Chapter 9

E-Commerce: Digital Markets, Digital Goods

Video cases:
Case 1 M-Commerce: The Past, Present, and Future
Case 2 Ford AutoXchange B2B Marketplace

STUDENT 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 presence?**

Groupon's Business Model: Social and Local

- **Problem:** Competing with other business models utilizing social and local commerce in group couponing

- **Solution?** Scale: Get big quick to build a brand to prevent competitors from finding audience

Groupon's Business Model: Social and Local

- **Groupon offers subscribers daily deals from local merchants**

  – **The catch: A group of 25 has to purchase the coupon**

  – **Coupon is typically 50% off; Groupon receives 50% of remaining revenue**

- **Demonstrates use of social networking technologies in generating new business models**

- **Illustrates the difficulties many social networking sites have in showing a profit or monetizing**
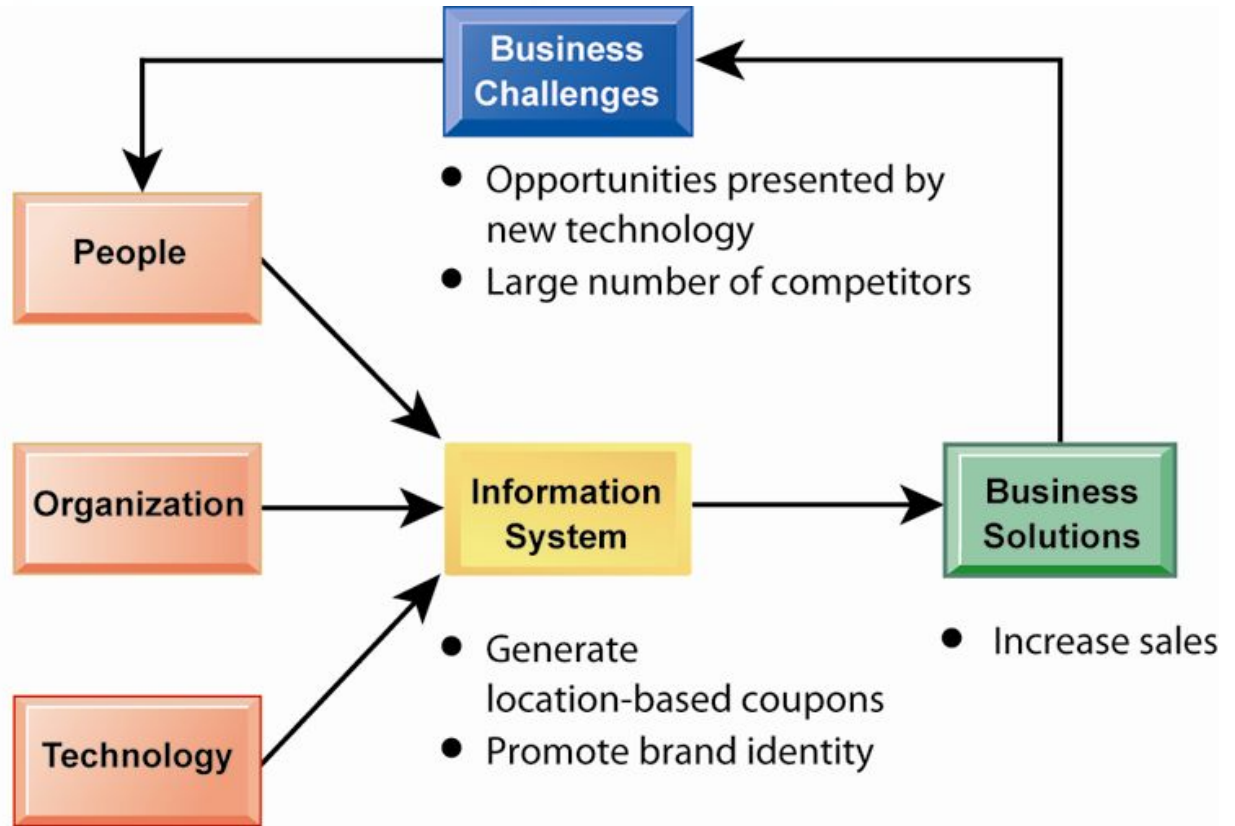
Groupon's Business Model: Social and Local

