

Chapter 1

Overview of Electronic Commerce

Learning Objectives

1. Define electronic commerce (EC) and describe its various categories.
2. Describe and discuss the content and framework of EC.
3. Describe the major types of EC transactions.
4. Describe the digital revolution as a driver of EC.
5. Describe the business environment as a driver of EC.

Learning Objectives

6. Describe some EC business models.
7. Describe the benefits of EC to organizations, consumers, and society.
8. Describe the limitations of EC.
9. Describe the contribution of EC to organizations responding to environmental pressures.
10. Describe online social and business networks.

Electronic Commerce: Definitions and Concepts

- **electronic commerce (EC)**

The process of buying, selling, or exchanging products, services, or information via computer networks

Electronic Commerce: Definitions and Concepts

- EC can be defined from these perspectives:
 - Business process
 - Service
 - Learning
 - Collaboration
 - Community

Electronic Commerce: Definitions and Concepts

- **e-business**

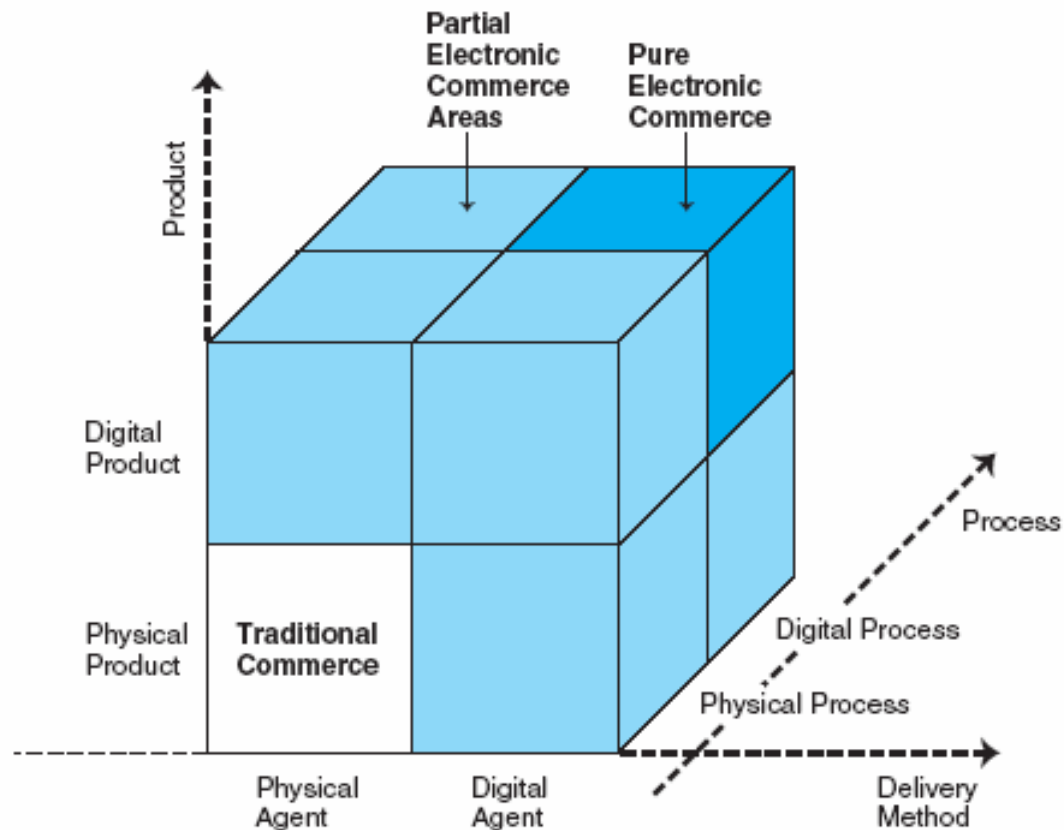
A broader definition of EC that includes not just the buying and selling of goods and services, but also servicing customers, collaborating with business partners, and conducting electronic transactions within an organization

