

## Chapter 10

### **E-COMMERCE: DIGITAL MARKETS, DIGITAL GOODS**

# **Management Information Systems**

## **CHAPTER 10: E-COMMERCE: DIGITAL MARKETS, DIGITAL GOODS**

### **E-commerce and the Internet**

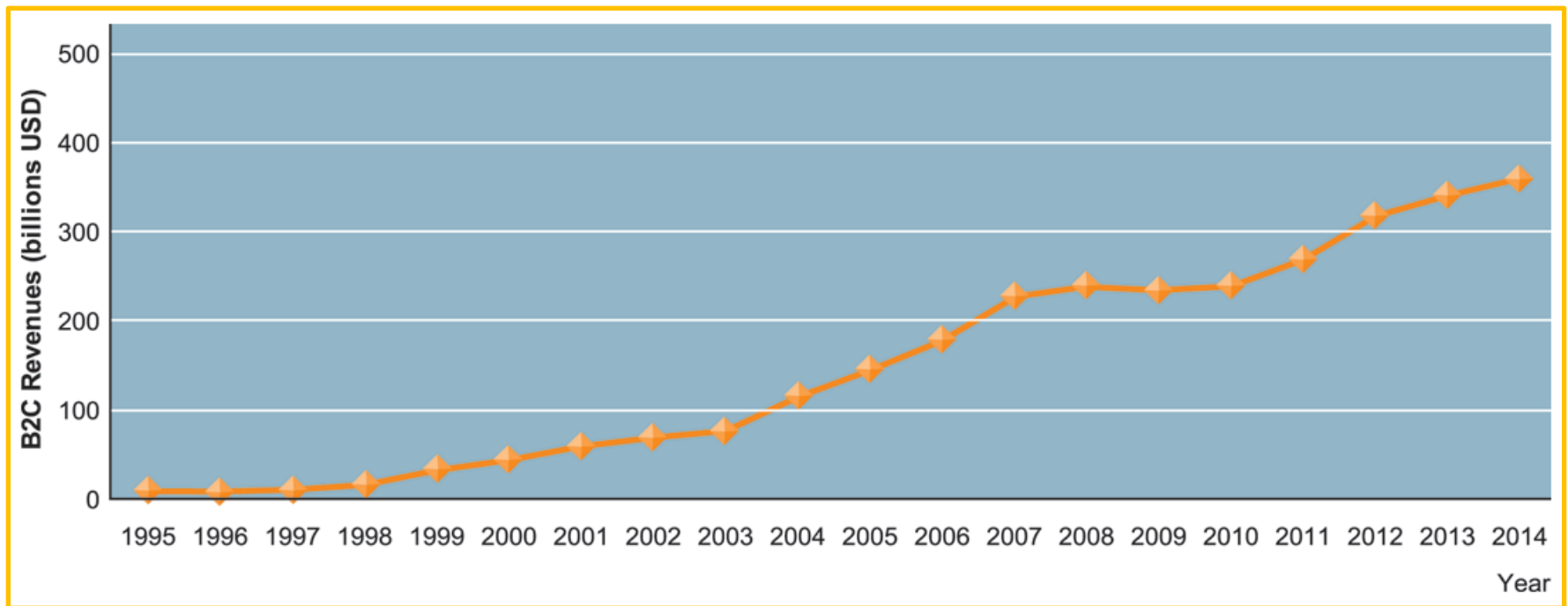
- **E-commerce today:**
  - **Use of the Internet and Web to transact business; digitally enabled transactions**
  - **Grew exponentially since 1995, still growing even in a recession**
  - **Companies that survived the dot-com bubble burst and now thrive**
  - **E-commerce revolution is still in its early stages**

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## CHAPTER 10: 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.

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### 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

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### 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

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### 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

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### 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

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### 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



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### E-commerce and the Internet

- **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

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### 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

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### 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

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### E-commerce and the Internet