- Design new business model

- Use social networks to attract customers
- Enlist participating merchants

- Deploy e-mail campaign
- Deploy Groupon apps

People

Organization

Technology

Business Challenges

- Opportunities presented by new technology
- Large number of competitors

Information System

- Generate location-based coupons
- Promote brand identity

Business Solutions

- Increase sales

E-Commerce Today

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

- **Began in 1995 and grew exponentially; still stable even in a recession**

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

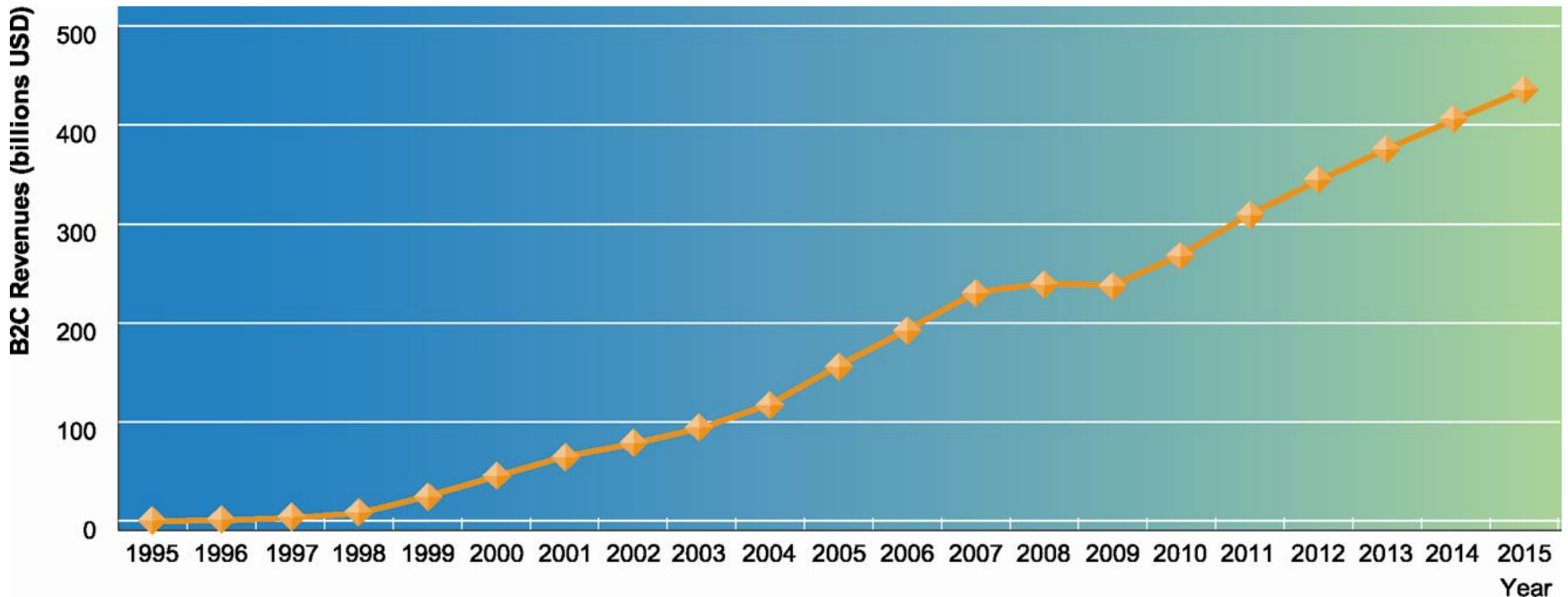- **E-commerce revolution is still in its early stages**

The Growth of E-Commerce

Retail e-commerce revenues grew 15–25 % per year until the recession of 2008–2009, when they slowed measurably. In 2011, e-commerce revenues are growing again at an estimated 14% annually.

Figure 9-1

Why E-Commerce Is Different

- **Ubiquity**

  - **Internet/Web technology available everywhere: work, home, and so on, anytime**

  - **Effect:**

    - **Marketplace removed from temporal, geographic locations to become "marketspace"**

    - **Enhanced customer convenience and reduced shopping costs**

Unique Features of E-Commerce Technology

- **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**

Unique Features of E-Commerce Technology

- **Universal standards**
  - **One set of technology standards: Internet standards**
  - **Effect:**
    - **Disparate computer systems easily communicate with one another**
    - **Lower market entry costs—costs merchants must pay to bring goods to market**
    - **Lower consumers' search costs—effort required to find suitable products**

Unique Features of E-Commerce Technology

- **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**

Unique Features of E-Commerce Technology

- **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**

Unique Features of E-Commerce Technology

- **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**

Unique Features of E-Commerce Technology

- **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**

Unique Features of E-Commerce Technology

- **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**
    - **Many-to-many model**

