

Chapter 6

E-Business and E-Commerce

Information Technology for Management
Improving Performance in the Digital Economy

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E-Business and E-commerce

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2. Major EC Mechanisms
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6.1 Overview of E-Business and E-Commerce

Overview of E-Business and E-Commerce

- **Electronic commerce**, commonly known as **e-commerce** or **e-comm**, is the buying and selling of products or services over electronic systems such as the Internet and other computer networks.

Overview of E-Business and E-Commerce

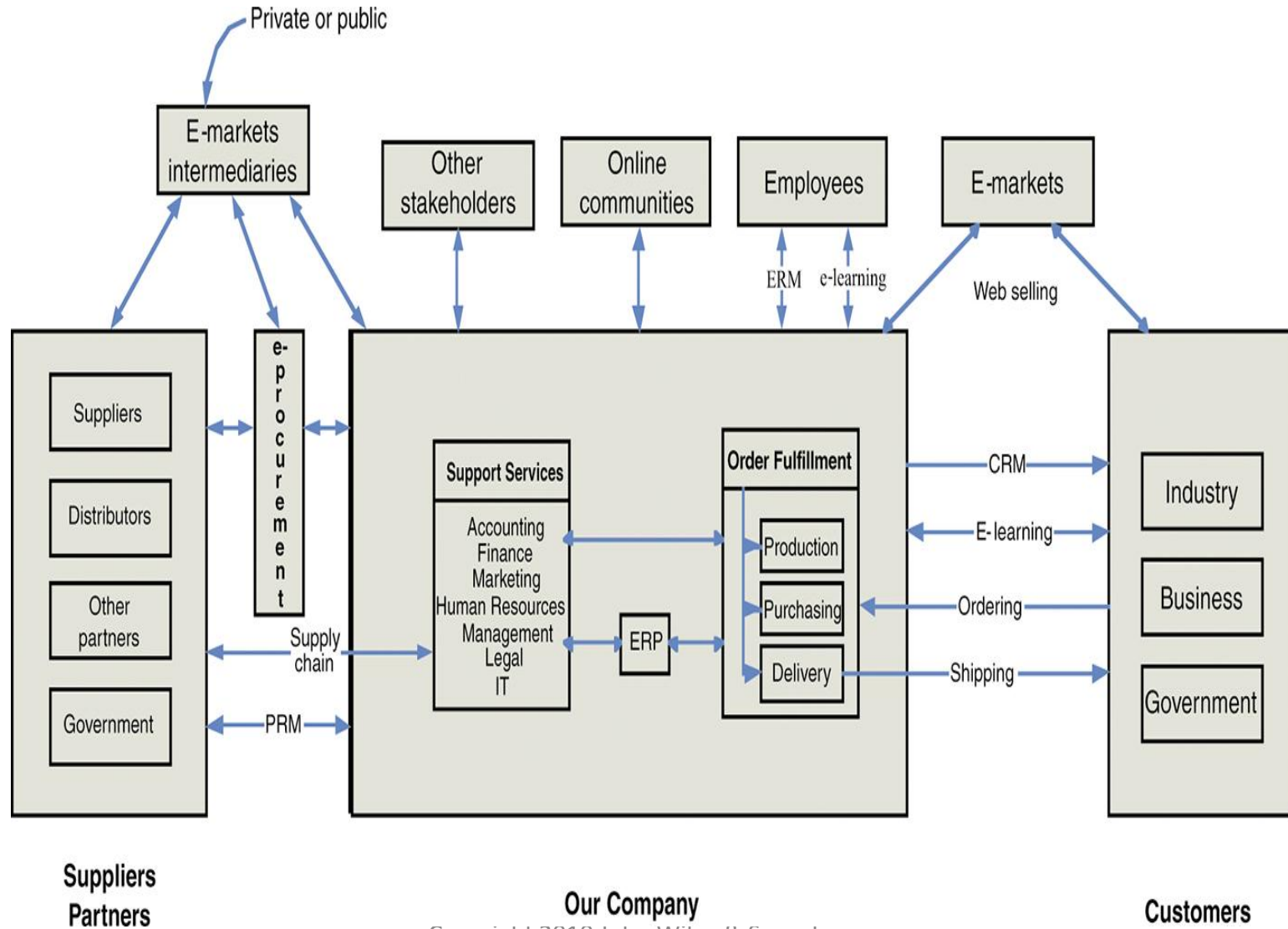
Electronic commerce draws on such technologies as:

