E-Commerce: Digital Markets, Digital Goods


Learning Objectives

- Identify the unique features of e-commerce, digital markets, and digital goods.
- Describe how Internet technology has changed business models.
- Identify the various types of e-commerce and explain how e-commerce has changed consumer retailing and business-to-business transactions.
- Evaluate the role of m-commerce in business, and describe the most important m-commerce applications.
- Identify the principal payment systems for electronic commerce.

E-Commerce (1/2)

- E-commerce
  - Use of the Internet and Web to transact business
  - Digitally enabled transactions
- History of e-commerce
  - Began in 1995 and grew exponentially; still growing at an annual rate of 16 percent
  - Rapid growth led to market bubble
  - While many companies failed, many survived with soaring revenues
  - E-commerce today the fastest growing form of retail trade in U.S., Europe, Asia

E-Commerce (2/2)

The Growth of E-Commerce

Figure 10-1

Retail e-commerce revenues have grown exponentially since 1995 and have only recently “slowed” to a very rapid 16 percent annual increase, which is projected to remain the same until 2010.
Features of E-Commerce (1/3)

• Eight unique features of e-commerce technology

1. Ubiquity
   • Internet/Web technology available everywhere: work, home, etc., and anytime

2. Global reach
   • The technology reaches across national boundaries, around Earth

3. Universal standards
   • One set of technology standards: Internet standards

Features of E-Commerce (2/3)

• Eight unique features (cont.)

4. Richness
   • Supports video, audio, and text messages

5. Interactivity
   • The technology works through interaction with the user

6. Information density
   • Vast increases in information density—the total amount and quality of information available to all market participants

Features of E-Commerce (3/3)

• Eight unique features (cont.)

7. Personalization/Customization:
   • Technology permits modification of messages, goods

8. Social technology
   • The technology promotes user content generation and social networking

Key Concepts in E-Commerce (1/3)

• Key concepts in e-commerce
  • Digital markets reduce
    • Information asymmetry
    • Search costs
    • Transaction costs
    • Menu costs

• Digital markets enable
  • Price discrimination
  • Dynamic pricing
  • Disintermediation
The typical distribution channel has several intermediary layers, each of which add to the final cost of a product, such as a sweater. Removing layers lowers the final cost to the consumer.

### The Benefits of Disintermediation to the Consumer

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<th>Manufacturer</th>
<th>Distributor</th>
<th>Retailer</th>
<th>Customer</th>
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- Cost per Sweater: $48.50
- Cost per Sweater: $40.34
- Cost per Sweater: $20.45

Key Concepts in E-Commerce (2/3)

- **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 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.)

### Internet Business Models (1/3)

- **Internet business models**
  - Pure-play models
  - Clicks-and-mortar models

- **Social Network**
  - Online meeting place
  - Social shopping sites
  - Can provide ways for corporate clients to target customers through banner ads and pop-up ads

- **Online marketplace**:
  - Provides a digital environment where buyers and sellers can meet, search for products, display products, and establish prices for those products

Key Concepts in E-Commerce (3/3)

- **Internet business models**

- **Content provider**
  - Providing digital content, such as digital news, music, photos, or video, over the Web

- **Online syndicators**: Aggregate content from multiple sources, package for distribution, and resell to third-party Web sites

- **Service provider**
  - Provides Web 2.0 applications such as photo sharing and interactive maps, and services such as data storage

- **Portal**
  - “Supersite” that provides comprehensive entry point for huge array of resources and services on the Internet
Internet Business Models (3/3)

- **Virtual storefront:**
  - Sells physical products directly to consumers or to individual businesses
- **Information broker:**
  - Provides product, pricing, and availability information to individuals and businesses
- **Transaction broker:**
  - Saves users money and time by processing online sales transactions and generating a fee for each transaction

Types of Electronic Commerce

**Types of Electronic Commerce**

- Business-to-consumer (B2C)
- Business-to-business (B2B)
- Consumer-to-consumer (C2C)
- Mobile commerce (m-commerce)

Development of E-Commerce (1/4)

- **Interactive marketing and personalization**
  - Web sites are bountiful source of details about customer behavior, preferences, buying patterns used to tailor promotions, products, services, and pricing
  - **Clickstream tracking tools:** Collect data on customer activities at Web sites
    - Used to create personalized Web pages
  - **Collaborative filtering:** Compares customer data to other customers to make product recommendations

Development of E-Commerce (2/4)

**Web Site Visitor Tracking**

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).

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.

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.

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*
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.

**Development of E-Commerce (3/4)**

**Web Site Personalization**

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

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

Sarah, here are the items you want to bid on:
- Iron Scroll Lamp
- Sparkle Beach Barbie
- Beatles Silk Tie

**Development of E-Commerce (4/4)**

- **Blogs**
  - Personal web pages that contain series of chronological entries by author and links to related Web pages
  - Has increasing influence in politics, news
  - **Corporate blogs**: New channels for reaching customers, introducing new products and services
  - Blog analysis by marketers

- **Customer self-service**
  - Web sites and e-mail to answer customer questions or to provide customers with product information
  - Reduces need for human customer-support expert

**B2B E-Commerce (1/7)**

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

**B2B E-Commerce (2/7)**

**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.
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)

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 support long-term contract purchasing or short-term spot purchasing
- May serve vertical or horizontal marketplaces
B2B E-Commerce (7/7)

• 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 (1/3)

• 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

M-Commerce (2/3)

![Global M-commerce Revenue 2000-2012](image)

- M-commerce sales represent a small fraction of total e-commerce sales, but that percentage is steadily growing.

M-Commerce (3/3)

• Limitations in mobile’s access of Web information
  • Data limitations
  • Small display screens
• Wireless portals (mobile portals)
  • Feature content and services optimized for mobile devices to steer users to information they are most likely to need
Types of electronic payment systems

- Digital wallet
  - Stores credit card and owner identification information and enters the shopper's name, credit card number, and shipping information automatically when invoked to complete a purchase

- Accumulated balance digital payment systems
  - Used for micropayments ($10 or less)
  - Accumulating debit balance that is paid periodically on credit card or telephone bills

- Stored value payment systems
  - Enable online payments based on value stored in online digital account
  - May be merchant platforms or peer-to-peer (PayPal)

- Digital checking
  - Extend functionality of existing checking accounts to be used for online payments

- Electronic billing presentment and payment systems
  - Paying monthly bills through electronic fund transfers or credit cards

Digital payments systems for m-commerce

- Three types of mobile payment systems in use in Japan
  - Stored value system charged by credit cards or bank accounts
  - Mobile debit cards
  - Mobile credit cards

- In the U.S., the cell phone has not yet evolved into a mobile payment system