E-commerce
business. technology. society.

Sixth Edition

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Chapter 1

The Revolution Is Just Beginning

Lets talk…

- Some EC benefits to organizations, individuals, and society

- Some contributions of EC to homeland security

- How does EC facilitate customization of products and services?

- When we think of e-commerce, we tend to think of selling things online, a retail model based on physical products.

- This iconic vision of e-commerce is still very powerful,

But

- Growing up alongside is a whole new value stream based on providing services to Internet users that allow them to express themselves and network with others.

Slide 1-3

E-commerce Trends 2009–2010

- New business models based on social technologies, consumer-generated content, and services
  - Linkdyn, Facebook, WebLogs, Wikis
- 2009 a flat year, but growth expected to resume in 2010
- Broadband and wireless access continue to grow
- Mobile e-commerce begins to take off
- Traditional media losing subscribers

Slide 1-4

2

The First 30 Seconds

- First 15 years of e-commerce
  - Just the beginning
  - Rapid growth and change
- Technologies continue to evolve at exponential rates
  - Disruptive business change
  - New opportunities

What is E-commerce?

- Use of Internet and Web to transact business

- 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

- More formally:

  - Digitally enabled commercial transactions between and among organizations and individuals

E-commerce vs. E-business

- E-business:

  - Digital enablement of transactions and processes *within* a firm, involving information systems under firm's control

  - Does not include commercial transactions involving an exchange of value across organizational boundaries

Slide 1-7

Your thoughts…

- "What's so different about e-commerce when compared to other technologically driven forms of commerce?"

- "Why study e-commerce" when we generally did not have courses on radio commerce or TV commerce.

Why Study E-commerce?

- E-commerce technology is different, more powerful than previous technologies
  - What's different?

- E-commerce bringing fundamental changes to commerce

- Traditional commerce:
  - Passive consumer
  - Sales-force driven
  - Fixed prices
  - Information asymmetry

Slide 1-9

Unique Features of E-commerce Technology

- Ubiquity
  - Available everywhere, all the time
- Global reach
  - Across cultural/national boundaries
- Universal standards
  - Operates according to universal standards (lowers market entry for merchants and search costs for consumers)
- Provides information richness
  - More powerful selling environment, animated graphics, Flash animations, or streaming media to deliver marketing messages)
- Interactivity
  - 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
- Social Technology
  - User content generation and social networking

In the field, a sales representative writes notes with a mobile handwriting-recognition computer immediately after a sales call. This can be viewed as an EC activity.

1. True
2. False

54%

46%

True False

_____ refers to collaborating with business partners and conducting electronic transactions **within an** organization.
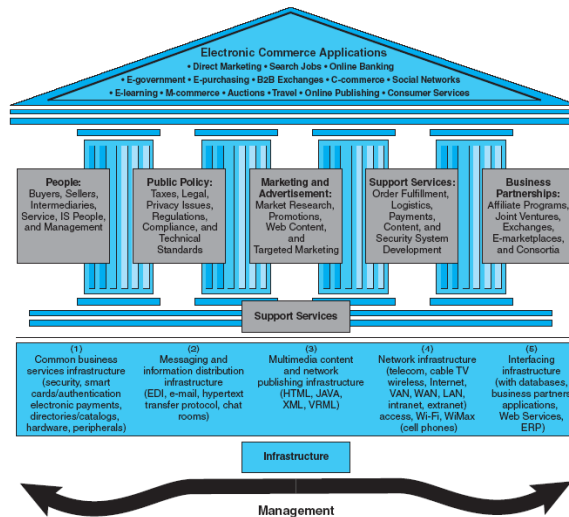
1. E-commerce
2. E-business
3. Pure EC
4. Partial EC

64%

32%

0% 4%

E-commerce E-business Pure EC Partial EC

Web 2.0

- Primitive Internet
  - Simple network to support e-mail & file transfers
  - Objective: Communication among experts
- World Wide Web (Web 1.0)
  - A way to use the Internet to display simple pages
  - Allow the users to navigate across various pages
- The "new" Web (Web 2.0)
  - Applications and technologies that allow users to:
    - create, edit, and distribute content
    - share preferences, bookmarks, and online personas
    - participate in virtual lives
    - Build online communities
  - Examples
    - YouTube, Photobucket, Flickr
    - MySpace, Facebook, LinkedIn
    - Second Life
    - Wikipedia