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*

Electronic Commerce: Definitions and Concepts

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

Electronic Commerce: Definitions and Concepts

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

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

Electronic Commerce: Definitions and Concepts

- **Internet versus Non-Internet EC**
 - Most EC is done over the Internet, but EC also can be conducted on private networks, such as *value-added networks*, *local area networks*, or on a single computerized machine
 - Non-Internet EC includes the use of mobile handwriting-recognition computers used by field reps to write their notes in the field

Electronic Commerce: Definitions and Concepts

- **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

The EC Framework, Classification, and Content

- **intranet**

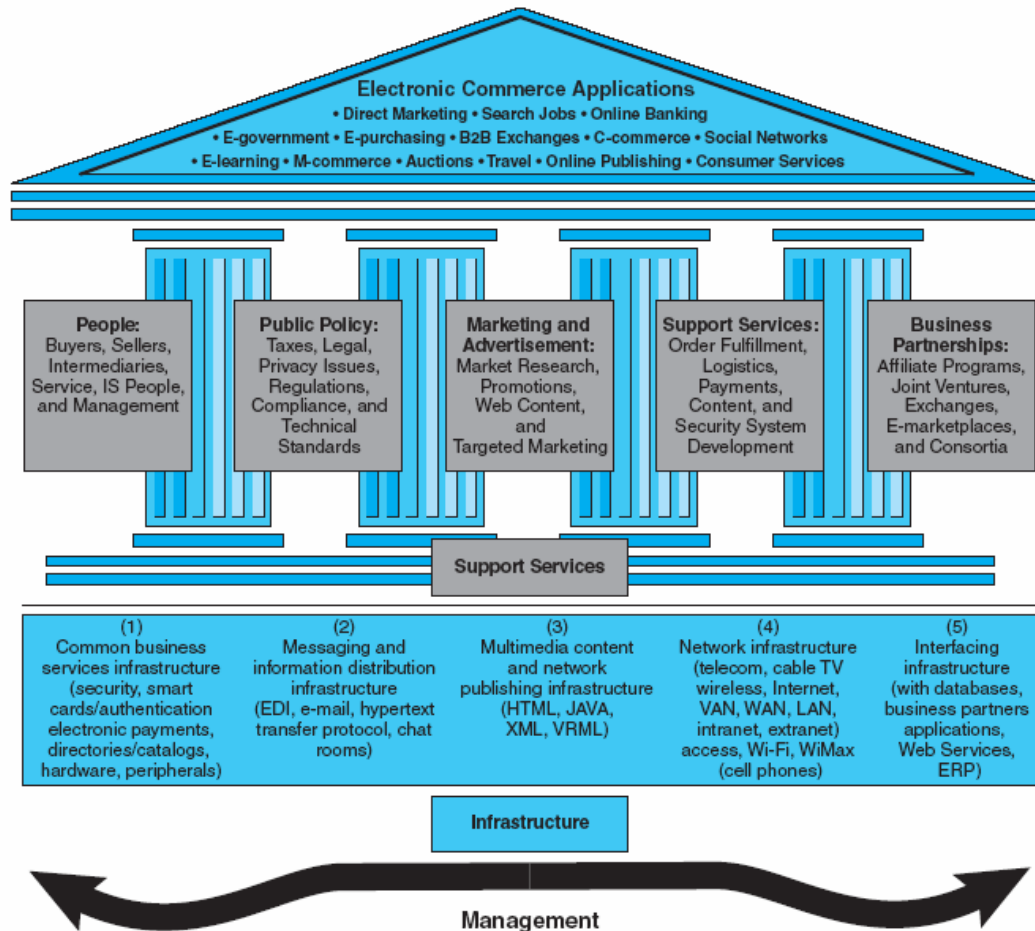
An internal corporate or government network that uses Internet tools, such as Web browsers, and Internet protocols

- **extranet**

A network that uses the Internet to link multiple intranets

The EC Framework, Classification, and Content

EXHIBIT 1.2 A Framework for Electronic Commerce



The EC Framework, Classification, and Content

- EC applications are supported by infrastructure and by these five support areas:
 - People
 - Public policy
 - Marketing and advertisement
 - Support services
 - Business partnerships

The EC Framework, Classification, and Content

- **Classification of EC by the Nature of the Transactions or Interactions**
 - **business-to-business (B2B)**

