

# **E-Commerce: Digital Markets, Digital Goods**

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

### **E-Commerce Today**

- **E-commerce: 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 and the Internet

### The Growth of E-Commerce

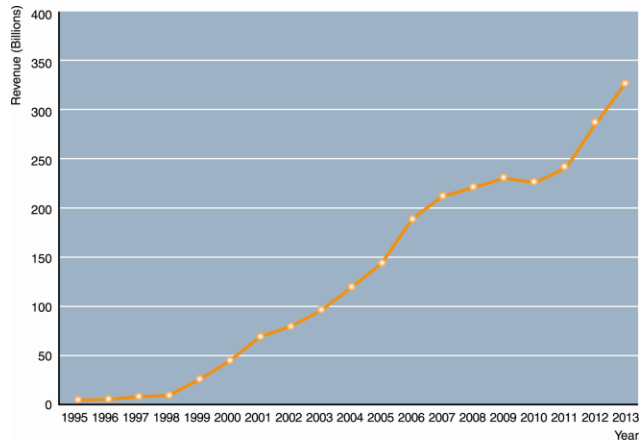


Figure 9-1

## E-commerce and the Internet

### 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

## E-commerce and the Internet

### 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.
    - Marketplace includes, potentially, billions of consumers and millions of businesses worldwide.

## E-commerce and the Internet

### 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.

## E-commerce and the Internet

### 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.

## E-commerce and the Internet

### 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.

## E-commerce and the Internet

### 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

## E-commerce and the Internet

### 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.

## E-commerce and the Internet

### 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.

## E-commerce and the Internet

### Key Concepts in E-commerce: Digital Markets and Digital Goods In a Global Marketplace

- **Digital markets reduce**
  - **Information asymmetry**
  - **Search costs**
  - **Transaction costs**
  - **Menu costs**
- **Digital markets enable**
  - **Price discrimination**
  - **Dynamic pricing**
  - **Disintermediation**

## E-commerce and the Internet

### Interactive Session: Technology Turner Sports Marries TV and the Internet, then Goes Social

- Read the Interactive Session and then discuss the following questions:
  - How does the Web enhance the TV businesses for the companies discussed in this case? How does it add value?
  - Why is NASCAR TrackPass a good example of Turner Sports New Media's value to sports league sites?
  - Do you think Turner Sports will be successful migrating its content to social media sites where its viewers are moving?

## 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.

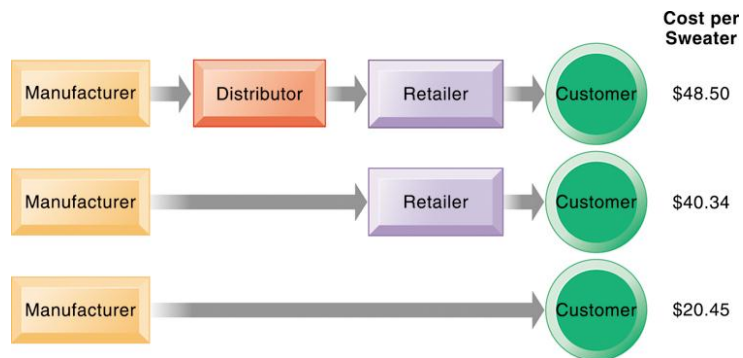


Figure 9-2

## E-commerce and the Internet

### Key Concepts in E-commerce: Digital Markets and Digital Goods In a Global Marketplace

- 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 2<sup>nd</sup> 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.)

## E-commerce: Business and Technology

### Types of E-commerce

- Business-to-consumer (B2C)
- Business-to-business (B2B) [Grainger.com](http://Grainger.com)
- Consumer-to-consumer (C2C)
- Mobile commerce (m-commerce)
  - Use of wireless mobile devices for purchasing goods and services.
  - M-commerce is especially well-suited for location-based applications and services



## E-commerce: Business and Technology

### E-commerce Business Models

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

## E-commerce: Business and Technology

### E-commerce Revenue Models

- Advertising
- Sales
- Subscription
- Free/Fremium
- Transaction fee
- Affiliate

## E-commerce: Business and Technology

### Interactive Session: Organizations Twitter Searches For a Business Model

- Read the Focus on Organizations and then 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

### Web 2.0, Social Networking, and the Wisdom of Crowds

- 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
  - 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: 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.

## E-commerce: Business and Technology

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.

### Web Site Visitor Tracking (Clickstream)

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

Click 4

Click 5

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 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 9-3**

Extensive metrics exist for various types of user behavior, from the time spent on a Web page to the number of products ordered and placed in a shopping cart but not purchased.

