



E-commerce

business. technology. society.

Third Edition

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Chapter 1

The Revolution Is Just Beginning

Amazon at 10: Profitable at Last

Class Discussion

- Story of Amazon in many ways mirrors story of e-commerce itself
- Process of continuous change and exploration for profits
- What are the reasons why people shop at Amazon?
- Why wasn't it profitable from Day 1?
- When did it become profitable?
- How many of you have used Amazon recently?
- What was your experience?
- Do you think Amazon will remain profitable?



E-commerce Developments and Themes—2006

- More and more people and businesses are using the Internet to conduct commerce
- The e-commerce channel is deepening as more products and services come online
- Broadband and wireless Internet access are growing
- E-commerce business models are being refined to achieve higher levels of profitability
- At societal level, there is continued conflict over copyrights, content regulation, taxation, privacy, and Internet fraud and abuse.



E-commerce Defined

- E-commerce involves *digitally enabled commercial transactions* between and among organizations and individuals
- *Digitally enabled transactions* include all transactions mediated by digital technology
- *Commercial transactions* involve the exchange of value across organizational or individual boundaries in return for products or services



E-commerce vs. E-business

- We use the term e-business to refer primarily to the digital enablement of transactions and processes *within* a firm, involving information systems under the control of the firm
- E-business does not include commercial transactions involving an exchange of value across organizational boundaries



Why Study E-commerce?

- E-commerce technology is different and more powerful than any of the other technologies that we have seen in the past century.
- E-commerce has challenged much traditional business thinking
- E-commerce has a number of unique features that help explain why we have so much interest in e-commerce



Seven Unique Features of E-commerce Technology and Their Significance

- Is ubiquitous (available everywhere, all the time)
- Offers global reach (across cultural/national boundaries)
- Operates according to universal standards (lowers market entry for merchants and search costs for consumers)
- Provides information richness (more powerful selling environment)
- Is interactive (can simulate face-to-face experience, but on a global scale)
- Increases information density (amount and quality of information available to all market participants)
- Permits personalization/customization



Types of E-commerce

Classified by nature of market relationship

- Business-to-Consumer (B2C)
- Business-to-Business (B2B)
- Consumer-to-Consumer (C2C)

Classified by type of technology used

- Peer-to-Peer (P2P)
- Mobile commerce (M-commerce)