E-commerce model in which all of the participants are businesses or other organizations

The EC Framework, Classification, and Content

- **business-to-consumer (B2C)**

E-commerce model in which businesses sell to individual shoppers

- **e-tailing**

Online retailing, usually B2C

- **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

The EC Framework, Classification, and Content

- **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

- **mobile commerce (m-commerce)**

E-commerce transactions and activities conducted in a wireless environment

The EC Framework, Classification, and Content

- **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

The EC Framework, Classification, and Content

- **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

- **consumer-to-consumer (C2C)**

E-commerce model in which consumers sell directly to other consumers

The EC Framework, Classification, and Content

- **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-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

The EC Framework, Classification, and Content

- **exchange**

A public electronic market with many buyers and sellers

- **exchange-to-exchange (E2E)**

E-commerce model in which electronic exchanges formally connect to one another for the purpose of exchanging information

The EC Framework, Classification, and Content

- **The Interdisciplinary Nature of EC**
 - The Google Revolution
 - EC Failures
 - EC Successes

The EC Framework, Classification, and Content

- **The Future of EC**

- **Web 2.0**

- The second-generation of Internet-based services that let people collaborate and share information online in perceived new ways—such as social networking sites, wikis, communication tools, and folksonomies

The EC Framework, Classification, and Content

Web 1.0		Web 2.0
DoubleClick	—>	Google AdSense
Ofoto	—>	Flickr
Akamai	—>	BitTorrent
mp3.com	—>	Napster
Britannica Online	—>	Wikipedia
personal Web sites	—>	blogging
Evite	—>	upcoming.org and EVDB
domain name speculation	—>	search engine optimization
page views	—>	cost per click
screen scraping	—>	Web services
publishing	—>	participation
content management systems	—>	wikis
directories (taxonomy)	—>	tagging (“folksonomy”)
stickiness	—>	syndication

EXHIBIT 1.3 Mind Map of Web 2.0



Digital Revolution Drives EC

- **digital economy**

An economy that is based on digital technologies, including digital communication networks, computers, software, and other related information technologies; also called the Internet economy, the new economy, or the Web economy