- **Key concepts in e-commerce**

- **Digital markets reduce**

- Information asymmetry
- Search costs
- Transaction costs
- Menu costs

- **Digital markets enable**

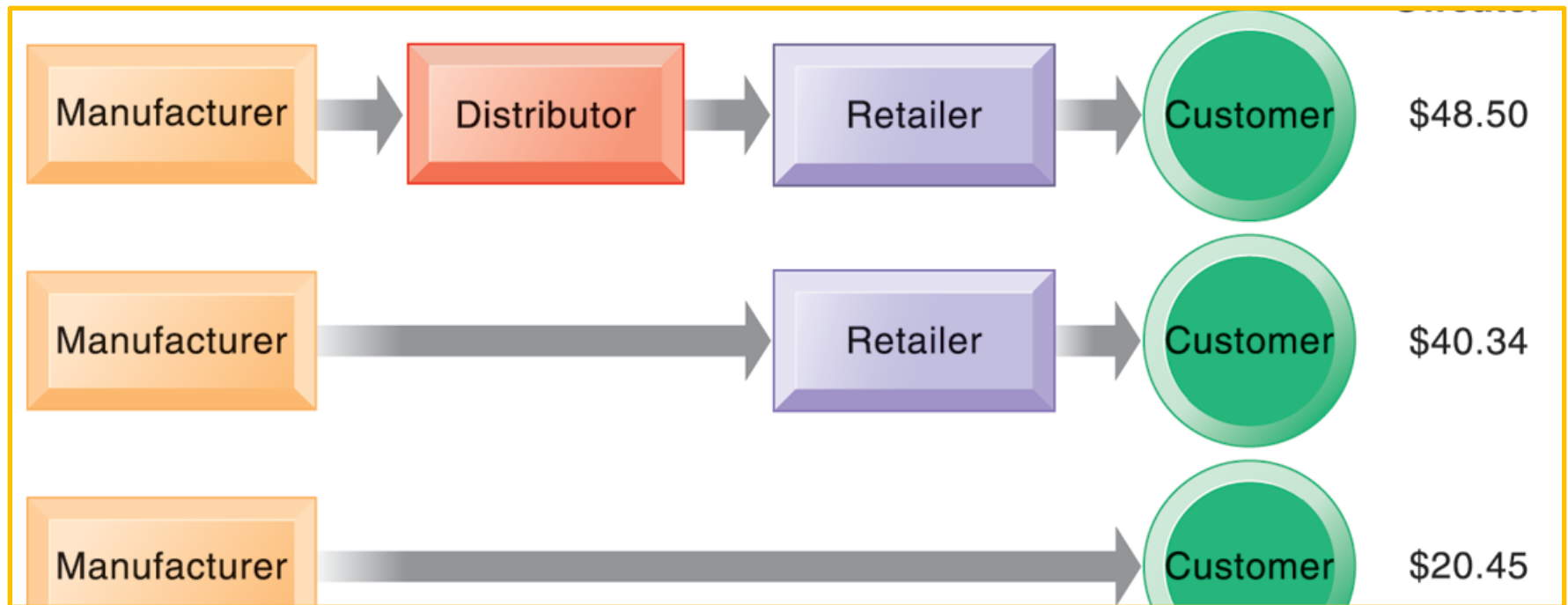
- Price discrimination
- Dynamic pricing
- Disintermediation

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### 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.

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### 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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## **CHAPTER 10: E-COMMERCE: DIGITAL MARKETS, DIGITAL GOODS**

### **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 and Technology**

- **E-commerce business models**
  - **Portal**
  - **E-tailer**
  - **Content Provider**
  - **Transaction Broker**
  - **Market Creator**
  - **Service Provider**
  - **Community Provider**



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### **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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### E-commerce: Business and Technology

- **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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### E-commerce: Business and Technology

- **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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### E-commerce: Business and Technology