Key Concepts: Digital Markets and Digital Goods

- **Digital market effects:**
  - Decreased **information asymmetry**
  - Reduced **search costs** and **transaction costs**
  - **Delayed gratification:** effects dependent on product
  - Reduced **menu costs**
  - Increased **dynamic pricing**
  - Increased **price discrimination**
  - Increased **market segmentation**
  - **Switching costs:** effects dependent on product
  - Stronger **network effects**
  - More **disintermediation**

E-Commerce and the Internet

The Benefits of Disintermediation to the Consumer

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.
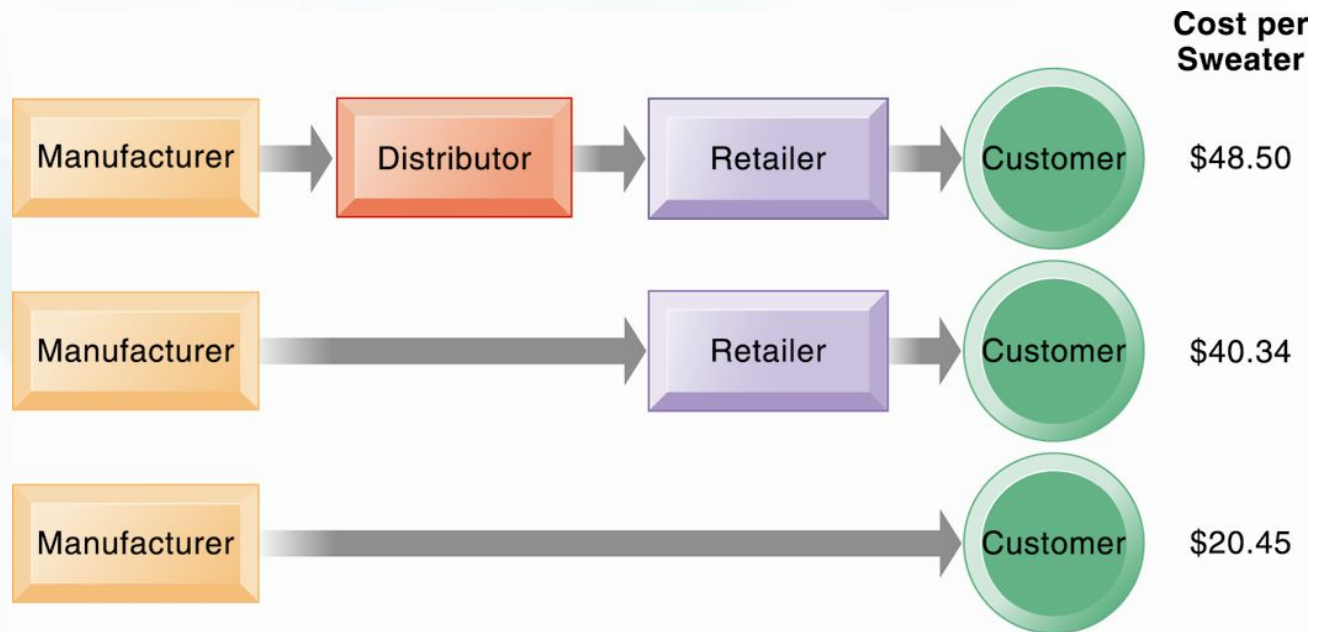

Figure 9-2

- **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 producing second 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.)**

Types of E-Commerce

- **Business-to-consumer (B2C)**
  - BarnesandNoble.com

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

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

E-Commerce Business Models

- **E-tailer**
- **Content provider**
- **Transaction broker**
- **Market creator**
- **Service provider**
- **Community provider**
- **Portal**

Interactive Session: Organizations
Walmart, Amazon, and eBay: Who Will Dominate Internet Retailing?

- **Read the Interactive Session and then discuss the following questions:**

  - **Analyze each of these companies using the value chain and competitive forces models.**

  - **Compare the three companies' e-commerce business models. Which is the strongest? Explain your answer.**

  - **Which company is likely to have the strongest retail e-commerce growth in the future? Why?**

E-Commerce Revenue Models

- **Advertising**
- **Sales**
- **Subscription**
- **Free/Freemium**
- **Transaction fee**
- **Affiliate**

E-Commerce: Business and Technology

Web 2.0, Social Networking and the Wisdom of Crowds

- **Most popular Web 2.0 service: social networking**
  - **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)**

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

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

E-Commerce: Business and Technology

Web Site Visitor Tracking

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.

