Management Information Systems: E-commerce: Digital Markets, Digital Goods
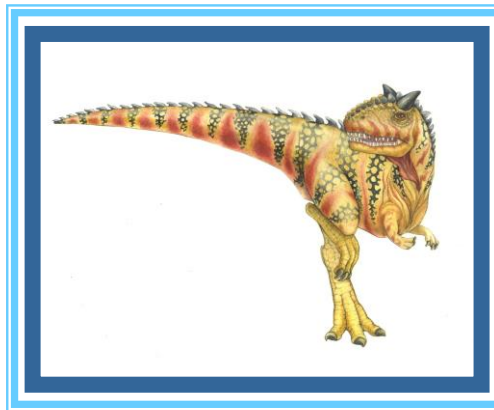
Today's Lecture

- E-commerce and the Internet

- E-commerce: Business and Technology

- The Mobile Digital Platform and Mobile E-commerce

- Building an E-commerce Web Site

- The Mobile Digital Platform and Mobile E-commerce

Ch. 10 E-commerce: Digital Markets, Digital Goods

VIDEO CASES
- *Case 1: M-Commerce: The Past, Present, and Future*
- *Case 2: Ford AutoXchange B2B Marketplace*

Learning Objectives

- **What are the unique features of e-commerce, digital markets, and digital goods?**

- **What are the principal e-commerce business and revenue models?**

- **How has e-commerce transformed marketing?**

- **How has e-commerce affected business-to-business transactions?**

- **What is the role of m-commerce in business and what are the most important m-commerce applications?**

- **What issues must be addressed when building an e-commerce Web site?**

E-commerce: Digital Markets, Digital Goods

4FOOD: Burgers Go Social

- **Problem** - Differentiate a burger restaurant's services in crowded marketplace (Manhattan)

- **Solution** – Utilize social networking and crowdsourcing for marketing and services
  - Ordering via iPad, online
  - Customers can create and name own sandwiches
  - Twitter, Facebook, Foursquare integration

- **Illustrates:** Use of information systems to create new products and services

- **Demonstrates:** Use of social networking technologies as marketing tool

E-commerce: Digital Markets, Digital Goods

E-commerce and the Internet

- **E-commerce today:**
  - Use of the Internet and Web to transact business; digitally enabled transactions

  - Began in 1995 and grew exponentially, still growing even in a recession

  - Companies that survived the dot-com bubble burst and now thrive

  - E-commerce revolution is still in its early stages

E-commerce: Digital Markets, Digital Goods

E-commerce and the Internet

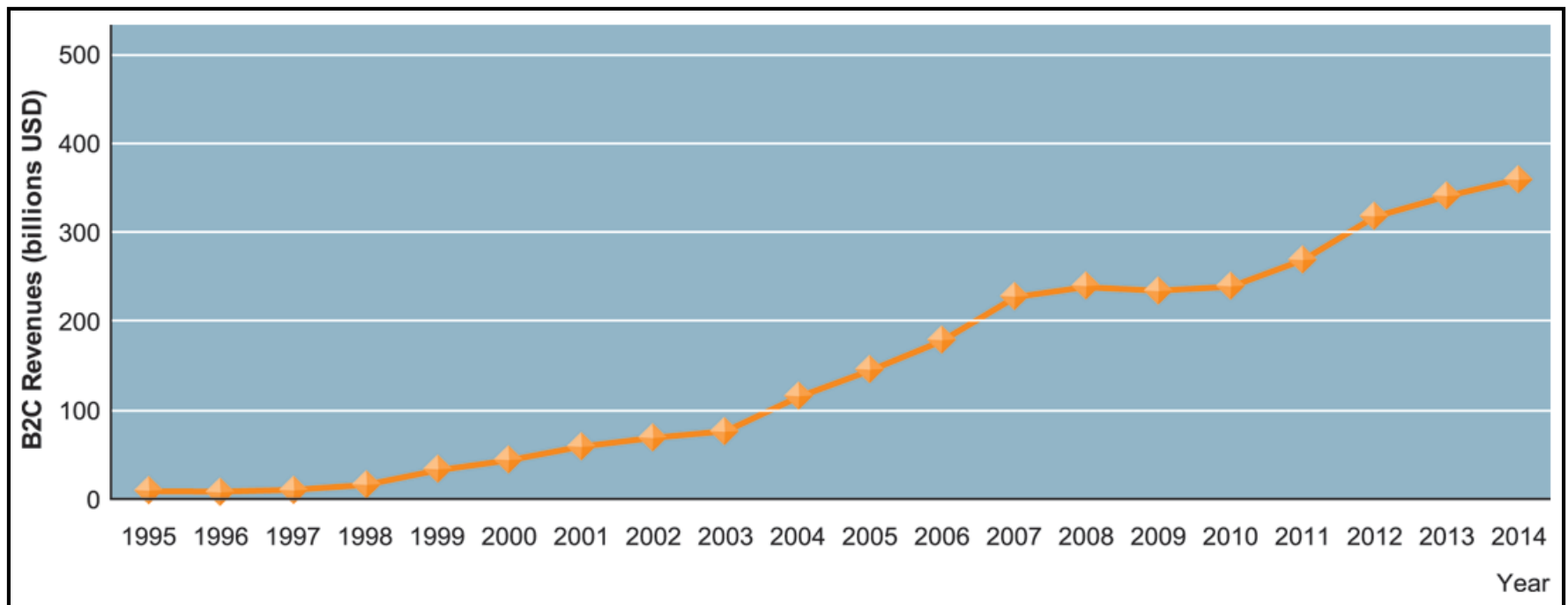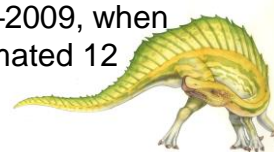### THE GROWTH OF E-COMMERCE

FIGURE 10-1   Retail e-commerce revenues grew 15–25 percent per year until the recession of 2008–2009, when they slowed measurably. In 2010, e-commerce revenues are growing again at an estimated 12 percent annually.

E-commerce: Digital Markets, Digital Goods

E-commerce and the Internet

■ **Why e-commerce is different – 8 unique features**

1. **Ubiquity**

    ‣ Internet/Web technology available everywhere: work, home, etc., anytime.