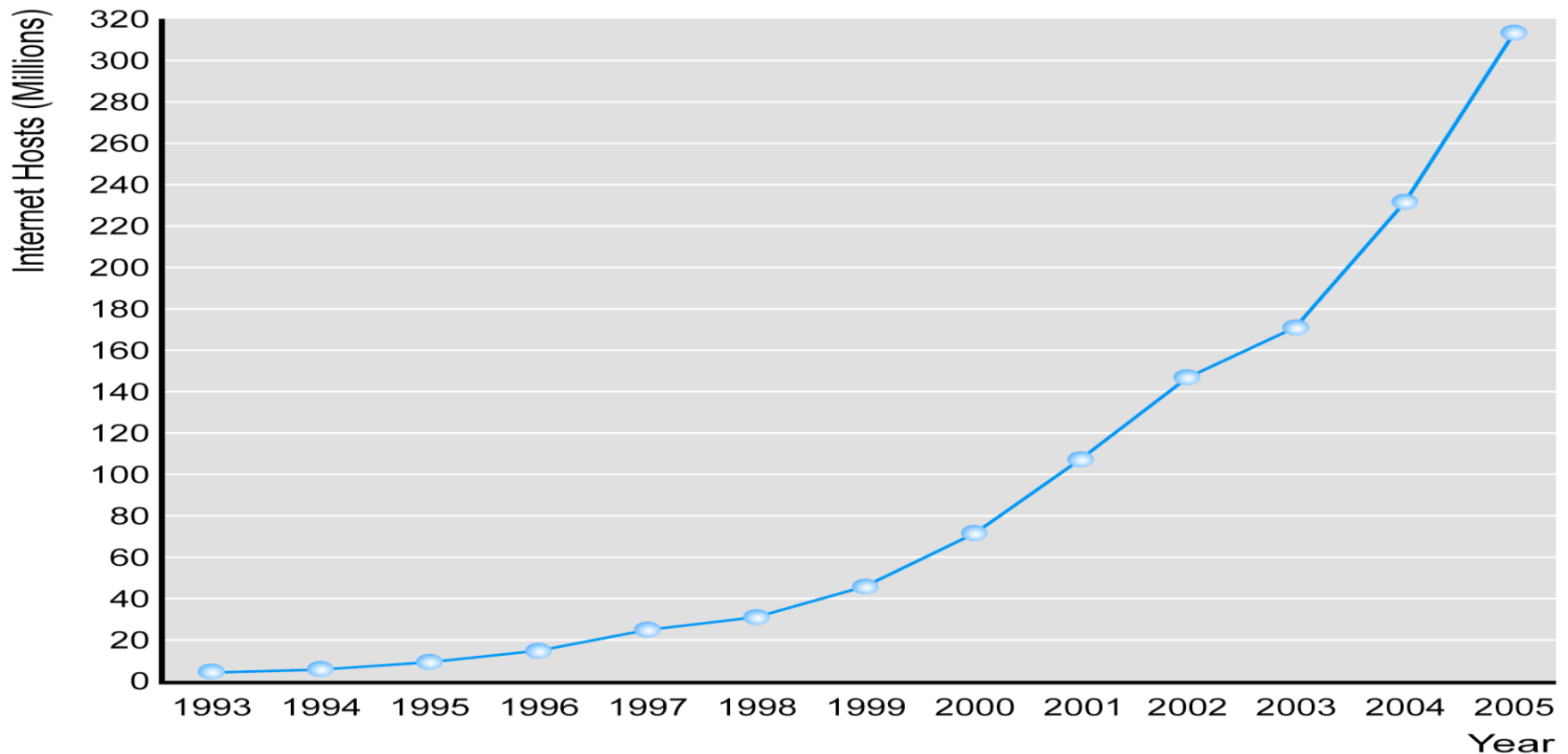


Growth of the Internet

- A worldwide network of computer networks built on common standards
- Was created in late 1960s
- Services include the Web, e-mail, file transfers, etc.
- Can measure growth of Internet by looking at number of Internet hosts with domain names

The Growth of the Internet, Measured by Number of Internet Hosts with Domain Names

Figure 1.3, Page 20



SOURCE: Internet Systems Consortium, Inc. (www.isoc.org), 2005.

