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.

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

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Electronic Commerce: Definitions and Concepts

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

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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*

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

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

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

- 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

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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

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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

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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

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The EC Framework, Classification, and Content

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

<table>
<thead>
<tr>
<th>Web 1.0</th>
<th>Web 2.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>DoubleClick</td>
<td>Google AdSense</td>
</tr>
<tr>
<td>Tbita</td>
<td>Riki</td>
</tr>
<tr>
<td>Akamai</td>
<td>BitTorrent</td>
</tr>
<tr>
<td>mp3.com</td>
<td>Napster</td>
</tr>
<tr>
<td>Britannica Online</td>
<td>Wikipedia</td>
</tr>
<tr>
<td>personal Web sites</td>
<td>blogging</td>
</tr>
<tr>
<td>Eula</td>
<td>up2me.org and Evri</td>
</tr>
<tr>
<td>domain name speculation</td>
<td>search engine optimization</td>
</tr>
<tr>
<td>page views</td>
<td>cost per click</td>
</tr>
<tr>
<td>screen scraping</td>
<td>Web services</td>
</tr>
<tr>
<td>publishing</td>
<td>participation</td>
</tr>
<tr>
<td>content management systems</td>
<td>wikis</td>
</tr>
<tr>
<td>directories (taxonomy)</td>
<td>tagging (“folksonomy”)</td>
</tr>
<tr>
<td>stickiness</td>
<td>specification</td>
</tr>
</tbody>
</table>

EXHIBIT 3.3  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.

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**EXHIBIT 5.4 Some Characteristics of the Digital Revolution**

<table>
<thead>
<tr>
<th>Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Globalization</td>
<td>Global communication and collaboration; global electronic marketplaces.</td>
</tr>
<tr>
<td>Digital shift</td>
<td>New wireless technologies and communication, enabling people to connect to digital technologies.</td>
</tr>
<tr>
<td>Speed and cost</td>
<td>Answer to low-cost transactions, thanks to digitalization.</td>
</tr>
<tr>
<td>Information overload</td>
<td>Many businesses are required to process and control.</td>
</tr>
<tr>
<td>Markets</td>
<td>Physical markets are being replaced by electronic markets; online markets are growing.</td>
</tr>
<tr>
<td>Digitization</td>
<td>New ideas are being created, increasing competition.</td>
</tr>
<tr>
<td>Business models and processes</td>
<td>New and improved business models and processes provide opportunities for new companies to succeed.</td>
</tr>
<tr>
<td>Innovation</td>
<td>Digital and Internet-based innovations continue at a rapid pace.</td>
</tr>
<tr>
<td>Administrative changes</td>
<td>The focus of innovation moves to a high-valued administrative layer.</td>
</tr>
<tr>
<td>Organizational changes</td>
<td>Organizations are changing to businesses.</td>
</tr>
<tr>
<td>New phases</td>
<td>New business models are changing to online businesses.</td>
</tr>
<tr>
<td>Agile strategies</td>
<td>Agile strategies are moving to digital strategies.</td>
</tr>
</tbody>
</table>

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**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
- Business processes
  - Global competition
  - Economic pressure
- Our Company
  - Business processes
  - EC and IT Support

Business Environment Drives EC

EXHIBIT 1.6  Major Business Pressures

<table>
<thead>
<tr>
<th>Market and Economic Pressures</th>
<th>Social Pressures</th>
<th>Technological Pressures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong competition</td>
<td>Changing nature of workforce</td>
<td>Increasing innovations and new technologies</td>
</tr>
<tr>
<td>Global economy</td>
<td>Government downsizing, leading to new competitors</td>
<td>Rapid technological obsolescence</td>
</tr>
<tr>
<td>Regional trade agreements (e.g., NAFTA)</td>
<td>Compliant (e.g., environmental, safety)</td>
<td>Increasing focus on safety</td>
</tr>
<tr>
<td>Economic uncertainty in some countries</td>
<td>Increased importance of ethical and legal issues</td>
<td>Rapid technological obsolescence</td>
</tr>
<tr>
<td>Expectation of significant changes in markets</td>
<td>Increased social responsibility of organizations</td>
<td>Rapid technological obsolescence</td>
</tr>
<tr>
<td>General power of consumers</td>
<td>Rapid political changes</td>
<td>Rapid technological obsolescence</td>
</tr>
</tbody>
</table>

EC Business Models

- Business Model
  A method of doing business by which a company can generate revenue to sustain itself
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)

**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

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

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 (informediaries)
- 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

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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

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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.
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?