    ‣ Effect:

    – Marketplace removed from temporal, geographic locations to become "marketspace"

    – Enhanced customer convenience and reduced shopping costs

E-commerce and the Internet

■ **8 unique features (cont.)**

2. **Global reach**

   ▸ The technology reaches across national boundaries, around Earth

   ▸ Effect:

   – Commerce enabled across cultural and national boundaries seamlessly and without modification

   – Marketspace includes, potentially, billions of consumers and millions of businesses worldwide

E-commerce and the Internet

■ **8 unique features (cont.)**

3. **Universal standards**

▸ One set of technology standards: Internet standards

▸ Effect:

– Disparate computer systems easily communicate with each other

– Lower market entry costs—costs merchants must pay to bring goods to market

– Lower consumers' search costs—effort required to find suitable products

E-commerce and the Internet

■ **8 unique features (cont.)**

4. **Richness**

‣ Supports video, audio, and text messages

‣ Effect:

– Possible to deliver rich messages with text, audio, and video simultaneously to large numbers of people

– Video, audio, and text marketing messages can be integrated into single marketing message and consumer experience

E-commerce and the Internet

■ **8 unique features (cont.)**

5. **Interactivity**

  ‣ The technology works through interaction with the user

  ‣ Effect:

    – Consumers engaged in dialog that dynamically adjusts experience to the individual

    – Consumer becomes co-participant in process of delivering goods to market

E-commerce: Digital Markets, Digital Goods

■ **8 unique features (cont.)**

6. **Information density**

  ▸ Large increases in information density—the total amount and quality of information available to all market participants

  ▸ Effect:

    – Greater price transparency

    – Greater cost transparency

    – Enables merchants to engage in price discrimination

E-commerce and the Internet

■ **8 unique features (cont.)**

7. **Personalization/Customization**

   ▸ Technology permits modification of messages, goods

   ▸ Effect

     – Personalized messages can be sent to individuals as well as groups

     – Products and services can be customized to individual preferences

E-commerce: Digital Markets, Digital Goods

E-commerce and the Internet

■ **8 unique features (cont.)**

8. **Social technology**

   ▸ The technology promotes user content generation and social networking

   ▸ Effect

   – New Internet social and business models enable user content creation and distribution, and support social networks

E-commerce: Digital Markets, Digital Goods

E-commerce and the Internet

- ■ **Key concepts in e-commerce**
  - ● **Digital markets reduce**
    - ▸ Information asymmetry
    - ▸ Search costs
    - ▸ Transaction costs
    - ▸ Menu costs
  - ● **Digital markets enable**
    - ▸ Price discrimination
    - ▸ Dynamic pricing
    - ▸ Disintermediation

E-commerce: Digital Markets, Digital Goods

E-commerce and the Internet

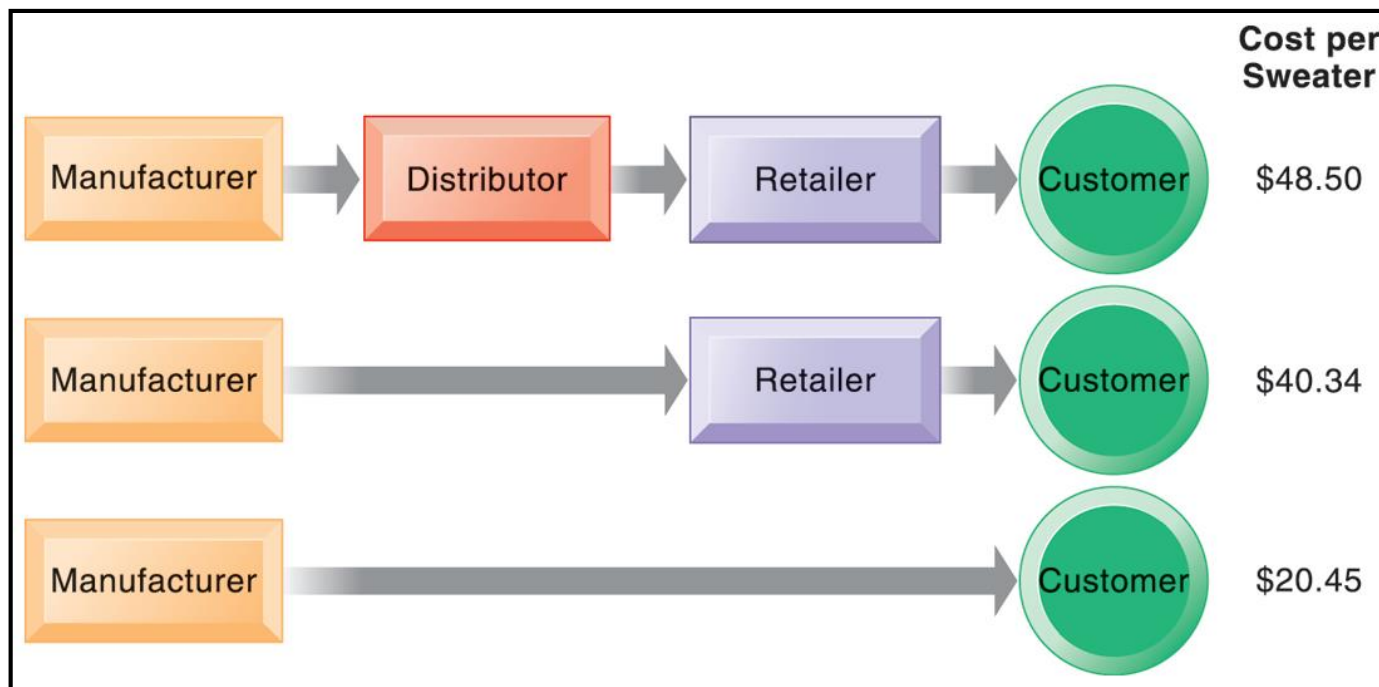### THE BENEFITS OF DISINTERMEDIATION TO THE CONSUMER

FIGURE 10-2 The typical distribution channel has several intermediary layers, each of which adds to the final cost of a product, such as a sweater. Removing layers lowers the final cost to the consumer.
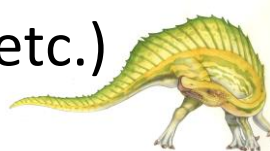
E-commerce: Digital Markets, Digital Goods

E-commerce and the Internet

■ **Key concepts in e-commerce**

- **Digital goods**
  - ▸ Goods that can be delivered over a digital network
    - – E.g. Music tracks, video, software, newspapers, books
  - ▸ Cost of producing first unit almost entire cost of product: marginal cost of 2nd unit is about zero
  - ▸ Costs of delivery over the Internet very low
  - ▸ Marketing costs remain the same; pricing highly variable
  - ▸ Industries with digital goods are undergoing revolutionary changes (publishers, record labels, etc.)