Digital Revolution Drives EC

EXHIBIT 1.4 Some Characteristics of the Digital Revolution

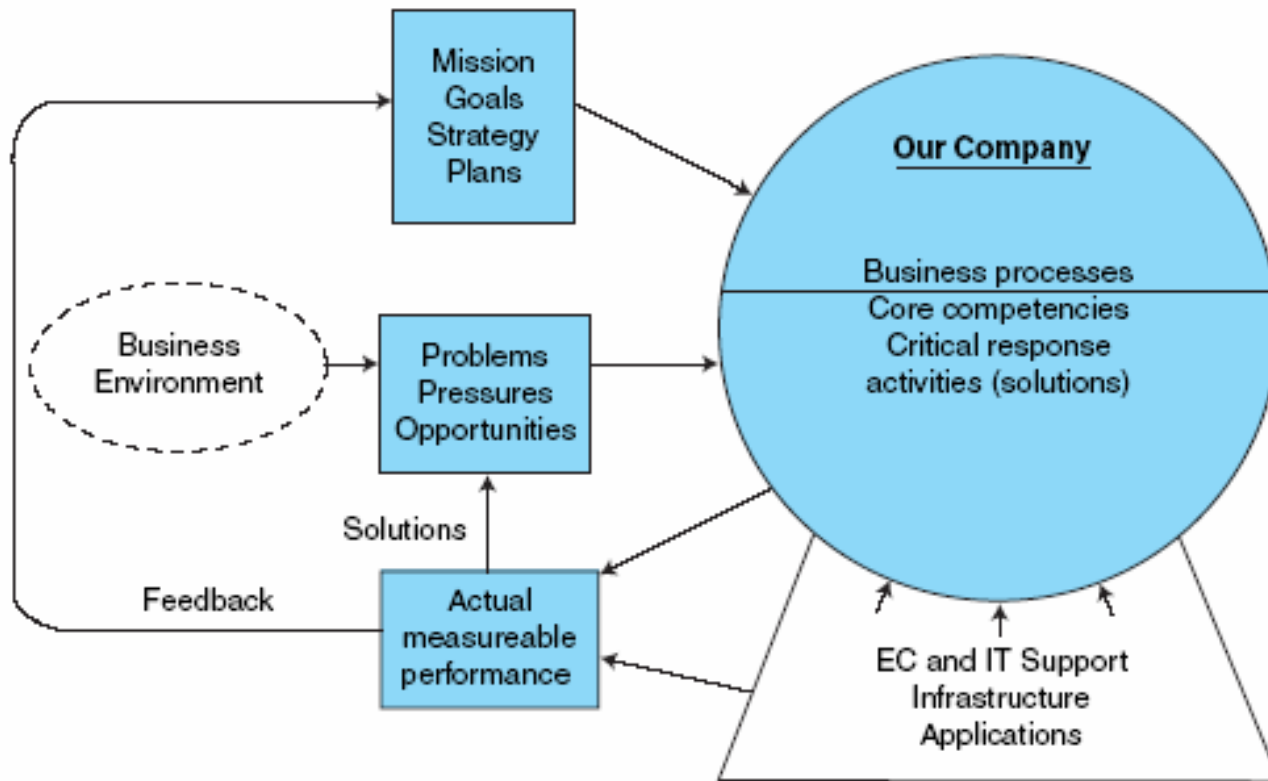
Area	Description
Globalization	Global communication and collaboration; global electronic marketplaces.
Digital system	From TV to telephones and instrumentation, analog systems are being converted to digital ones.
Speed	A move to real-time transactions, thanks to digitized documents, products, and services. Many business processes are expedited by 90 percent or more.
Information overload	Although the amount of information generated is accelerating, intelligent search tools can help users find what they need.
Markets	Markets are moving online. Physical marketplaces are being replaced by electronic markets; new markets are being created, increasing competition.
Digitization	Music, books, pictures, and more (see Chapter 2) are digitized for fast and inexpensive distribution.
Business models and processes	New and improved business models and processes provide opportunities to new companies and industries. Cyberintermediation and no intermediation are on the rise.
Innovation	Digital and Internet-based innovations continue at a rapid pace. More patents are being granted than ever before.
Obsolescence	The fast pace of innovation creates a high rate of obsolescence.
Opportunities	Opportunities abound in almost all aspects of life and operations.
Fraud	Criminals employ a slew of innovative schemes on the Internet. Cybercons are everywhere.
Wars	Conventional wars are changing to cyberwars.
Organizations	Organizations are moving to digital enterprises.

Business Environment Drives EC

- **The Business Environment**
 - The business environment impact model
 - Business pressures
 - Organizational response strategies

Business Environment Drives EC

EXHIBIT 1.5 The Business Environment Impact Model



Business Environment Drives EC

EXHIBIT 1.6 Major Business Pressures

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

EC Business Models

- **business model**

A method of doing business by which a company can generate revenue to sustain itself

EC Business Models

- Six elements of a business model include descriptions of:
 1. *Customers* to be served and the company's relationships with these customers including *customers' value proposition*
 2. All *products* and *services* the business will offer
 3. The *business process* required to make and deliver the products and services
 4. The *resources* required and the identification of which ones are available, which will be developed in house, and which will need to be acquired
 5. The organization's *supply chain*, including *suppliers* and other *business partners*
 6. The revenues expected (*revenue model*), anticipated costs, sources of financing, and estimated profitability (*financial viability*)