#### 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



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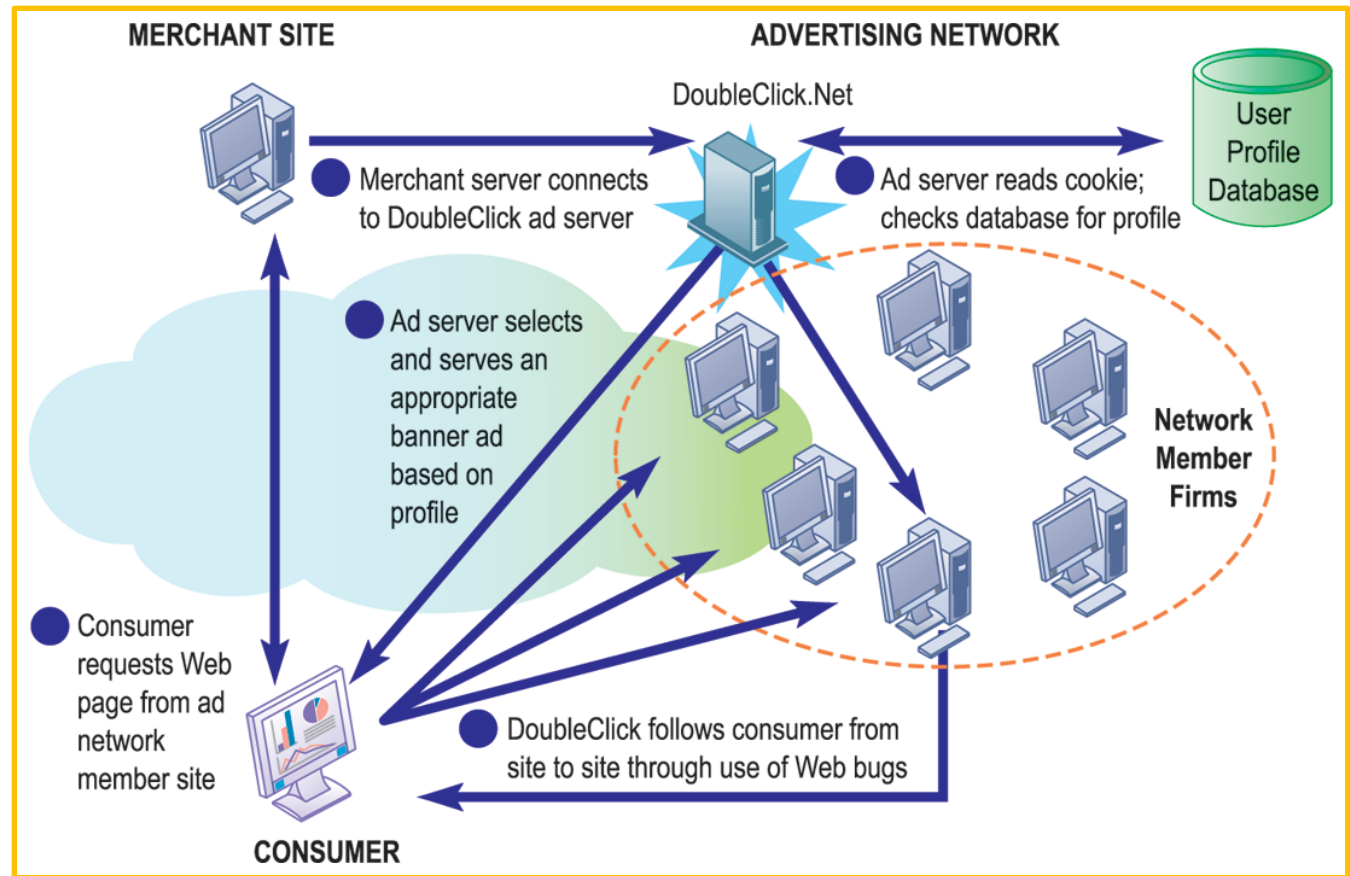
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### E-commerce: Business and Technology

#### 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



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### E-commerce: Business and Technology

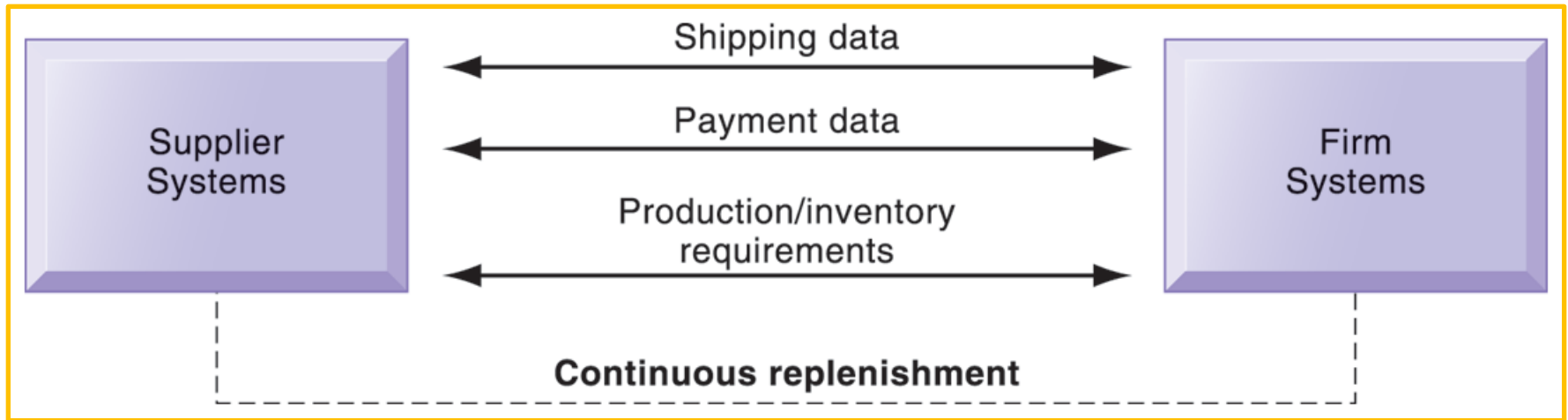
- **Business-to-business e-commerce**
  - **Electronic data interchange (EDI)**
    - Computer-to-computer exchange of standard transactions such as invoices, purchase orders
    - Major industries have EDI standards that define structure and information fields of electronic documents for that industry
    - 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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### E-commerce: Business and Technology