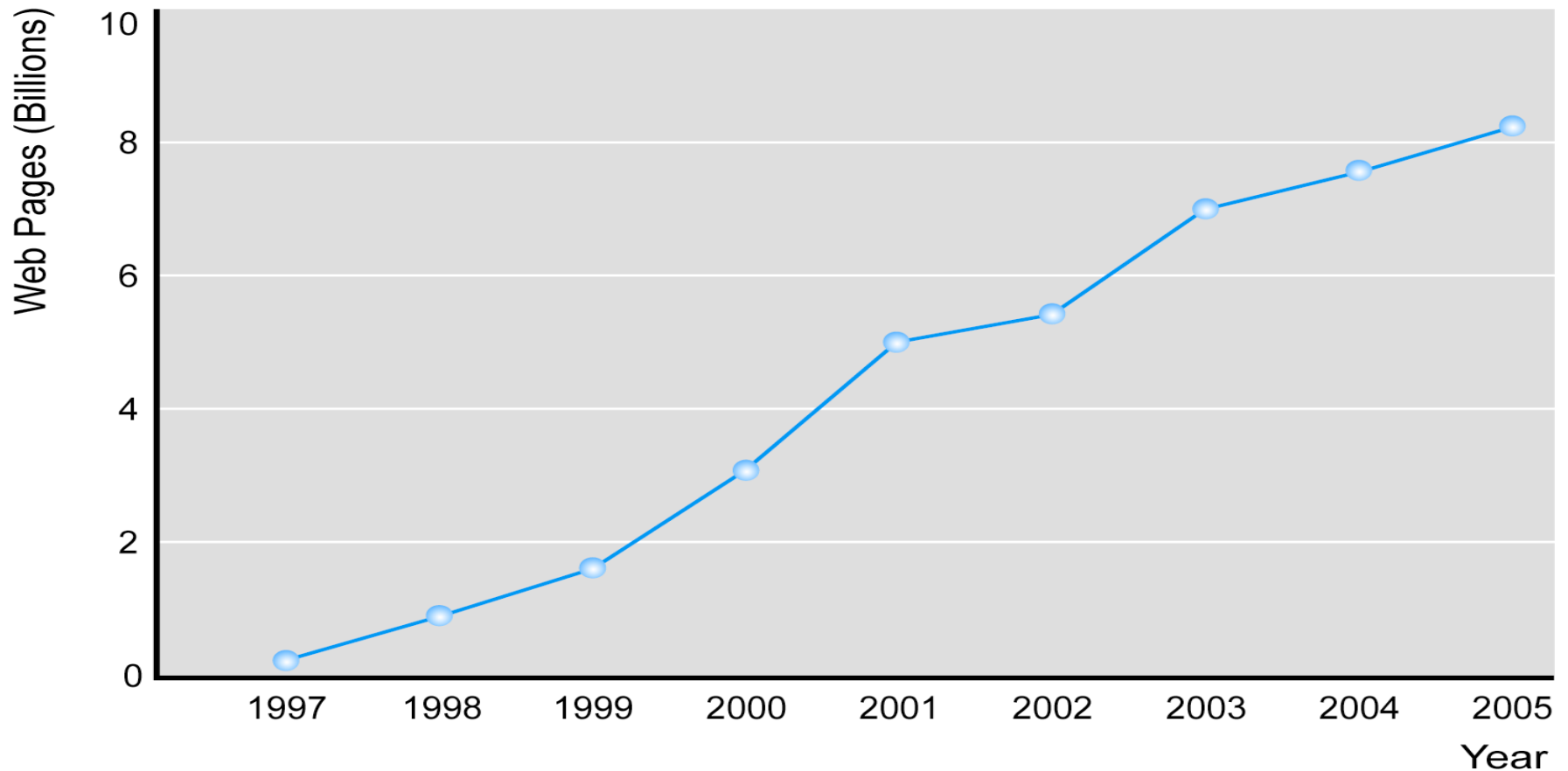


Growth of the Web

- The most popular service on the Internet
- Developed in early 1990s
- Provides access to Web pages (documents created with HTML)
- Can include text, graphics, animations, music, videos
- Web content in form of Web pages has grown exponentially, from over 2 billion pages in 2000 to over 8 billion pages in 2005

The Growth of Web Content