Click 1

Click 2

Click 3

Click 4

Click 5

Click 6

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). Tracking beacons load cookies on the shopper's browser to follow her across the Web.

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. If the visitor moves to a different site, ads for pink blouses will appear from the same or different vendor.

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 9-3

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 9-4

How an Advertising Network Works

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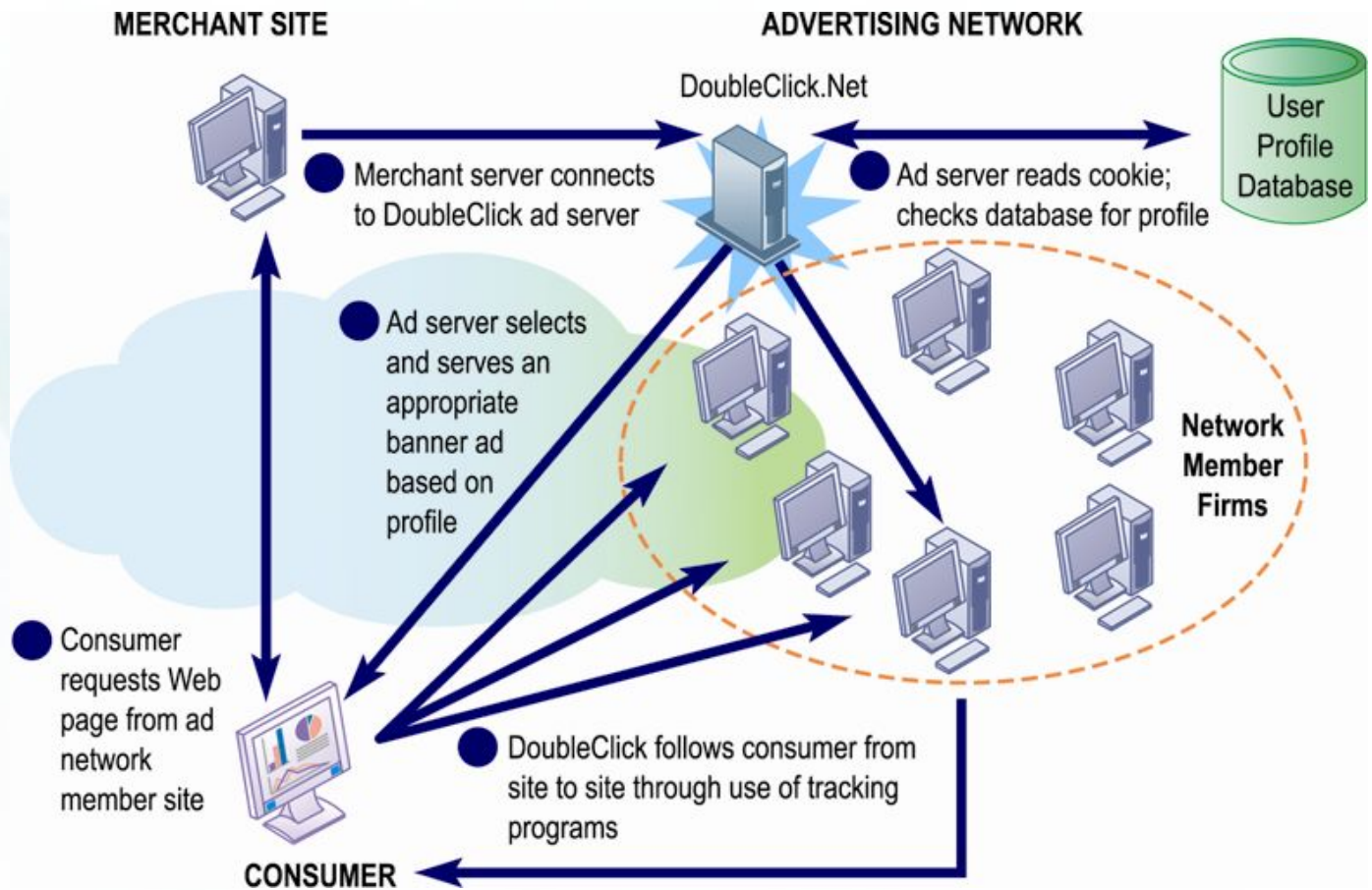

MERCHANT SITE

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 tracking programs

CONSUMER

Figure 9-5

Social E-Commerce and Social Network Marketing

- **Social e-commerce:**
  - **Based on digital social graph**
    - **Mapping of all significant online relationships**
- **Four features of social e-commerce driving its growth**
  1. **Social sign-on**
  2. **Collaborative shopping**
  3. **Network notification**
  4. **Social search (recommendations)**