#### 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.

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### 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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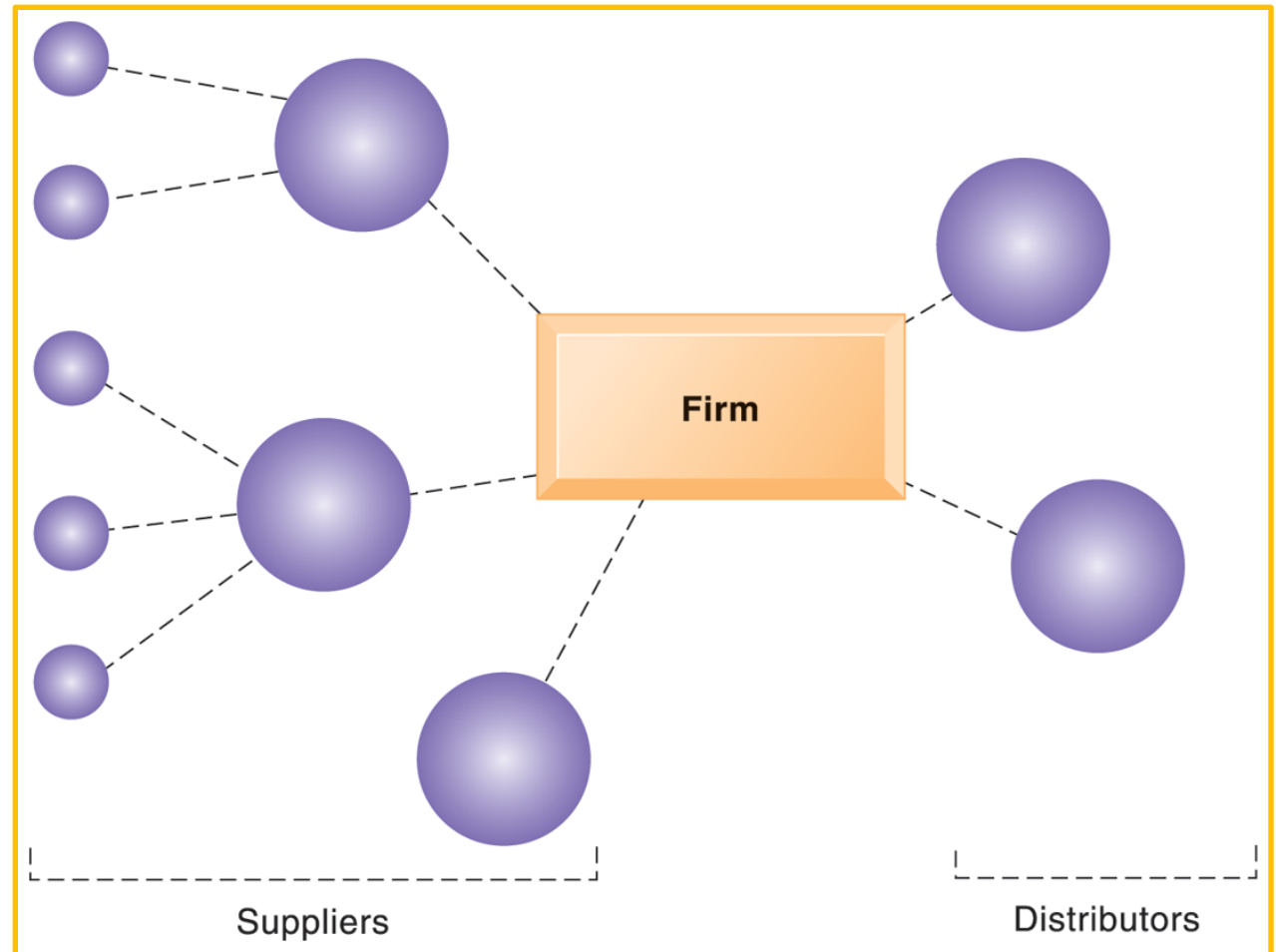
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### E-commerce: Business and Technology

#### 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



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### E-commerce: Business and Technology