EC Business Models

- **revenue model**

Description of how the company or an EC project will earn revenue

- **value proposition**

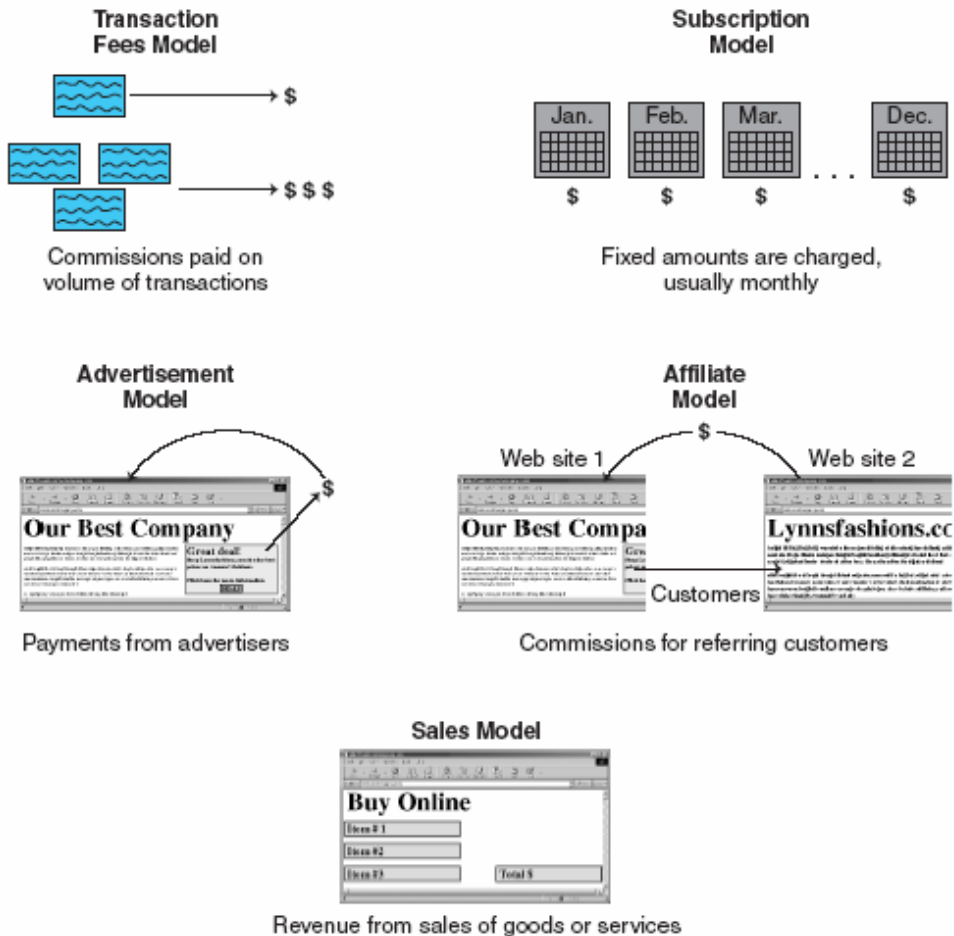
The benefits a company can derive from using EC

EC Business Models

- The major revenue models are:
 - Sales
 - Transaction fees
 - Subscription fees
 - Advertising fees
 - Affiliate fees
 - Other revenue sources

EC Business Models

EXHIBIT 1.8 Common Revenue Models



EC Business Models

- **Functions of a Business Model**
 - Articulate a customer value proposition
 - Identify a market segment
 - Define the venture's specific value chain structure
 - Estimate the cost structure and profit potential
 - Describe the venture's positioning within the value network linking suppliers and customers
 - Formulate the venture's competitive strategy

EC Business Models

Typical EC Business Models

- Online direct marketing
- Electronic tendering systems.
- Name your own price
- Find the best price
- Affiliate marketing
- Viral marketing
- Group purchasing
- Online auctions
- Product and service customization
- Electronic marketplaces and exchanges
- Information brokers (intermediaries)
- Bartering
- Deep discounting
- Membership
- Value-chain integrators
- Value-chain service providers
- Supply chain improvers
- Social networks, communities, and blogging
- Direct sale by manufacturers
- Negotiation

EC Business Models

- **tendering (bidding) system**

Model in which a buyer requests would-be sellers to submit bids; the lowest bidder wins

- **name-your-own-price model**

Model in which a buyer sets the price he or she is willing to pay and invites sellers to supply the good or service at that price

EC Business Models

- **affiliate marketing**

An arrangement whereby a marketing partner (a business, an organization, or even an individual) refers consumers to the selling company's Web site

- **viral marketing**

Word-of-mouth marketing in which customers promote a product or service to friends or other people

EC Business Models

- **SMEs**

Small-to-medium enterprises

- **group purchasing**

Quantity (aggregated) purchasing that enables groups of purchasers to obtain a discount price on the products purchased

EC Business Models

- **e-co-ops**

Another name for online group purchasing organizations

- **customization**

Creation of a product or service according to the buyer's specifications

Benefits and Limitations of EC

- Benefits to
 - Organizations
 - Consumers
 - Society
- Limitations
 - Technological
 - Nontechnological

Social and Business Networks

- **social networks**

Web sites that connect people with specified interests by providing free services such as photo presentation, e-mail, blogging, etc.