Social E-Commerce and Social Network Marketing

- **Social media:** Fastest growing media for branding and marketing

- **Social Network Marketing:**
    - Seeks to leverage individuals influence over others in social graph
    - Target is a social network of people sharing interests and advice
    - Facebook's "Like" button
    - Social networks have huge audiences
    - **Facebook: 162 million U.S. monthly visitors**

Interactive Session: People
Social Commerce Creates New Customer Relationships

- **Read the Interactive Session and then discuss the following questions:**

  - **Assess the people, organization, and technology issues for using social media to engage with customers.**

  - **What are the advantages and disadvantages of using social media for advertising, brand building, market research, and customer service?**

  - **Should all companies use Facebook and Twitter for customer service and advertising? Why or why not? What kinds of companies are best suited to use these platforms?**

B2B E-Commerce: New Efficiencies and Relationships

- **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 the Internet to locate most low-cost supplier, search online catalogs of supplier products, negotiate with suppliers, place orders, etc.

E-Commerce: Business and Technology

Electronic Data Interchange
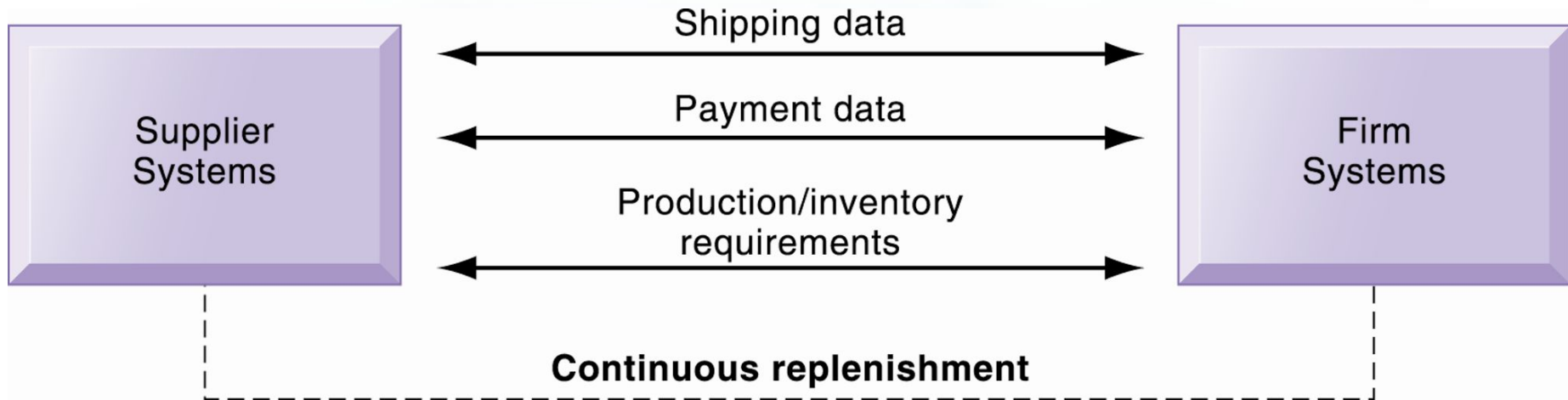
Companies use EDI to automate transactions for B2B e-commerce and continuous inventory replenishment. Suppliers can automatically send data about shipments to purchasing firms. The purchasing firms can use EDI to provide production and inventory requirements and payment data to suppliers.