The EC Framework, Classification, and Content

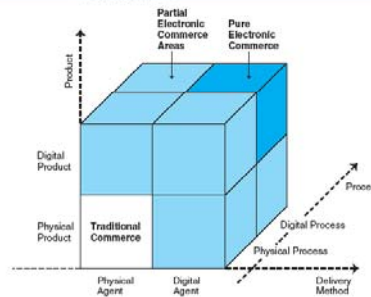EXHIBIT 1.2   A Framework for Electronic Commerce

Electronic Commerce: Definitions and Concepts

- **Pure versus Partial EC**
  - EC can take several forms depending on the *degree of digitization*
    1. the *product* (service) sold
    2. the *process* (e.g., ordering, payment, fulfillment)
    3. the *delivery method*

EXHIBIT 1.1 The Dimensions of Electronic Commerce

Electronic Commerce: Definitions and Concepts

- **Brick-and-mortar (old economy) organizations**

  Old-economy organizations (corporations) that perform their primary business off-line, selling physical products by means of physical agents

- **Virtual (pure-play) organizations**

  Organizations that conduct their business activities solely online

- **Click-and-mortar (click-and-brick) organizations**

  Organizations that conduct some e-commerce activities, usually as an additional marketing channel.

- **electronic market (e-marketplace)**

  An online marketplace where buyers and sellers meet to exchange goods, services, money, or information

Electronic Commerce: Definitions and Concepts

- **Interorganizational information systems (IOSs)**
  - Communications systems that allow routine transaction processing and information flow between two or more organizations

- **Intraorganizational information systems**
  - Communication systems that enable e-commerce activities to go on within individual organizations

Types of E-commerce

- Classified by market relationship

  - Business-to-Consumer (B2C)

  - Business-to-Business (B2B)

  - Consumer-to-Consumer (C2C)

- Classified by technology used

  - Peer-to-Peer (P2P)

  - Mobile commerce (M-commerce)

The EC Framework, Classification, and Content

- **business-to-business (B2B)**
  - E-commerce model in which all of the participants are businesses or other organizations
- **business-to-consumer (B2C)**
  - E-commerce model in which businesses sell to individual shoppers
- **business-to-business-to-consumer (B2B2C)**
  - E-commerce model in which a business provides some product or service to a client business that maintains its own customers
- **consumer-to-business (C2B)**
  - E-commerce model in which individuals use the Internet to sell products or services to organizations or individuals who seek sellers to bid on products or services they need

## The EC Framework, Classification, and Content

- **mobile commerce (m-commerce)**
  - E-commerce transactions and activities conducted in a wireless environment
- **location-based commerce (l-commerce)**
  - M-commerce transactions targeted to individuals in specific locations, at specific times
- **intrabusiness EC**
  - E-commerce category that includes all internal organizational activities that involve the exchange of goods, services, or information among various units and individuals in an organization
- **business-to-employees (B2E)**
  - E-commerce model in which an organization delivers services, information, or products to its individual employees
- **collaborative commerce (c-commerce)**
  - E-commerce model in which individuals or groups communicate or collaborate online

The EC Framework, Classification, and Content

- **consumer-to-consumer (C2C)**
  - E-commerce model in which consumers sell directly to other consumers
- **peer-to-peer (P2P)**
  - Technology that enables networked peer computers to share data and processing with each other directly; can be used in C2C, B2B, and B2C e-commerce e.g: BitTorrent
- **e-learning**
  - The online delivery of information for purposes of training or education
- **e-government**
  - E-commerce model in which a government entity buys or provides goods, services, or information from or to businesses or individual citizens
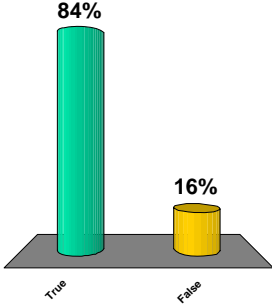

A business such as Apple Computers making online transactions with its trading partners is an example of:

1. B2B
2. B2C
3. e-CRM
4. EDI

100%

0%   **0%**   **0%**

B2B   B2C   e-CRM   EDI
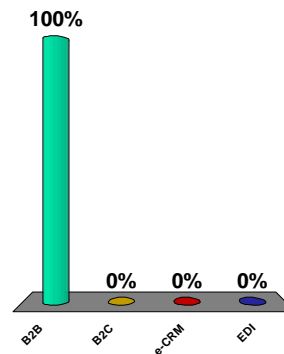
Peer-to-peer (P2P) technology can be used in C2C, B2B, and B2C.