**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.

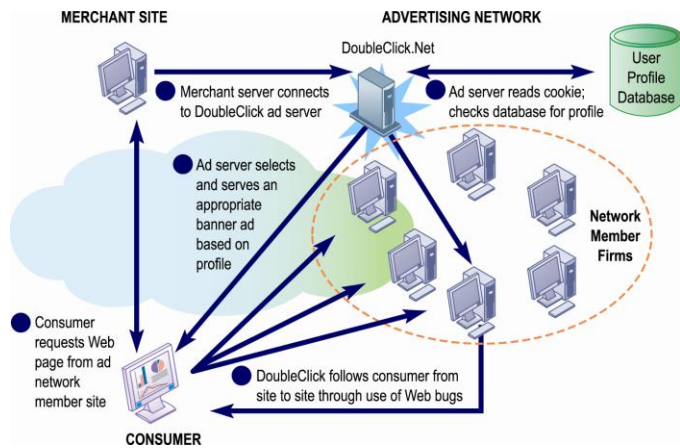


**Figure 9-4**

**E-commerce: Business and Technology**

**How an Advertising Network Works**

Advertising networks have become controversial among privacy advocates because of their ability to track individual consumers across the Internet. We discuss privacy issues further in Chapter 12.



**Figure 9-5**

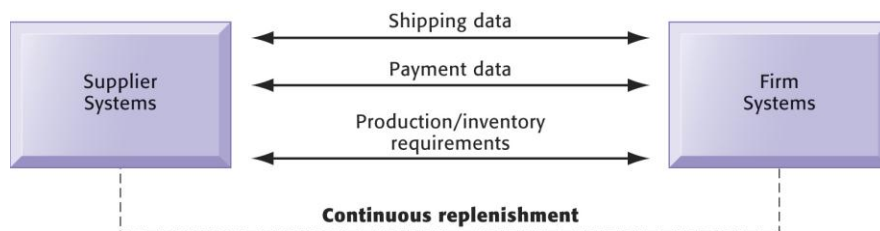
## E-commerce: Business and Technology

### Business-to-Business Electronic 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 Internet to locate most low-cost supplier, search online catalogs of supplier products, negotiate with suppliers, place orders, and so on

## E-commerce: Business and Technology

### Electronic Data Interchange (EDI)



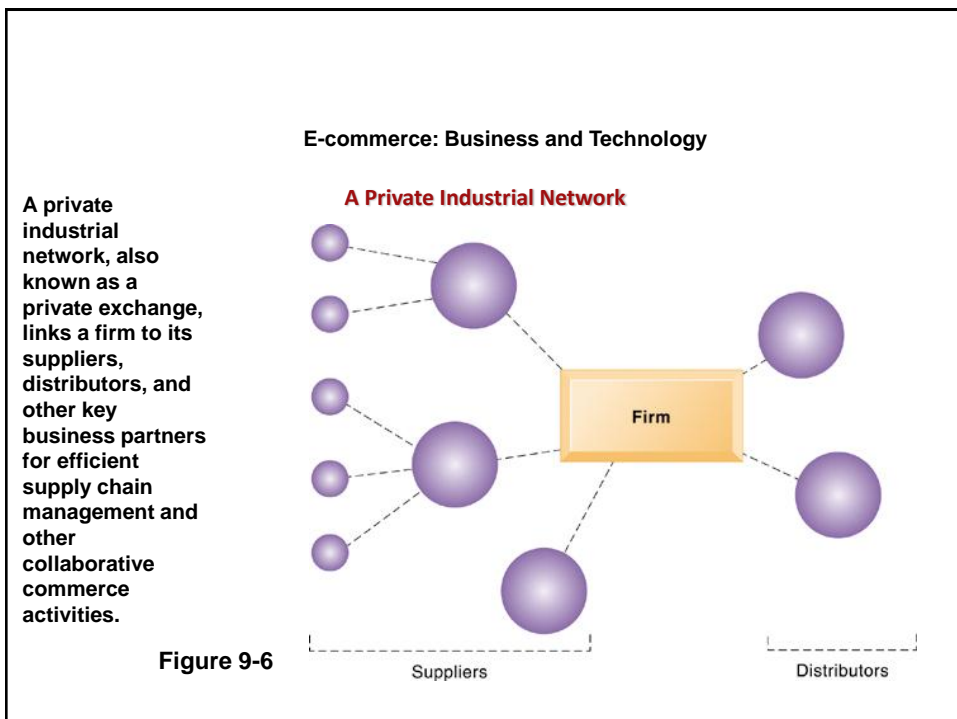
Companies use EDI to automate transactions for B2B e-commerce and continuous inventory replenishment. Suppliers can automatically send data about shipments to purchasing firms. The purchasing firms can use EDI to provide production and inventory requirements and payment data to suppliers.