Figure 9-6

B2B E-Commerce: New Efficiencies and Relationships

- **Private industrial network (private exchange)**

    - **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)**

E-Commerce: Business and Technology

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.
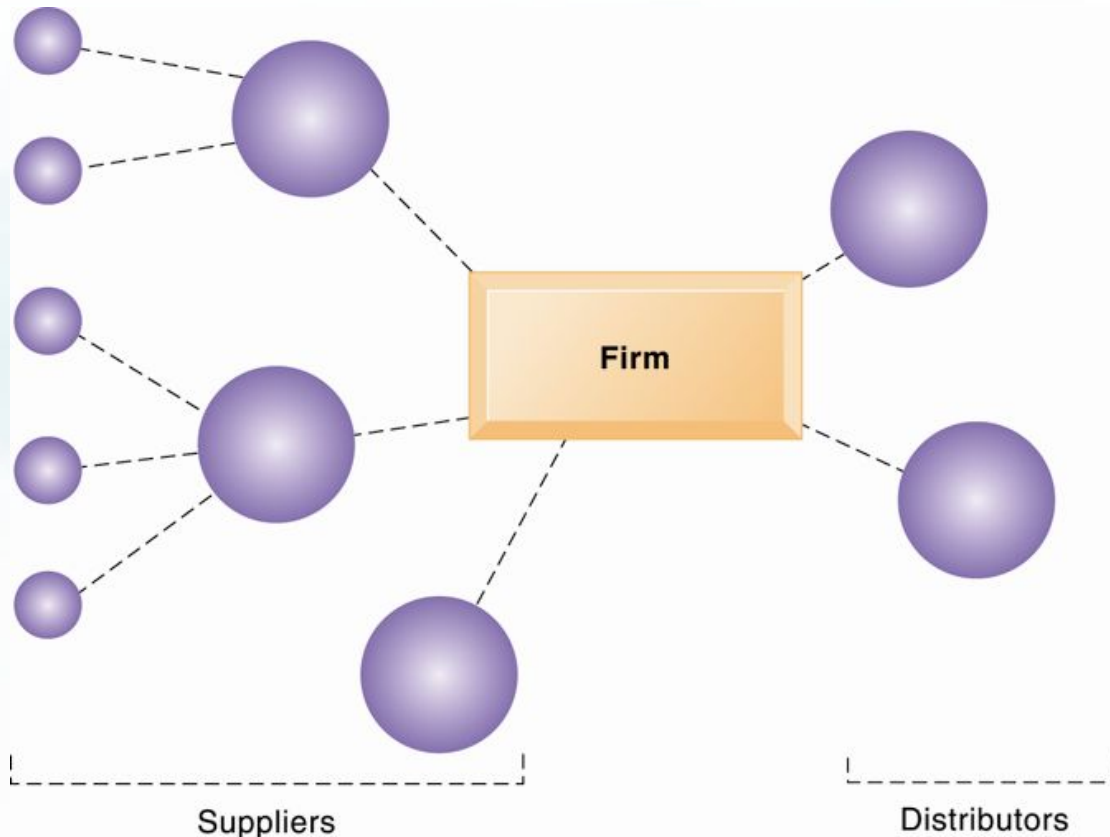
A Private Industrial Network

Suppliers   Distributors

Figure 9-7

E-Commerce: Business and Technology

- **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.

Net Marketplace

- Catalogs
- Sourcing
- Automated purchasing
- Processing and fulfillment

Suppliers

Buyers

Figure 9-8

E-Commerce: Business and Technology
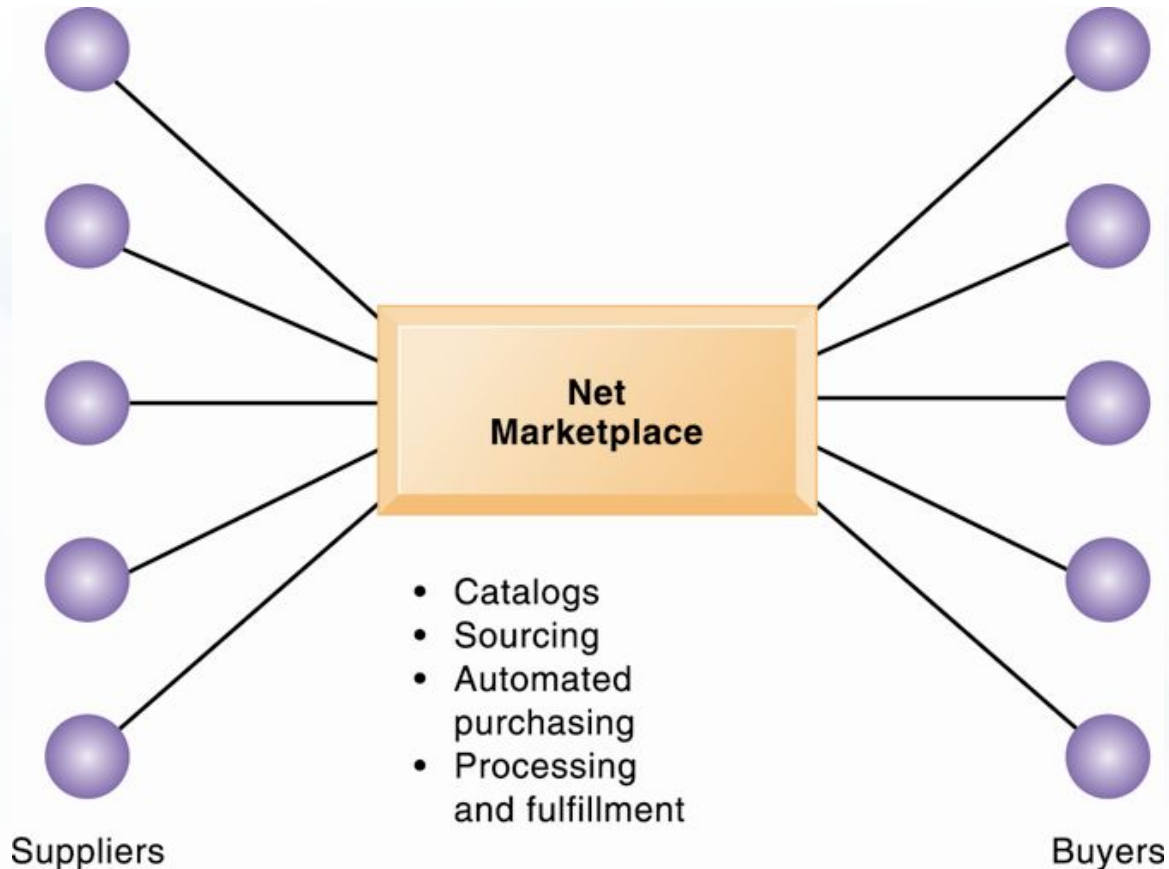
- **Exchanges**