- **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

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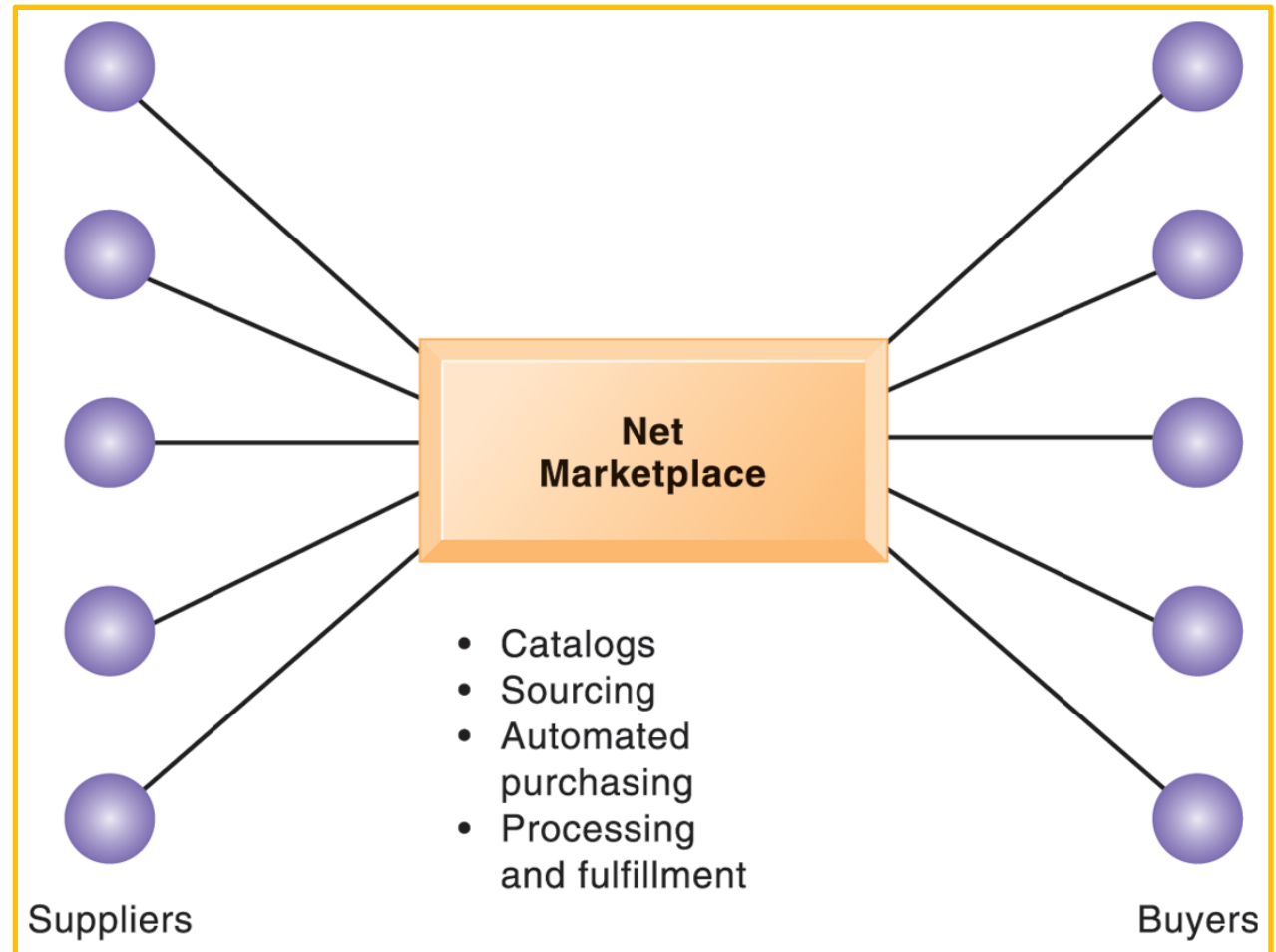
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### E-commerce: Business and Technology

#### A NET MARKETPLACE

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

FIGURE 10-8



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### 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
  - FoodTrader.com

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### The Mobile Digital Platform and Mobile E-commerce