1. True
2. False

84%

16%

True   False
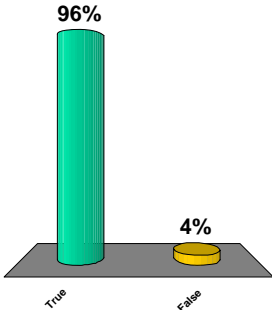
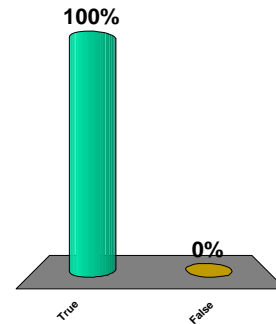## Doing your banking on an Internet-enabled cell phone is an example of m-commerce..

1. True
2. False

96%

4%

True   False

Wikipedia.com, a Web site that allows people to work together online and share information, is an example of Web 2.0.

1. True
2. False

100%

0%

True   False

Business Environment Drives EC

EXHIBIT 1.5   **The Business Environment Impact Model**

Mission
Goals
Strategy
Plans

Our Company

Business processes
Core competencies
Critical response
activities (solutions)

Business
Environment

Problems
Pressures
Opportunities

Solutions

Feedback

Actual
measureable
performance

EC and IT Support
Infrastructure
Applications
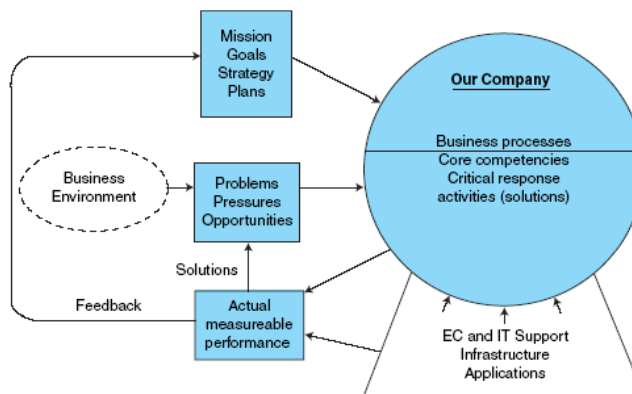
Business Environment Drives EC

EXHIBIT 1.6 Major Business Pressures		
Market and Economic Pressures	**Societal Pressures**	**Technological Pressures**
Strong competition	Changing nature of workforce	Increasing innovations and new technologies
Global economy	Government deregulation, leading	Rapid technological obsolescence
Regional trade agreements	to more competition	Increases in information overload
(e.g., NAFTA)	Compliance (e.g., Sarbanes-Oxley Act)	Rapid decline in technology cost versus
Extremely low labor cost in some	Shrinking government subsidies	labor cost
countries	Increased importance of ethical and	
Frequent and significant changes	legal issues	
in markets	Increased social responsibility of	
Increased power of consumers	organizations	
	Rapid political changes	

The Internet

- Worldwide network of computer networks built on common standards

- Created in late 1960s

- Services include the Web, e-mail, file transfers, etc.

- Can measure growth by looking at number of Internet hosts with domain names

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

- Worldwide network of computer networks built on common standards
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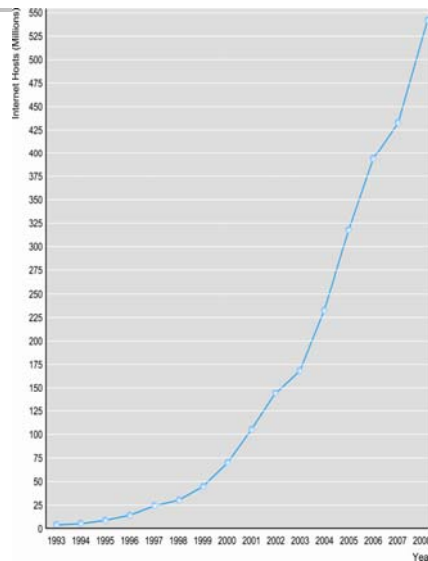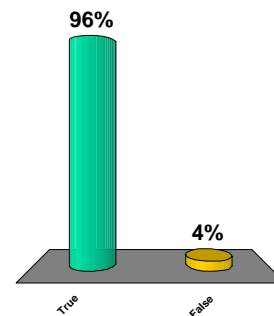 - Can measure growth by looking at number of Internet hosts with domain names

Figure 1.3, Page 23 SOURCE: Internet Systems Consortium, Inc. , 2008.

Strong competition and increased power of consumers are two of the major market pressures in today's business environment.