  - **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

M-Commerce Services and Applications

- **Although m-commerce represents a small fraction of total e-commerce transactions, revenue has been steadily growing**

  - **Location-based services**

  - **Banking and financial services**

  - **Mobile advertising and retailing**

  - **Games and entertainment**

Consolidated Mobile Commerce Revenues

Mobile e-commerce is the fastest growing type of B2C e-commerce although it represents only a small part of all e-commerce in 2011.

Figure 9-9
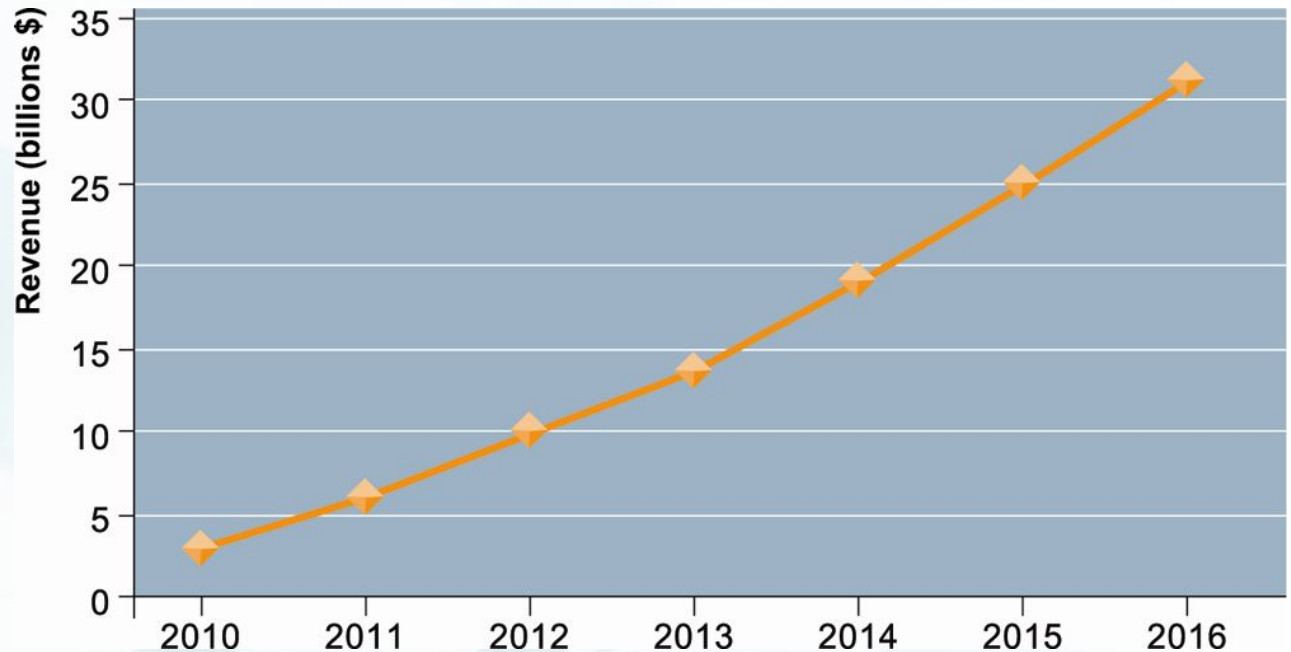
Pieces of the Site-Building Puzzle