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E-commerce: Business and Technology

■ **Types of e-commerce**

- **Business-to-consumer (B2C)**

- **Business-to-business (B2B)**

- **Consumer-to-consumer (C2C)**

- **Mobile commerce (m-commerce)**

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- ## E-commerce business models

  - **Portal**

  - **E-tailer**

  - **Content Provider**

  - **Transaction Broker**

  - **Market Creator**

  - **Service Provider**

  - **Community Provider**

E-commerce: Business and Technology

TWITTER SEARCHES FOR A BUSINESS MODEL

Read the Interactive Session and discuss the following questions

- Based on your reading in this chapter, how would you characterize Twitter's business model?

- If Twitter is to have a revenue model, which of the revenue models described in this chapter would work?

- What is the most important asset that Twitter has and how could it monetize this asset?

- What impact will a high customer churn rate have on Twitter's potential advertising revenue?

E-commerce: Business and Technology

■ E-commerce revenue models

1. **Advertising**
2. **Sales**
3. **Subscription**
4. **Free/Freemium**
5. **Transaction Fee**
6. **Affiliate**

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- ### Most popular Web 2.0 service: social networking
  - Social networking sites sell banner ads, user preference information, and music, videos and e-books

- ### Social shopping sites
  - Swap shopping ideas with friends (Kaboodle, ThisNext)

- ### Wisdom of crowds/crowdsourcing
  - Large numbers of people can make better decisions about topics and products than a single person

- ### Prediction markets:
  - Peer-to-peer betting markets on specific outcomes (elections, sales figures, designs for new products)

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FACEBOOK: MANAGING YOUR PRIVACY FOR THEIR PROFIT

Read the Interactive Session and discuss the following questions

- What concepts in the chapter are illustrated in this case?

- Describe the weaknesses of Facebook's privacy policies and features. What management, organization, and technology factors have contributed to those weaknesses?

- List and describe some of the options that Facebook managers have in balancing privacy and profitability. How can Facebook better safeguard user privacy? What would be the impact on its profitability and business model?

- Do you anticipate that Facebook will be successful in developing a business model that monetizes their site traffic? Why or why not?

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■ **E-commerce marketing**

- **Internet provides marketers with new ways of identifying and communicating with customers**

- **Long tail marketing:** Ability to reach a large audience inexpensively

- **Behavioral targeting:** Tracking online behavior of individuals on thousands of Web sites

- **Advertising formats include search engine marketing, display ads, rich media, and e-mail**

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WEB SITE VISITOR TRACKING

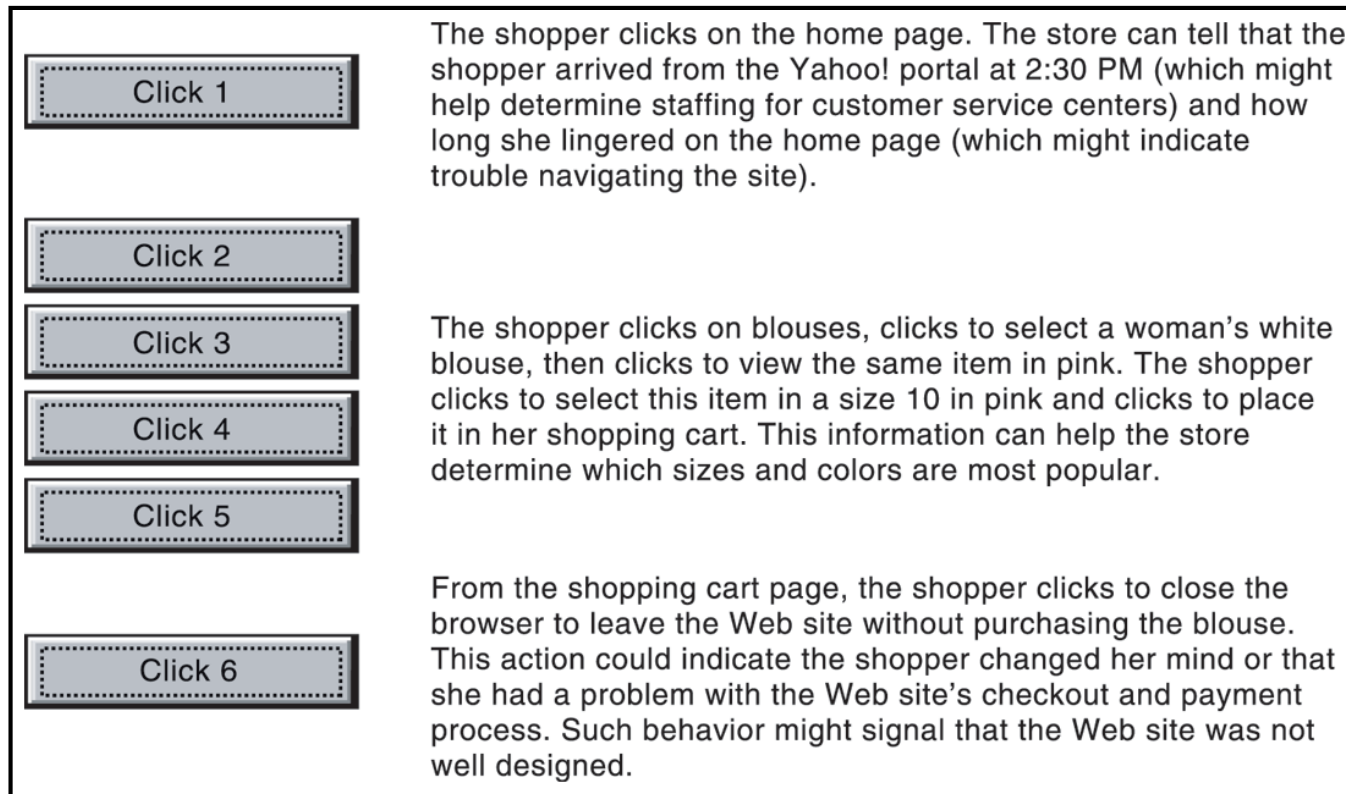| Click 1	The shopper clicks on the home page. The store can tell that the shopper arrived from the Yahoo! portal at 2:30 PM (which might help determine staffing for customer service centers) and how long she lingered on the home page (which might indicate trouble navigating the site).
Click 2	
Click 3	The shopper clicks on blouses, clicks to select a woman's white blouse, then clicks to view the same item in pink. The shopper clicks to select this item in a size 10 in pink and clicks to place it in her shopping cart. This information can help the store determine which sizes and colors are most popular.
Click 4	
Click 5	
Click 6	From the shopping cart page, the shopper clicks to close the browser to leave the Web site without purchasing the blouse. This action could indicate the shopper changed her mind or that she had a problem with the Web site's checkout and payment process. Such behavior might signal that the Web site was not well designed.