- Business-oriented networks are social networks whose primary objective is to facilitate business

The Digital Enterprise

- **digital enterprise**

A new business model that uses IT in a fundamental way to accomplish one or more of three basic objectives: reach and engage customers more effectively, boost employee productivity, and improve operating efficiency. It uses converged communication and computing technology in a way that improves business processes

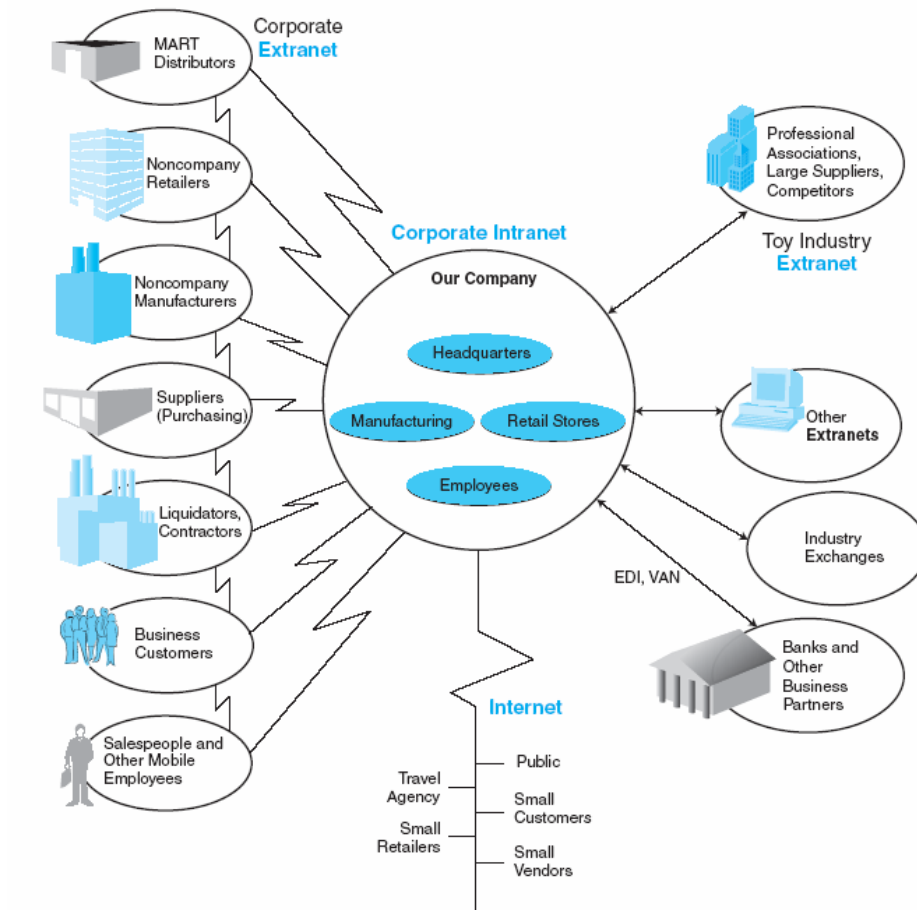
The Digital Enterprise

- **corporate portal**

A major gateway through which employees, business partners, and the public can enter a corporate Web site

The Digital Enterprise

EXHIBIT 1.12 A Digital Enterprise: How a Company Uses the Internet, Intranets, and Extranets



Managerial Issues

1. Is it real?
2. Why is B2B e-commerce so attractive?
3. There are so many EC failures—how can one avoid them?
4. How do we transform our organization into a digital one?

Managerial Issues

5. How should we evaluate the magnitude of business pressures and technological advancement?
6. How can we exploit social/business networking?
7. What should be my company's strategy toward EC?
8. What are the top challenges of EC?