Figure 1.4, Page 21



SOURCE: Based on data from Google Inc., 2005.



Insight on Technology: Spider Webs, Bow Ties, Scale-Free Networks, and the Deep Web

Class Discussion

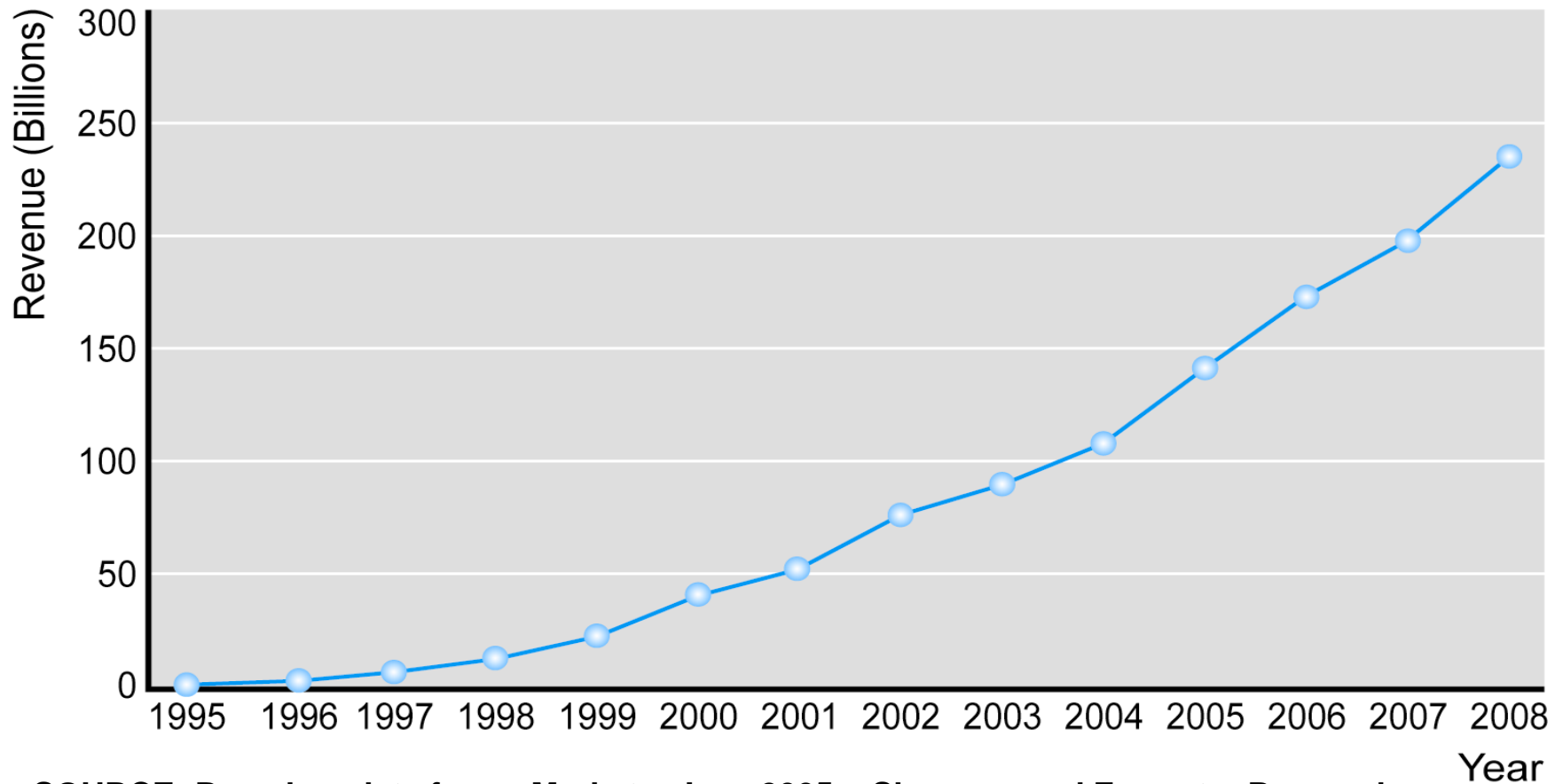
- What is the “small world” theory of the Web?
- What is the significance of the “bow-tie” form of the Web?
- Why does Barabasi call the Web a “scale-free network” with “very connected super nodes”?