FIGURE 10-3   E-commerce Web sites have tools to track a shopper's every step through an online store. Close examination of customer behavior at a Web site selling women's clothing shows what the store might learn at each step and what actions it could take to increase sales.
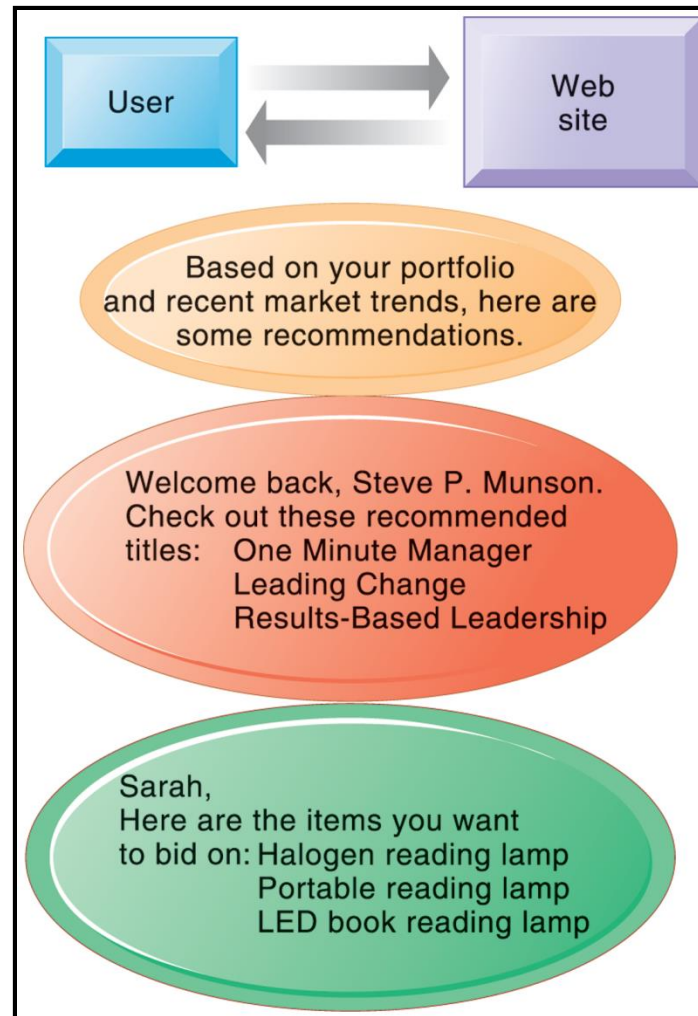
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WEB SITE PERSONALIZATION

Firms can create unique personalized Web pages that display content or ads for products or services of special interest to individual users, improving the customer experience and creating additional value.
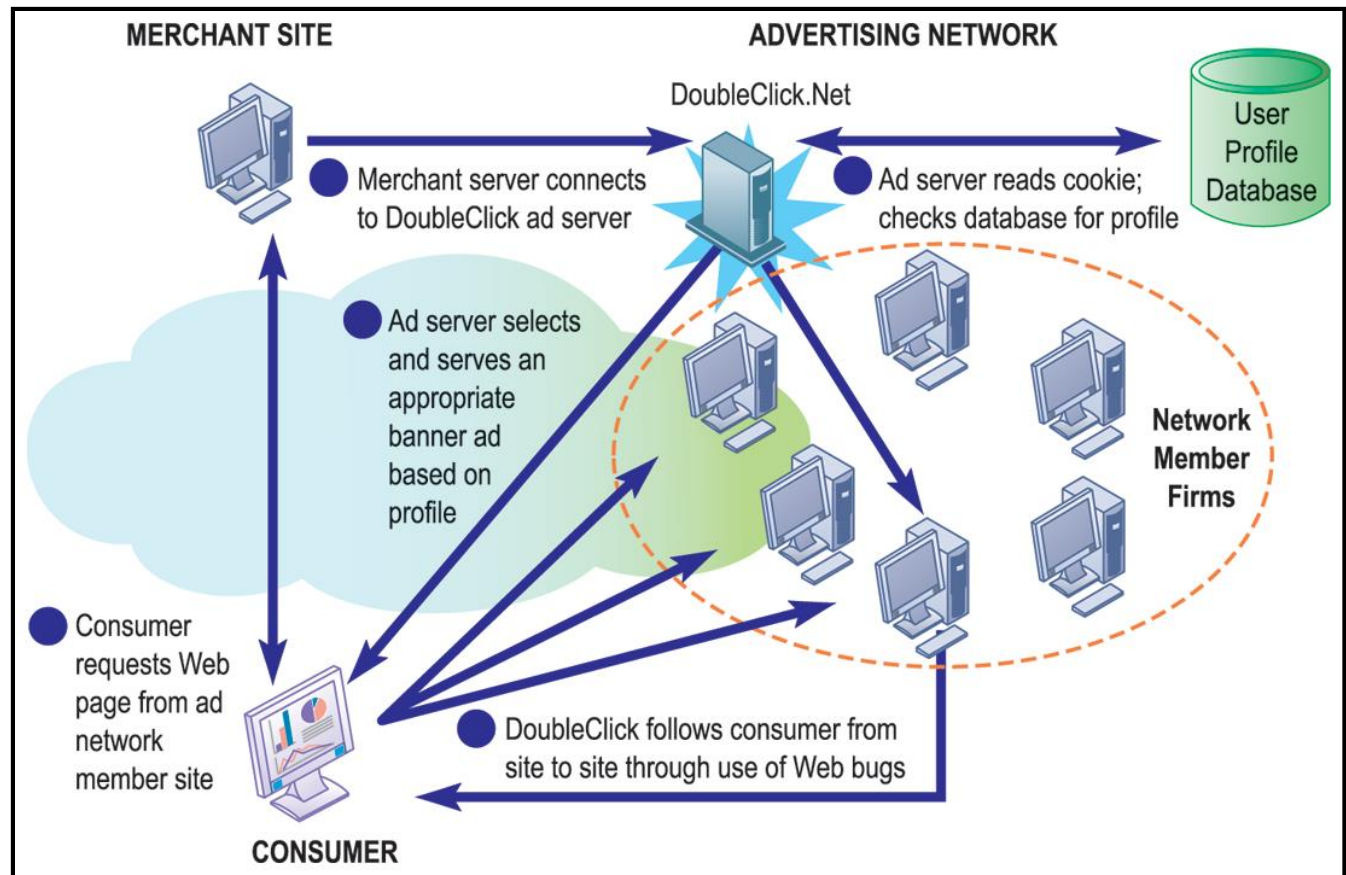
FIGURE 10-4