- **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**

Building an E-Commerce Web Site

Business Objectives, System Functionality, and Information Requirements

- **Business decisions drive the technology—not the reverse**
  - **Business objective:**
    - Capabilities the site should have
    - E.g. execute a transaction payment
  - **System functionality:**
    - Technology needed to achieve objective
    - E.g. a shopping cart or other payment system
  - **Information requirement:**
    - Specific data and processes needed
    - E.g. secure credit card clearing, multiple payment options

Building the Web Site: In-House versus Outsourcing

- **Alternatives in building the Web site:**
    - **Completely in-house**
    - **Mixed responsibility**
    - **Completely outsourced**
        - **Co-location**
- **Web site budgets**
    - **Several thousand to millions per year**
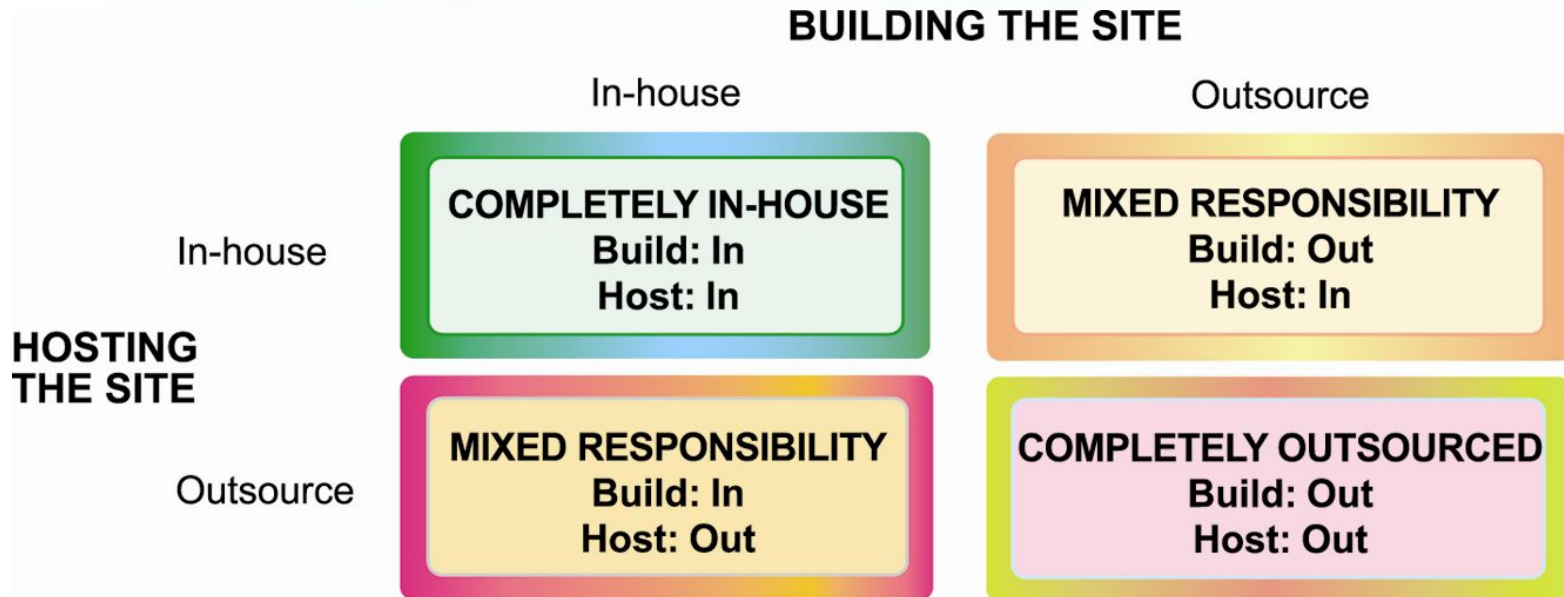   - **50% of budget is system maintenance and content creation**

Building an E-Commerce Web Site

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

Outsource

MIXED RESPONSIBILITY
Build: In
Host: Out

COMPLETELY OUTSOURCED
Build: Out
Host: Out

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

Figure 9-10

Building an E-Commerce Web Site

Components of a Web Site Budget

Figure 9-11