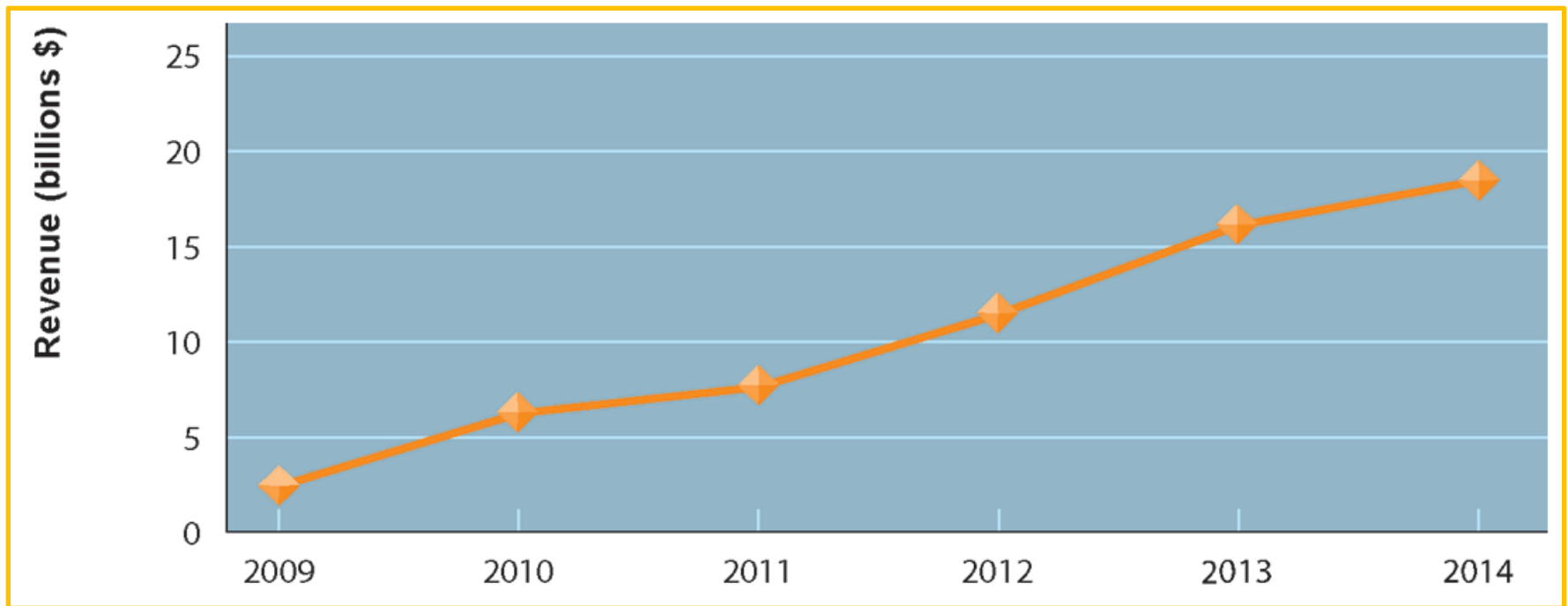
- **M-commerce**
  - **Although m-commerce represents small fraction of total e-commerce transactions, revenue has been steadily growing**
    - Location-based services
    - Banking and financial services
    - Wireless advertising and retailing
    - Games and entertainment

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### The Mobile Digital Platform and Mobile E-commerce