User ⟷ Web site

Based on your portfolio and recent market trends, here are some recommendations.

Welcome back, Steve P. Munson. Check out these recommended titles: One Minute Manager
Leading Change
Results-Based Leadership

Sarah,
Here are the items you want to bid on: Halogen reading lamp
Portable reading lamp
LED book reading lamp

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E-commerce: Business and Technology

HOW AN ADVERTISING NETWORK SUCH AS DOUBLECLICK WORKS

Advertising networks have become controversial among privacy advocates because of their ability to track individual consumers across the Internet.

FIGURE 10-5

MERCHANT SITE

ADVERTISING NETWORK

DoubleClick.Net

User Profile Database

● Merchant server connects to DoubleClick ad server

● Ad server reads cookie; checks database for profile

● Ad server selects and serves an appropriate banner ad based on profile

Network Member Firms

● Consumer requests Web page from ad network member site

● DoubleClick follows consumer from site to site through use of Web bugs

CONSUMER

E-commerce: Business and Technology

■ **Business-to-business e-commerce**

- ● **Electronic data interchange (EDI)**

  - ▸ Computer-to-computer exchange of standard transactions such as invoices, purchase orders

  - ▸ Major industries have EDI standards that define structure and information fields of electronic documents for that industry

  - ▸ More companies increasingly moving away from private networks to Internet for linking to other firms

    - – E.g. Procurement: Businesses can now use Internet to locate most low-cost supplier, search online catalogs of supplier products, negotiate with suppliers, place orders, etc.

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ELECTRONIC DATA INTERCHANGE (EDI)
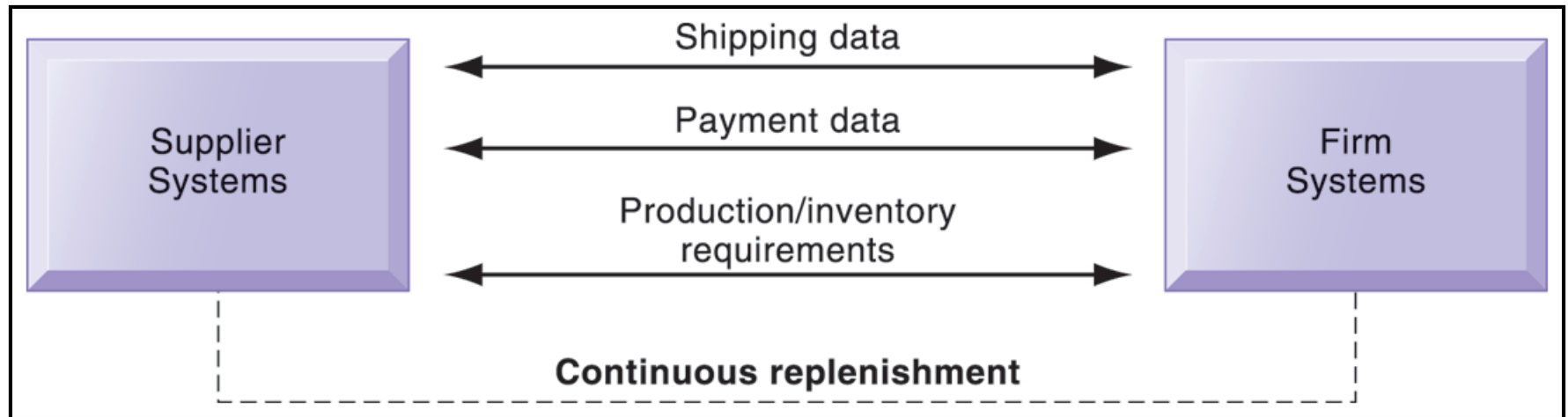
FIGURE 10-6   Companies use EDI to automate transactions for B2B e-commerce and continuous inventory replenishment. Suppliers can automatically send data about shipments to purchasing firms. The purchasing firms can use EDI to provide production and inventory requirements and payment data to suppliers.
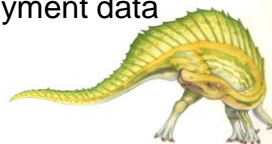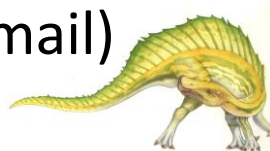
E-commerce: Business and Technology

■ Business-to-business e-commerce (cont.)