Origins and Growth of E-commerce

- Precursors to e-commerce include
 - Baxter Healthcare
 - Electronic Data Interchange (EDI)
 - French Minitel (1980s videotext system; still in use today)
- None of these precursor systems had the functionality of the Internet
- For our purposes, we date the beginning of e-commerce to 1995
- Since then, has been fastest growing form of commerce in United States

The Growth of B2C E-commerce

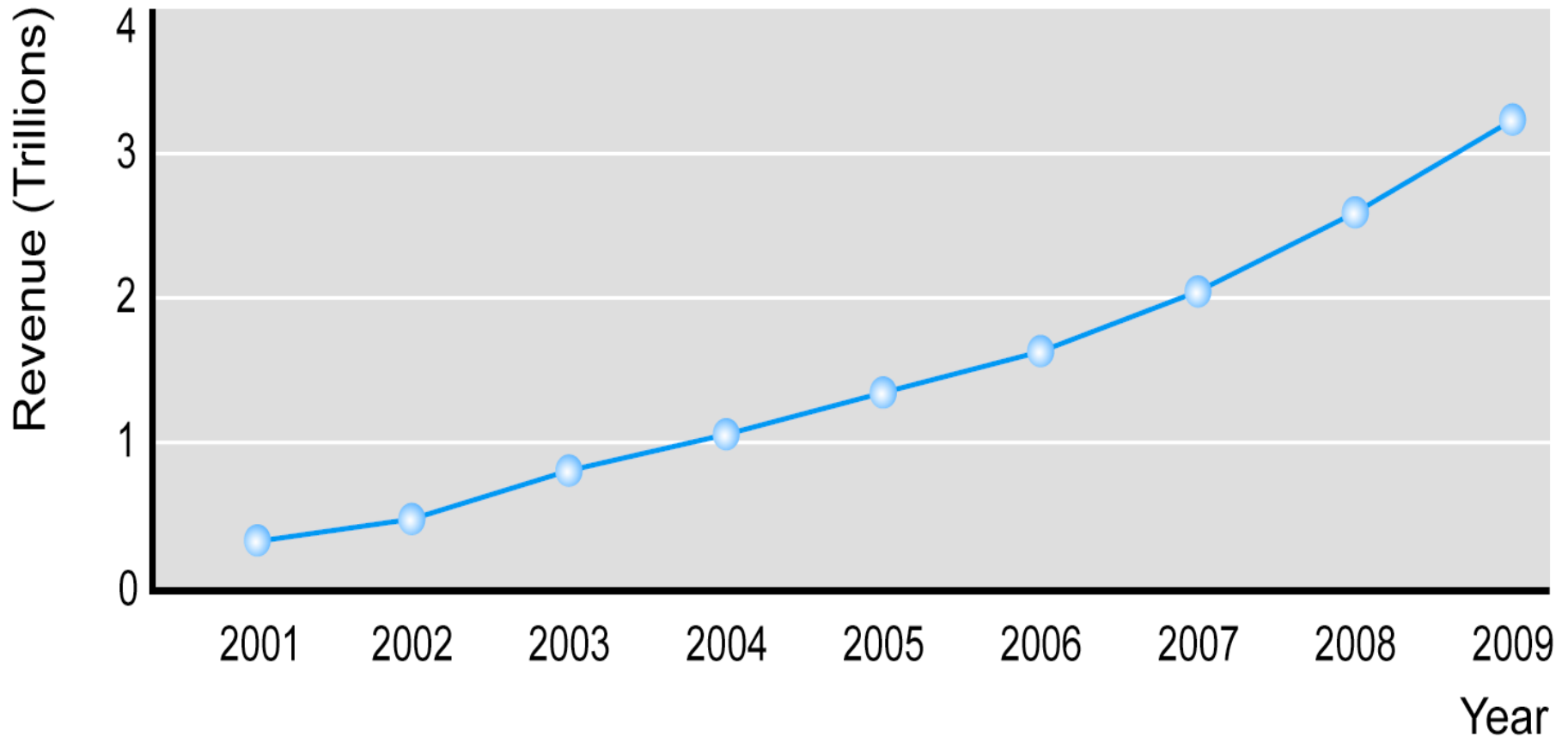
Figure 1.5, Page 24



SOURCE: Based on data from eMarketer, Inc., 2005a; Shop.org and Forrester Research, 2005; Forrester Research, 2004.

The Growth of B2B E-commerce

Figure 1.6, Page 25



SOURCE: Based on data from e-Marketer, Inc., 2005; U.S. Department of Commerce, 2005; authors' estimates.



Technology and E-commerce in Perspective

- The Internet and Web are just two of a long list of technologies, such as automobiles and radio, that have followed a similar historical path.
- Although e-commerce has grown explosively, eventually its growth will cap as it confronts its own fundamental limitations.



Potential Limitations on the Growth of B2C E-commerce

- Expensive technology
- Complex software interface
- Sophisticated skill set
- Persistent cultural attraction of physical markets and traditional shopping experiences
- Persistent global inequality limiting access to telephones and computers



The Visions and Forces Behind E-commerce: 1995–2000

- For computer scientists, vindicated a vision of universal communications and computing environment that could be accessed by everyone
- For economists, vision of a perfect Bertrand market and friction-free commerce
- For entrepreneurs, their financial backers and marketing professionals, e-commerce represented an extraordinary opportunity to return far above normal returns on investment.

Insight on Business: A Short History of Dot.Com IPOs Class Discussion

- What explains the rapid growth in private investment in e-commerce firms in the period 1998–2000? Was this investment irrational?
- Why do you think investors in 2005 are once again interested in investing in or purchasing e-commerce companies? Would you invest in an e-commerce company today?
- What's happening today? Go to the PricewaterhouseCooper MoneyTree Web site for the latest information:

<http://www.pwcmoneytree.com/moneytree/index.jsp>



Assessing E-commerce: Successes, Surprises and Failures

- E-commerce has been a stunning technological success
- Early years of e-commerce have been a mixed success from a business perspective
- Many visions developed during early days of e-commerce not fulfilled

Predictions for the Future

- Technology of e-commerce will continue to propagate through all commercial activity
- E-commerce prices will rise to cover the real cost of doing business on the Web and pay investors reasonable rate of return
- E-commerce margins and profits will rise to levels more typical of all retailers
- In B2C and B2B, traditional Fortune 500 companies will play growing and dominant role
- Number of successful pure online companies will decline and most successful e-commerce firms will adopt mixed “clicks and bricks” strategies
- Growth of regulatory activity worldwide



Understanding E-commerce: Organizing Themes

- Technology: Development and mastery of digital computing and communications technology
- Business: New technologies present businesses and entrepreneurs with new ways of organizing production and transacting business
- Society: Intellectual property, individual privacy, and public policy

The Internet and the Evolution of Corporate Computing

Figure 1.10, Page 39

COMPUTER TECHNOLOGY

Mainframe Computers
1950 – 1975



Minicomputers
1970 – 1980



Personal Computers
1980 – Present



Local Area Networks
Client/Server Computing
1980 – Present



Enterprise-wide Computing
1990 – Present



Internet and World
Wide Web
1995 – Present



BUSINESS APPLICATION

Transaction automation
Payroll
Accounts receivable

Business function automation
Marketing
Human Resources
Design

Desktop automation
Word processing
Spreadsheets
Databases

Workgroup automation
Document sharing
Project management
Messaging, e-mail

Enterprise-wide automation
Resource planning systems
Integrated finance-manufacturing systems
Human resource planning

Industrial system automation
Supply chain management
Customer relationship management
Channel management systems



Insight on Society: Keeping Your Clickstream Private is Getting Harder

Class Discussion

- What are the techniques of privacy invasion described in the case?
- Which of these techniques is the most privacy-invading? Why?
- Is the Internet and e-commerce any different than traditional markets with respect to privacy? Don't merchants always want to know their customer?
- How do you protect your privacy on the Web?