#### CONSOLIDATED MOBILE COMMERCE REVENUES

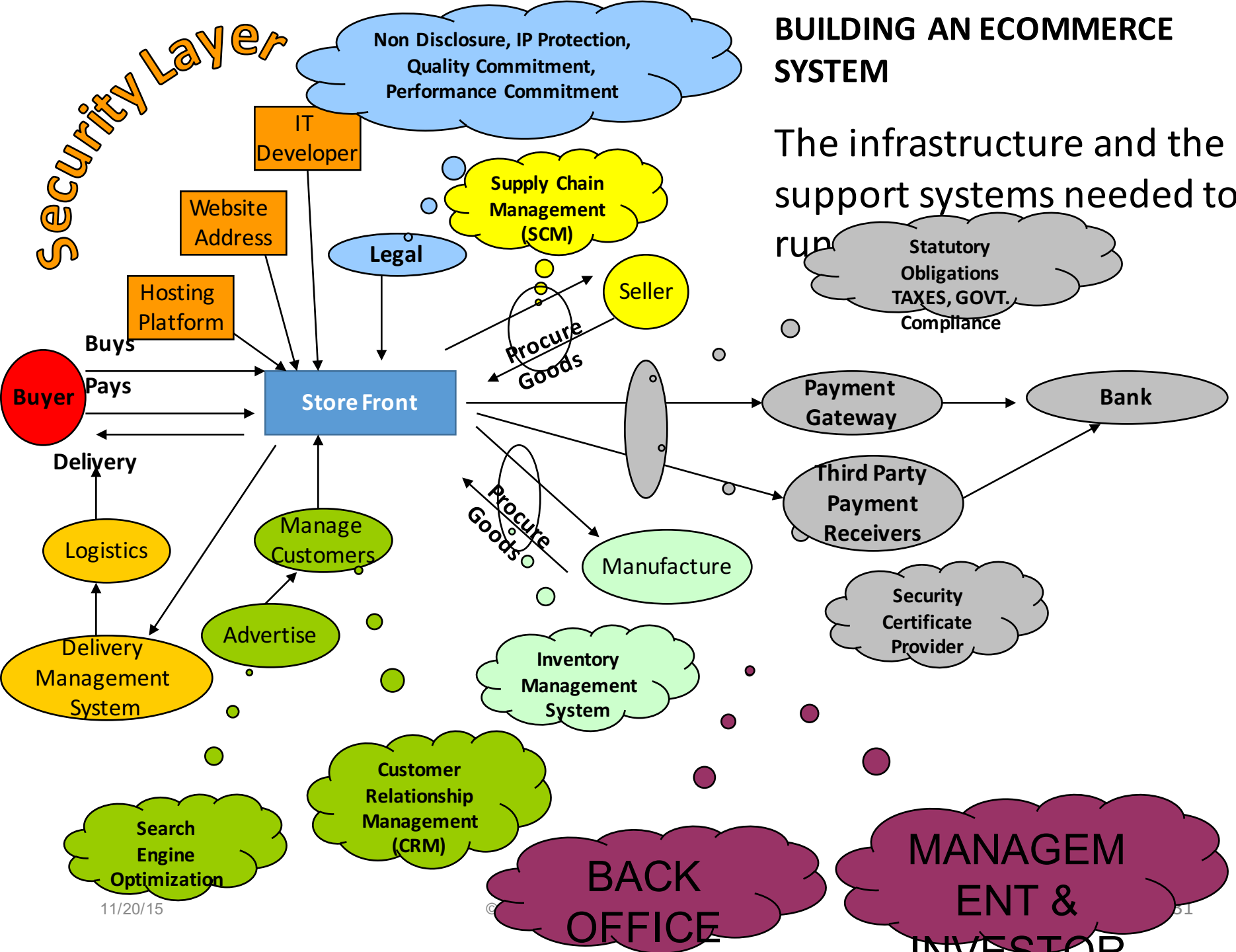


**FIGURE 10-9**

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.

# BUILDING AN ECOMMERCE SYSTEM

The infrastructure and the support systems needed to run



### **Building an E-commerce Web Site**

- **Assembling a team with the skills required to make decisions about:**
  - **Technology (Build v/s Buy)**
  - **Site design**
  - **Social and information policies**
  - **Hardware, software, and telecommunications infrastructure**
- **Customer's demands should drive the site's technology and design**



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### 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

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### **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**

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### The Mobile Digital Platform and Mobile E-commerce

#### CHOICES IN BUILDING AND HOSTING WEB SITES

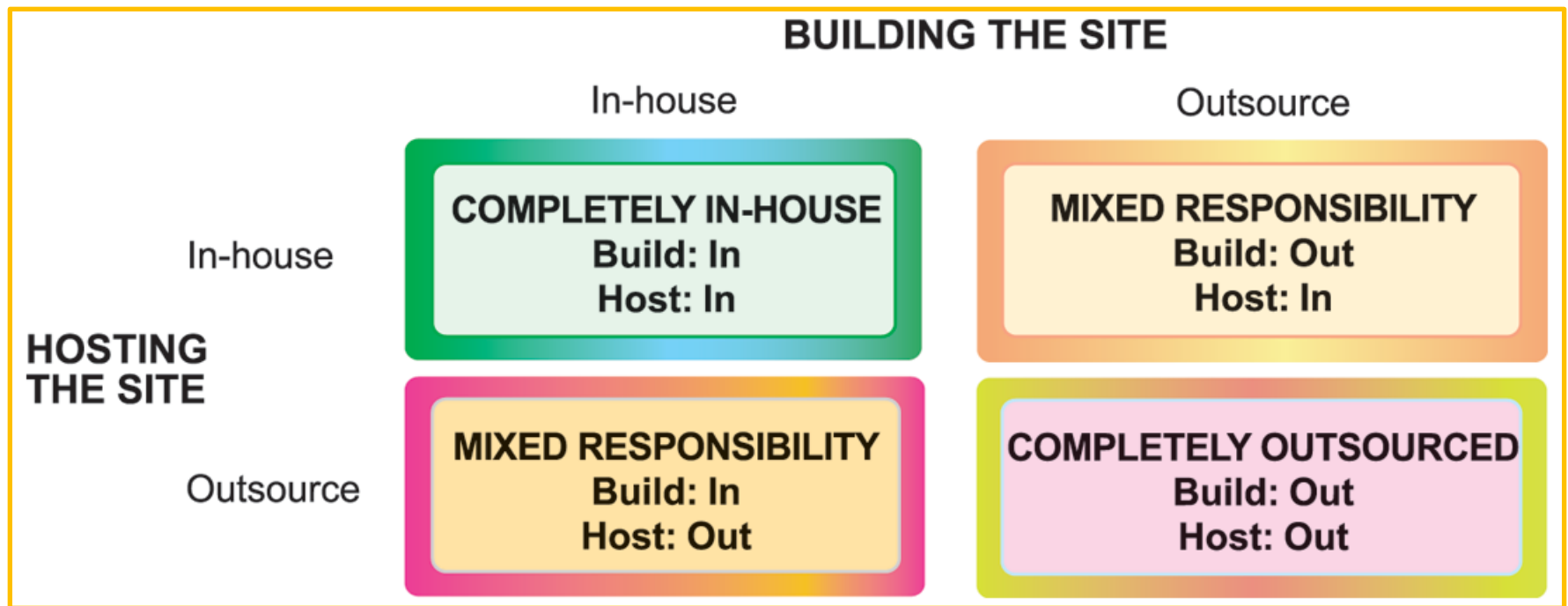


FIGURE 10-10

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

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### The Mobile Digital Platform and Mobile E-commerce