● Private industrial networks (private exchanges)

‣ Large firm using extranet to link to its suppliers, distributors and other key business partners

‣ Owned by buyer

‣ Permits sharing of:

– Product design and development

– Marketing

– Production scheduling and inventory management

– Unstructured communication (graphics and e-mail)

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E-commerce: Business and Technology

A PRIVATE INDUSTRIAL NETWORK

A private industrial network, also known as a private exchange, links a firm to its suppliers, distributors, and other key business partners for efficient supply chain management and other collaborative commerce activities.

FIGURE 10-7
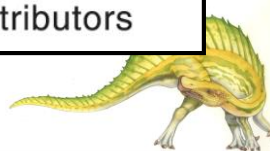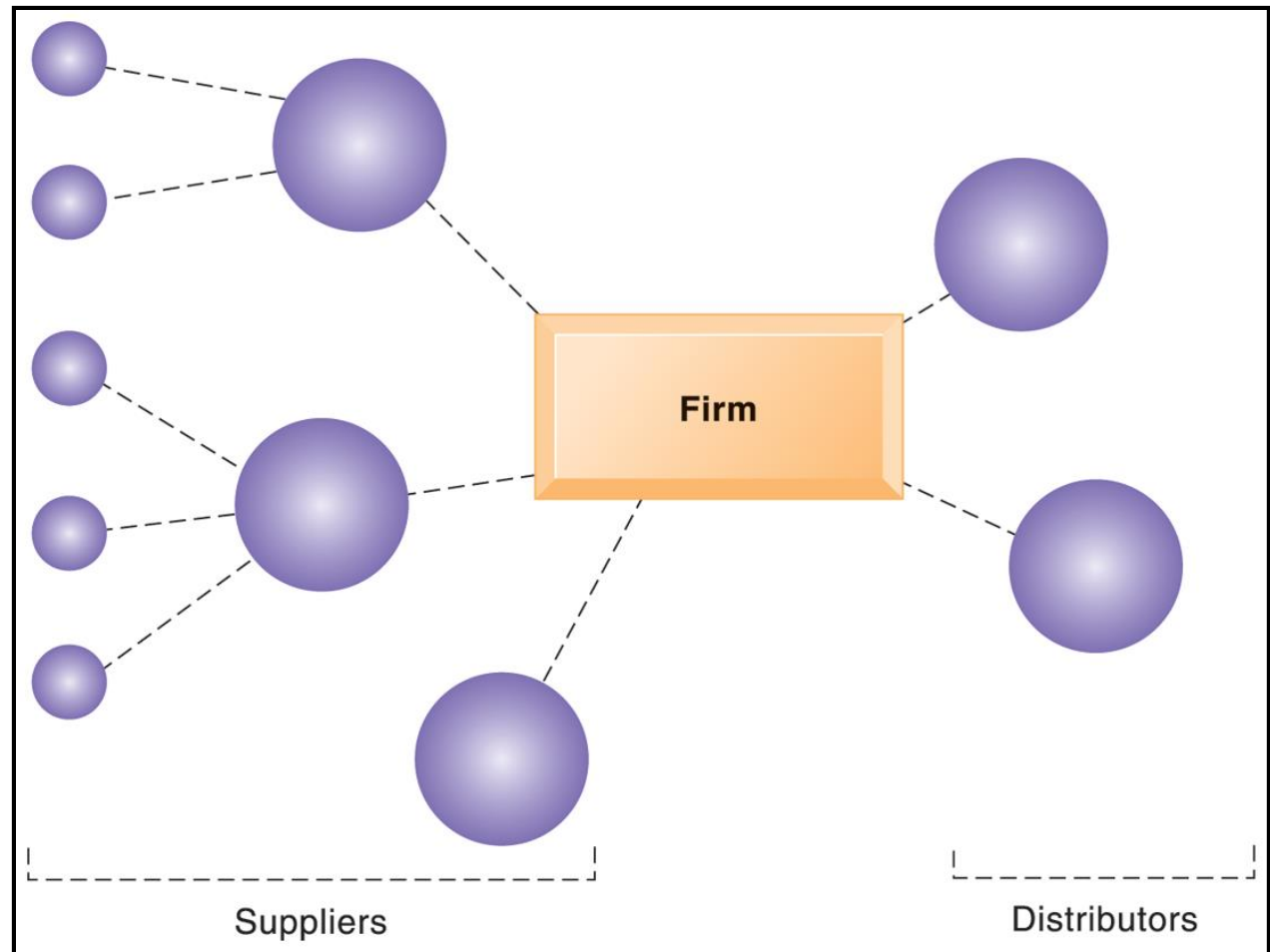
E-commerce: Digital Markets, Digital Goods

