectively in other cultures a business must adapt to those cultures
- Researchers have found that customers are more likely to buy products and services from Web sites in their own language
- Localization
  - Translation that considers multiple elements of the local environment

# Culture Issues

- An important element of business trust is anticipating how the other party to a transaction will act in specific circumstances
- Culture:
  - Combination of language and customs
  - Varies across national boundaries
  - Varies across regions within nations

# Infrastructure Issues

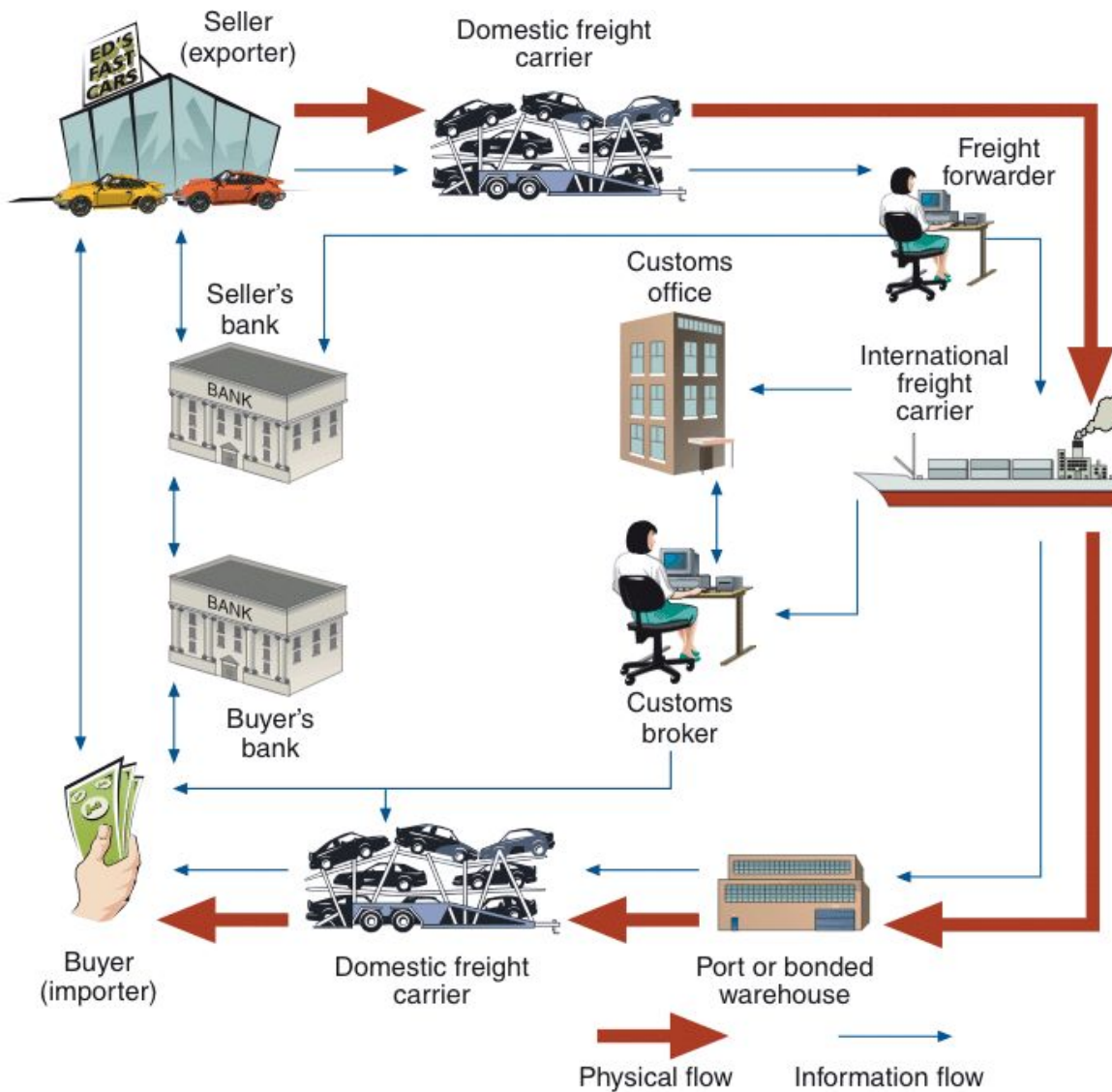
- Internet infrastructure includes:
  - Computers and software connected to the Internet
  - Communications networks over which message packets travel
- Organization for Economic Cooperation and Development's (OECD) Statements on Information and Communications Policy deal with telecommunications infrastructure development issues



# Infrastructure Issues (continued)

- Flat-rate access system
  - Consumer or business pays one monthly fee for unlimited telephone line usage
  - Contributed to rapid rise of U.S. electronic commerce
- Targets for technological solutions include paperwork and processes that accompany international transactions





**FIGURE 1-14** Parties involved in a typical international trade transaction

# Summary

- Commerce
  - Negotiated exchange of goods or services
- Electronic commerce
  - Application of new technologies to conduct business more effectively
- First wave of electronic commerce
  - Ended in 2000
- Second wave of electronic commerce
  - New approaches to integrating Internet technologies into business processes

# Summary

- Using electronic commerce, businesses have:
  - Created new products and services
  - Improved promotion, marketing, and delivery of existing offerings
- The global nature of electronic commerce leads to many opportunities and few challenges
- To conduct electronic commerce across international borders, you must understand the trust, cultural, language, and legal issues