Figure 9-5

## E-commerce: Business and Technology

### Business-to-Business Electronic Commerce: New Efficiencies and Relationships

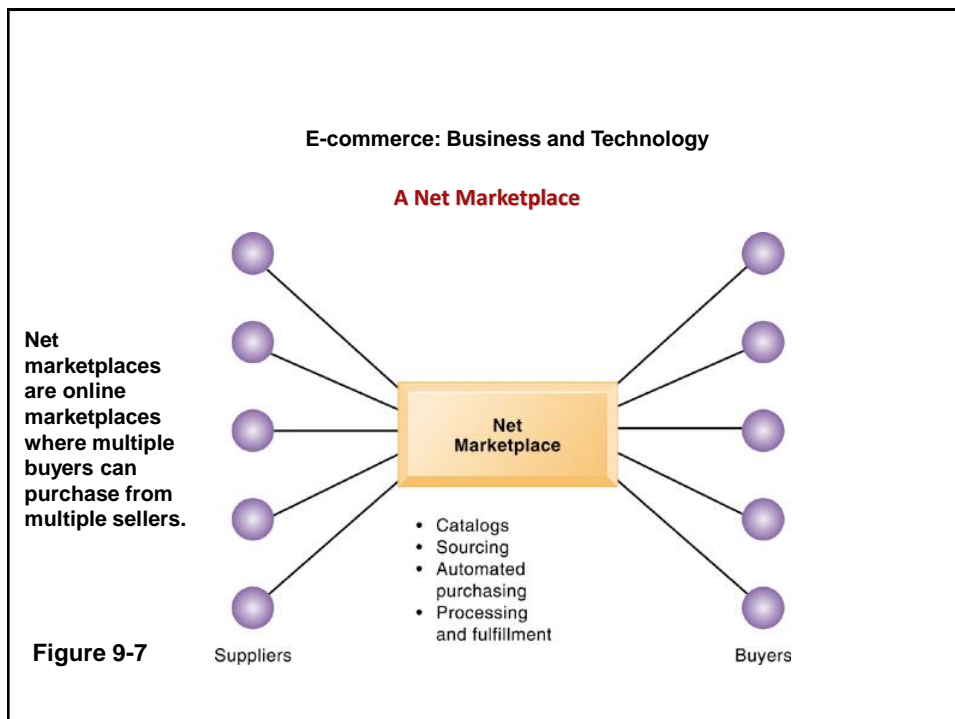
- Private industrial networks (private exchanges)
  - Large firm using extranet to link to its suppliers, distributors, and other key business partners
  - Owned by buyer
  - Permits sharing of:
    - Product design and development
    - Marketing
    - Production scheduling and inventory management
    - Unstructured communication (graphics and e-mail)



## E-commerce: Business and Technology

### Business-to-Business Electronic Commerce: New Efficiencies and Relationships

- 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

### Business-to-Business Electronic Commerce: New Efficiencies and Relationships

- 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.

## The Mobile Digital Platform and Mobile E-commerce

### M-Commerce Services and Applications

- 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
  - Games and entertainment



## The Mobile Digital Platform and Mobile E-commerce

### Consolidated Mobile Commerce Revenues

M-commerce sales represent a small fraction of total e-commerce sales, but that percentage is steadily growing. (Totals for 2007–2008 are estimated.)

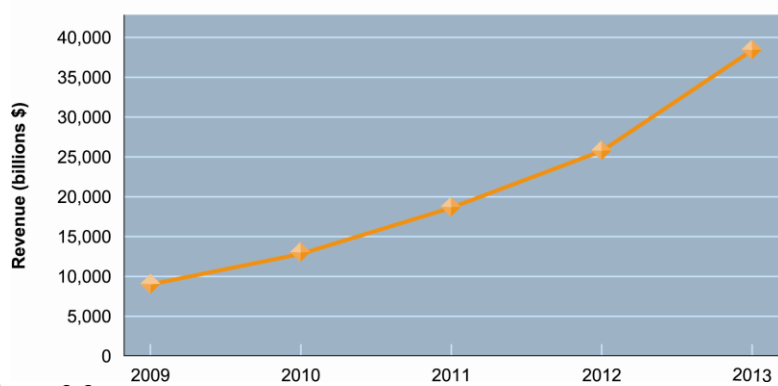


Figure 9-9

## Building an E-commerce Web Site

### 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.
- Example:
  - Business objective: execute a transaction payment
  - System functionality to achieve this objective: a shopping cart or other payment system
  - Information requirements: secure credit card clearing, multiple payment options

## Building an E-commerce Web Site

### Building the Web Site: In-house Versus Outsourcing

- Choices:
  - Completely in-house
    - Building and hosting within the company
  - Mixed responsibility
    - Building within the company, hosting outside
    - Hosting within the company, building outside
  - Completely outsourced
    - Outsourcing both building and hosting of the site
      - Co-location