■ **Business-to-business e-commerce (cont.)**

- **Net marketplaces (e-hubs)**
  - ▸ Single market for many buyers and sellers
  - ▸ Industry-owned or owned by independent intermediary
  - ▸ Generate revenue from transaction fees, other services
  - ▸ Use prices established through negotiation, auction, RFQs, or fixed prices
  - ▸ May focus on direct or indirect goods
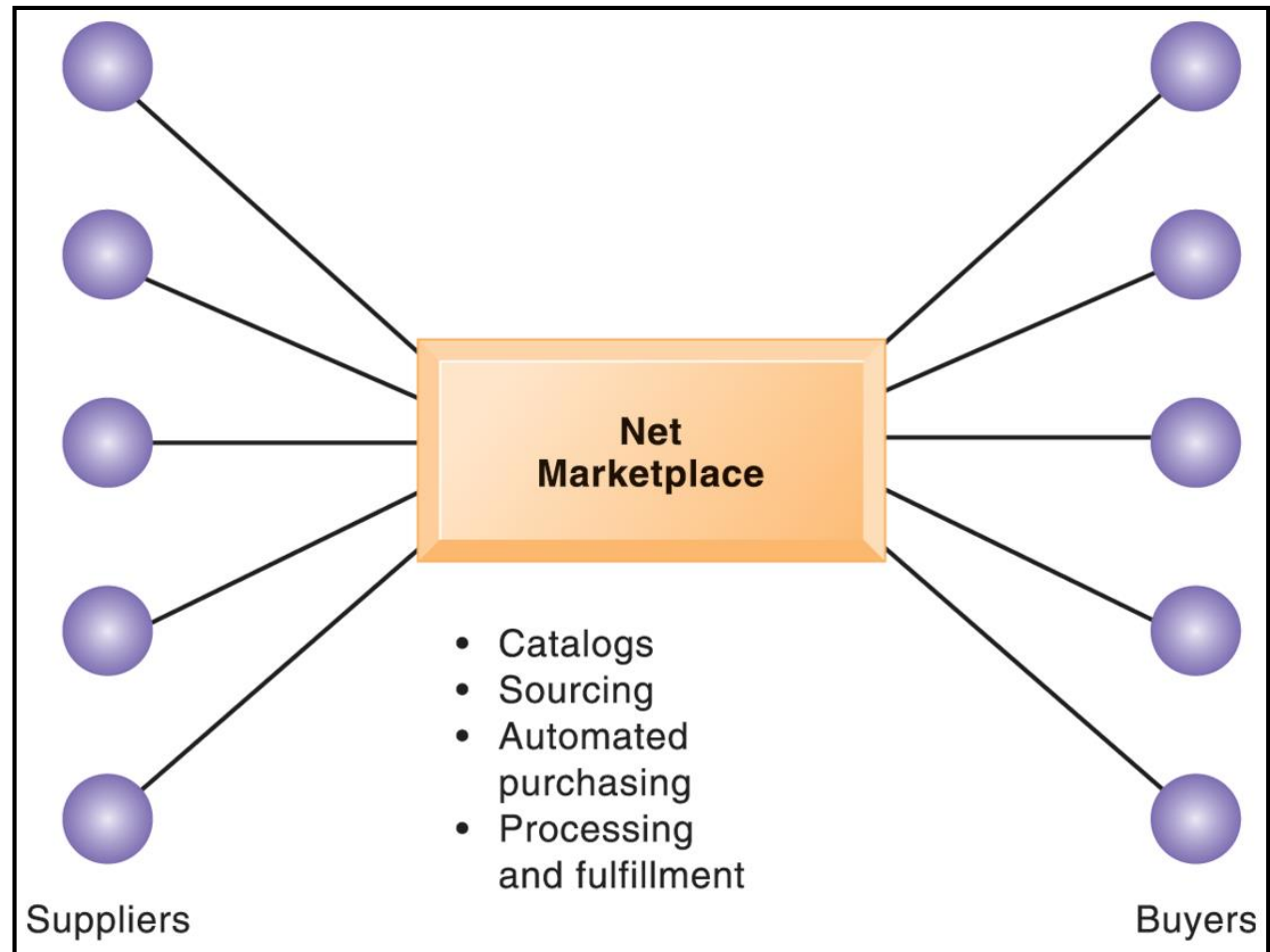 - ▸ May be vertical or horizontal marketplaces

E-commerce: Business and Technology

A NET MARKETPLACE

Net marketplaces are online marketplaces where multiple buyers can purchase from multiple sellers.

FIGURE 10-8

Net Marketplace

- Catalogs
- Sourcing
- Automated purchasing
- Processing and fulfillment

Suppliers

Buyers

E-commerce: Business and Technology

■ **Business-to-business e-commerce (cont.)**

● **Exchanges**

▸ Independently owned third-party Net marketplaces

▸ Connect thousands of suppliers and buyers for spot purchasing

▸ Typically provide vertical markets for direct goods for single industry (food, electronics)

▸ Proliferated during early years of e-commerce; many have failed

– Competitive bidding drove prices down and did not offer long-term relationships with buyers or services to make lowering prices worthwhile
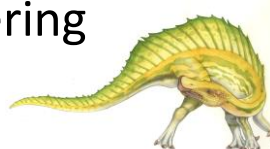
E-commerce: Digital Markets, Digital Goods

The Mobile Digital Platform and Mobile E-commerce

- **M-commerce**
  - **Although m-commerce represents small fraction of total e-commerce transactions, revenue has been steadily growing**
    - Location-based services
    - Banking and financial services
    - Wireless advertising and retailing
    - Games and entertainment

E-commerce: Digital Markets, Digital Goods

The Mobile Digital Platform and Mobile E-commerce

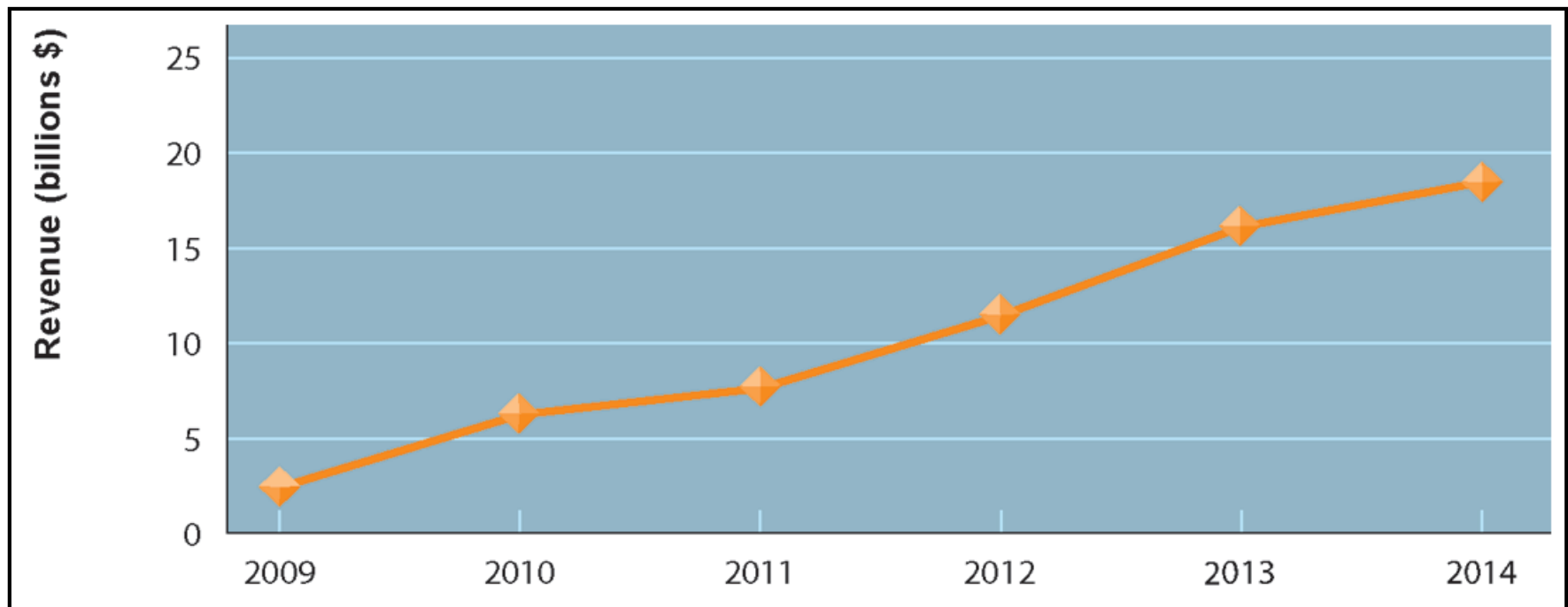### CONSOLIDATED MOBILE COMMERCE REVENUES