1. True
2. False

96%

4%

True   False

The Web

- Most popular Internet service
- Developed in early 1990s
- Provides access to Web pages
    - HTML documents that may include text, graphics, animations, music, videos
- Web content has grown exponentially
    - 2 billion Web pages in 2000
   - At least 40–50 billion pages today

Origins & Growth of E-commerce

- Precursors:
    - Baxter Healthcare
    - Electronic Data Interchange (EDI)
    - French Minitel (1980s videotext system)
    - None had functionality of Internet
- 1995: Beginning of e-commerce
    - First sales of banner advertisements
- Since then, e-commerce fastest growing form of commerce in the United States

The Growth of B2C E-commerce
Figure 1.4, Page 25

The Growth of B2B E-commerce
Figure 1.5, Page 28
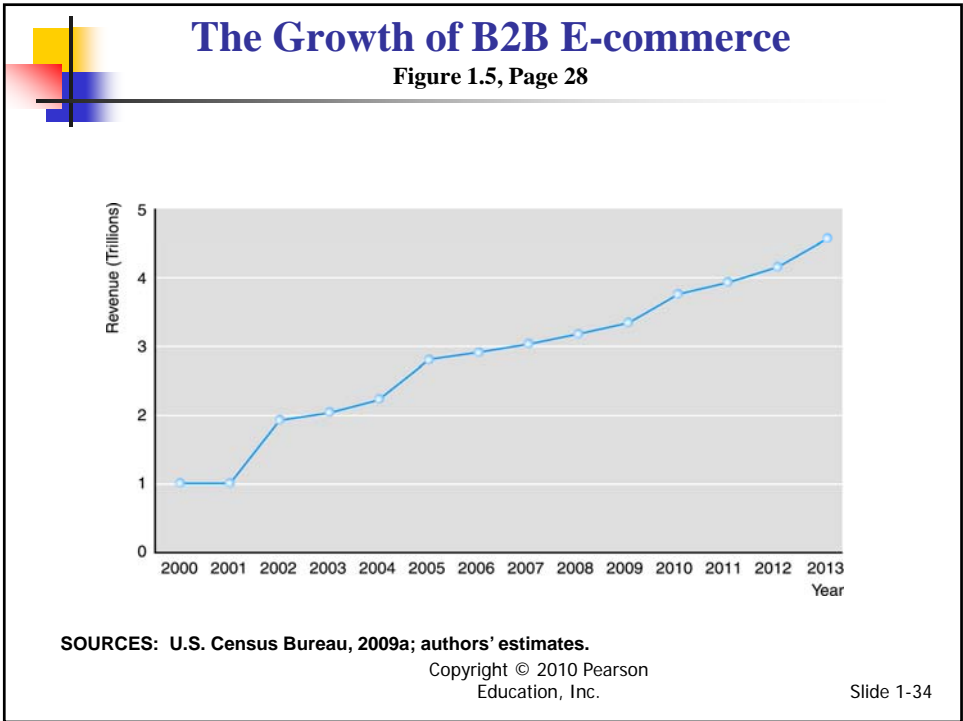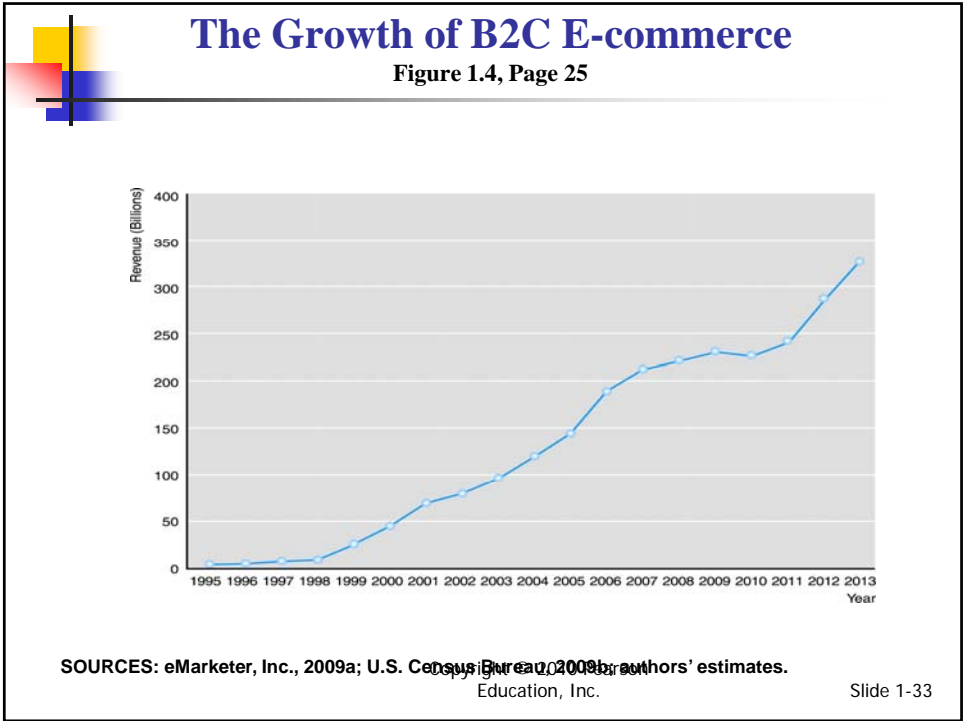
Technology and E-commerce in Perspective