#### COMPONENTS OF A WEB SITE BUDGET

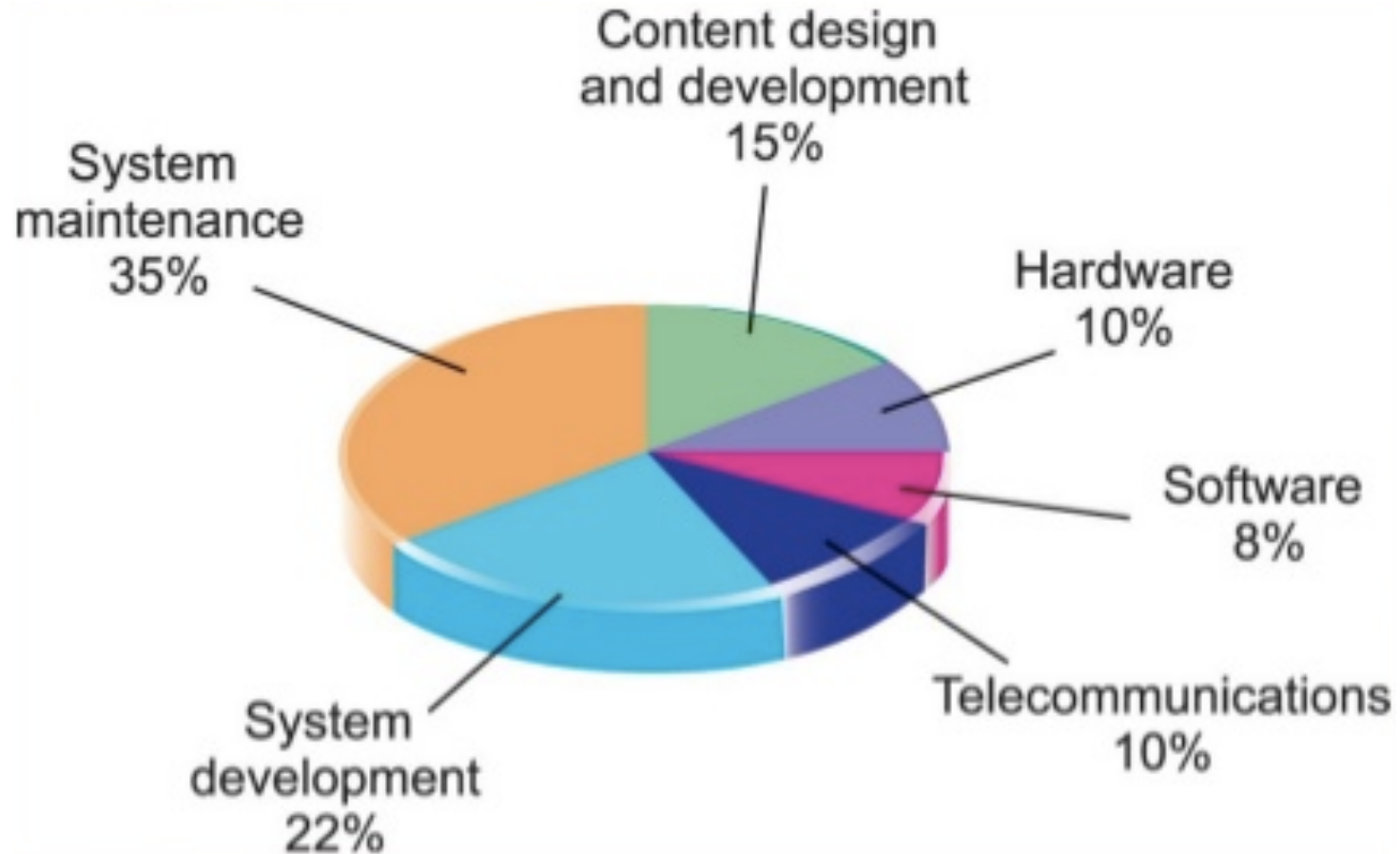


FIGURE 10-11

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