FIGURE 10-9   Mobile e-commerce is the fastest growing type of B2C e-commerce although it represents only a small

part of all e-commerce in 2010.

E-commerce: Digital Markets, Digital Goods

Building an E-commerce Web Site

- ■ **Assembling a team with the skills required to make decisions about:**
  - ● **Technology**
  - ● **Site design**
  - ● **Social and information policies**
  - ● **Hardware, software, and telecommunications infrastructure**

- ■ **Customer's demands should drive the site's technology and design**

E-commerce: Digital Markets, Digital Goods

Building an E-commerce Web Site

- **Business decisions drive the technology – not the reverse**

  - **Business objectives**
    - ▸ Capabilities the site should have
    - ▸ E.g. execute a transaction payment

  - **System functionality**
    - ▸ Technological capability to achieve this objective
    - ▸ E.g. a shopping cart or other payment system

  - **Information requirements**
    - ▸ E.g. secure credit card clearing, multiple payment options

Building an E-commerce Web Site

- **Alternatives in building the Web site**
  - **Completely in-house**
  - **Mixed responsibility**
  - **Completely outsourced**
    - Co-location

- **Web site budgets**
  - **Several thousand to millions / year**
  - **50% of a budget is system maintenance and content creation**

E-commerce: Digital Markets, Digital Goods

The Mobile Digital Platform and Mobile E-commerce
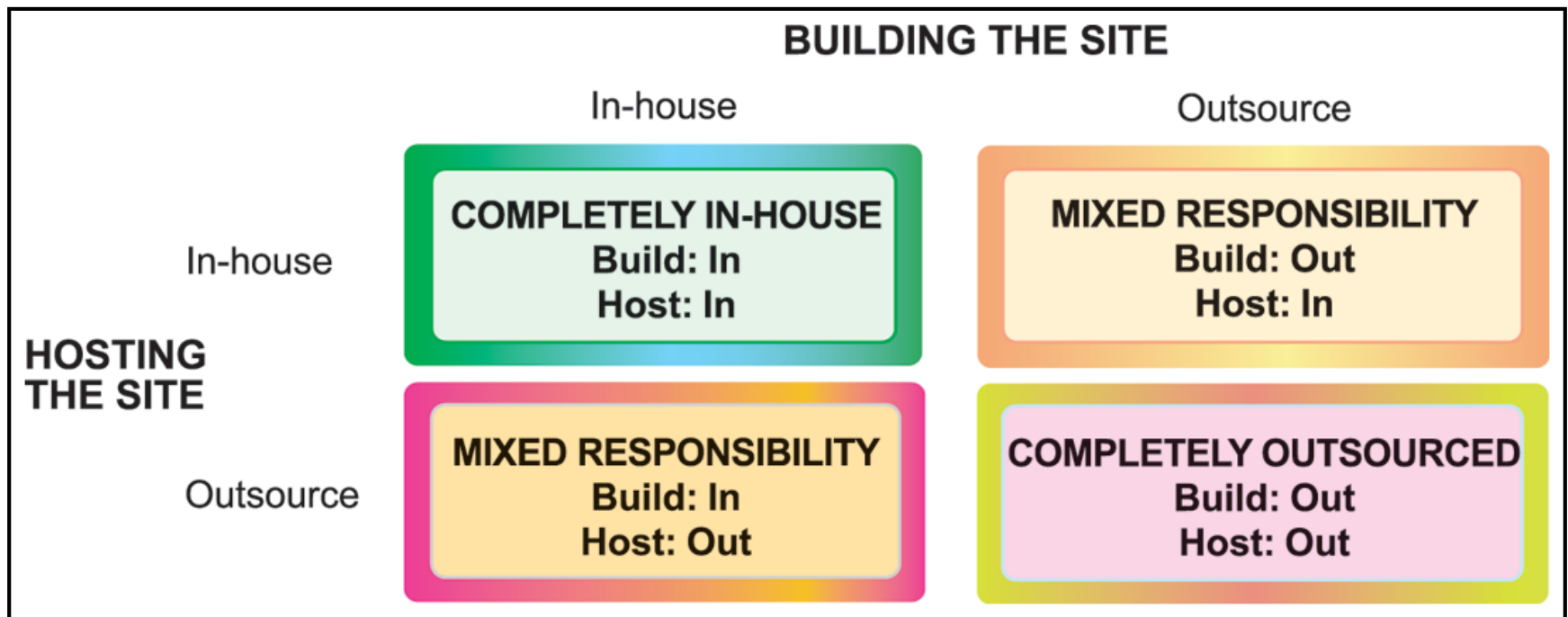
CHOICES IN BUILDING AND HOSTING WEB SITES

BUILDING THE SITE

	In-house	Outsource
HOSTING THE SITE — In-house	**COMPLETELY IN-HOUSE** Build: In Host: In	**MIXED RESPONSIBILITY** Build: Out Host: In
HOSTING THE SITE — Outsource	**MIXED RESPONSIBILITY** Build: In Host: Out	**COMPLETELY OUTSOURCED** Build: Out Host: Out

FIGURE 10-10   You have a number of alternatives to consider when building and hosting an e-commerce site.

The Mobile Digital Platform and Mobile E-commerce

COMPONENTS OF A WEB SITE BUDGET

FIGURE 10-11