- E-Commerce is definitely new & different

    BUT

- 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
    - PC cost, connection charges
- Sophisticated skill set
    - More sophisticated than TV or radio
- Persistent cultural attraction of physical markets and traditional shopping experiences
- Persistent global inequality limiting access to telephones and computers
- Saturation and ceiling effects
    - Growth to slow as it approaches the size of the population

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

- Computer scientists: Envisioned an inexpensive, universal communications and computing environment accessible by all

- Economists: A nearly perfect competitive market and friction-free commerce

  - Disintermediation- "The Road Ahead (Bill Gates 1995) - The net would give us "friction-free" commerce.

  - The idea of friction-free commerce- The net would let us use search technology to eliminate the middleman and get the best price

- For entrepreneurs, financial backers and marketing professionals: An extraordinary opportunity to earn far above normal returns on investment

  - Idea- Create near monopolies online based on size, convenience, selection, brand

  - Network effect- All participants receive value from the fact that everyone else uses it

E-commerce: 2001–2006

- Period of consolidation
- More "business driven" approach than "technology driven"
- Large traditional firms learned how to use web to strengthen their market share
- Financing shrunk as capital market shunned start-up firms

E-commerce: 2006- onwards

- Period of reinvention
  - Extension of internet technologies
  - Discovery of new business models based on consumer-generated content, social networking, and virtual online lives
  - A sociological phenomenon, as well as technological and business

Page 38, Table 1.5: Evolution of E Commerce

Predictions for the Future

- Technology will propagate through all commercial activity
- Prices will rise to cover the real cost of doing business
- E-commerce margins and profits will rise to levels more typical of all retailers
- Cost of players will change
  - Traditional Fortune 500 companies will play dominant role
  - New startup ventures will emerge with new products, services
- Number of successful pure online stores will remain smaller than integrated offline/online stores
- Growth of regulatory activity worldwide
- Influence of cost of energy

Understanding E-commerce: Organizing Themes

- Three broad interrelated themes

- Technology:
  - Development and mastery of digital computing and communications technology

- Business:
  - New technologies present businesses with new ways of organizing production and transacting business

- Society:
  - Intellectual property, individual privacy, public policy

The Internet and the Evolution of Corporate Computing

Figure 1.9, Page 44

COMPUTER TECHNOLOGY	BUSINESS APPLICATION
Mainframe Computers 1950 – 1975	Transaction automation Payroll Accounts receivable
Minicomputers 1970 – 1980	Business function automation Marketing Human Resources Design
Personal Computers 1980 – Present	Desktop automation Word processing Spreadsheets Databases
Local Area Networks Client/Server Computing 1980 – Present	Workgroup automation Document sharing Project management Messaging, e-mail
Enterprise - Wide Computing 1990 – Present	Enterprise-wide automation Resource planning systems Integrated finance-manufacturing systems Human resource planning
Internet and World Wide Web 1995 – Present	Industrial system automation Supply chain management Customer relationship management Channel management systems Web services
Mobile digital platform and Cloud Computing 2006 – Present	Software and Hardware services Collaboration Social networking Integration of devices

Academic Disciplines Concerned with E-commerce

- Technical approach
  - Computer science
  - Management science
  - Information systems

- Behavioral approach
  - Information systems
  - Economics
  - Marketing
  - Management
  - Finance/accounting
  - Sociology

Case Study- Internet Piracy

1. How did The Pirate Bay business make money? What was its business model?

2. What social and legal issues are raised by P2P file-sharing protocols and programs such as Pirate Bay and other P2P networks? Is the record industry justified in attempting to shut them down? Why or why not?

3. Why do people older than 21 feel more comfortable paying for downloadable content whereas younger people tend to use illegal sites?

4. Do the major record companies perform a legitimate function in the creation and distribution of music which justifies their revenues?