- Electronic funds transfer,
- Supply chain management,
- Internet marketing,
- Online transaction processing,
- Electronic data interchange (EDI),
- Inventory management systems, and
- Automated data collection systems.

Overview of E-Business and E-Commerce

- Pure versus Partial EC – degree of digitization.
- EC Organizations – companies involved only in EC

Figure 6.1 E-commerce in our company



Overview of E-Business and E-Commerce

Types of E-Commerce Transactions

- Business-to-business (B2B).
- Collaborative Commerce (C-Commerce)
- Business-to-consumers (B2C)
- Business-to-business-to-Consumers (B2B2C)
- Consumers-to-business (C2B)
- Intrabusiness (intraorganizational) commerce
- Government-to-citizens (G2C) and to others

Table 6.1

TABLE 6.1	E-Commerce Business Models
EC Model	Description
Affiliate marketing	Vendors ask partners to place logos (or banners) on partner's site. If customers click on logo, go to vendor's site, and buy; then vendor pays commissions to partners. (See <i>performics.com</i> .)
Bartering online	Intermediary administers online exchange of surplus products and/or company receives "points" for its contribution, and the points can be used to purchase other needed items.
Deep discounters	Company (e.g., <i>Half.com</i>) offers deep price discounts. Appeals to customers who consider only price in their purchasing decisions.
E-Classifieds	Presentation of items for sale at fixed prices. Popular sites are <i>craigslist.com</i> and <i>classifieds2000.com</i> .
Electronic marketplaces and exchanges	Transactions are conducted efficiently (more information to buyers and sellers, less transaction cost) in virtual marketplaces (private or public).
Electronic tendering system	Businesses conduct online tendering, requesting quotes from suppliers. Used in B2B with a <i>reverse auction</i> mechanism (see Section 6.2).
Find-the-best-price	Customers specify a need; an intermediary (e.g., <i>Hotwire.com</i>) compares providers and shows the lowest price. Customers must accept the offer in a short time or may lose the deal.
Group purchasing (e-co-ops)	Small buyers aggregate several demands to get a large volume; then the buying group conducts tendering or negotiates a low price (see <i>njnonprofits.org/groupbuy.html</i>).
Information brokers and matching services	Brokers provide services related to EC information, such as trust, content, matching buyers and sellers, evaluating vendors and products.
Membership	Only members can use the services provided, including access to certain information, conducting trades, etc. (e.g., <i>Egreetings.com</i>).
Name-your-own-price	Customers decide how much they are willing to pay. An intermediary (e.g., <i>Priceline.com</i>) tries to match a provider.
Online auctions	Companies or individuals run auctions of various types on the Internet. Fast and inexpensive way to sell or liquidate items.
Online direct marketing	Manufacturers or retailers sell directly online to customers. Very efficient for digital products and services. Can allow for product or service customization.
Product customization	Customers use the Internet to self-configure products or services. Sellers then price them and fulfill them quickly (<i>build-to-order</i>).
Supply-chain improvers	Organizations restructure supply chains to hubs or other configurations. Increases collaboration, reduces delays, and smoothes supply chain flows.
Value-chain integrators	Integrators aggregate information and package it for customers, vendors, or others in the supply chain.
Value-chain service providers	Service provider offers specialized services in supply chain operations such as providing logistics or payment services.
Viral marketing	Receivers of e-mails send the received or related information about your product to their friends (word-of-mouth). (Be on the watch for viruses.)

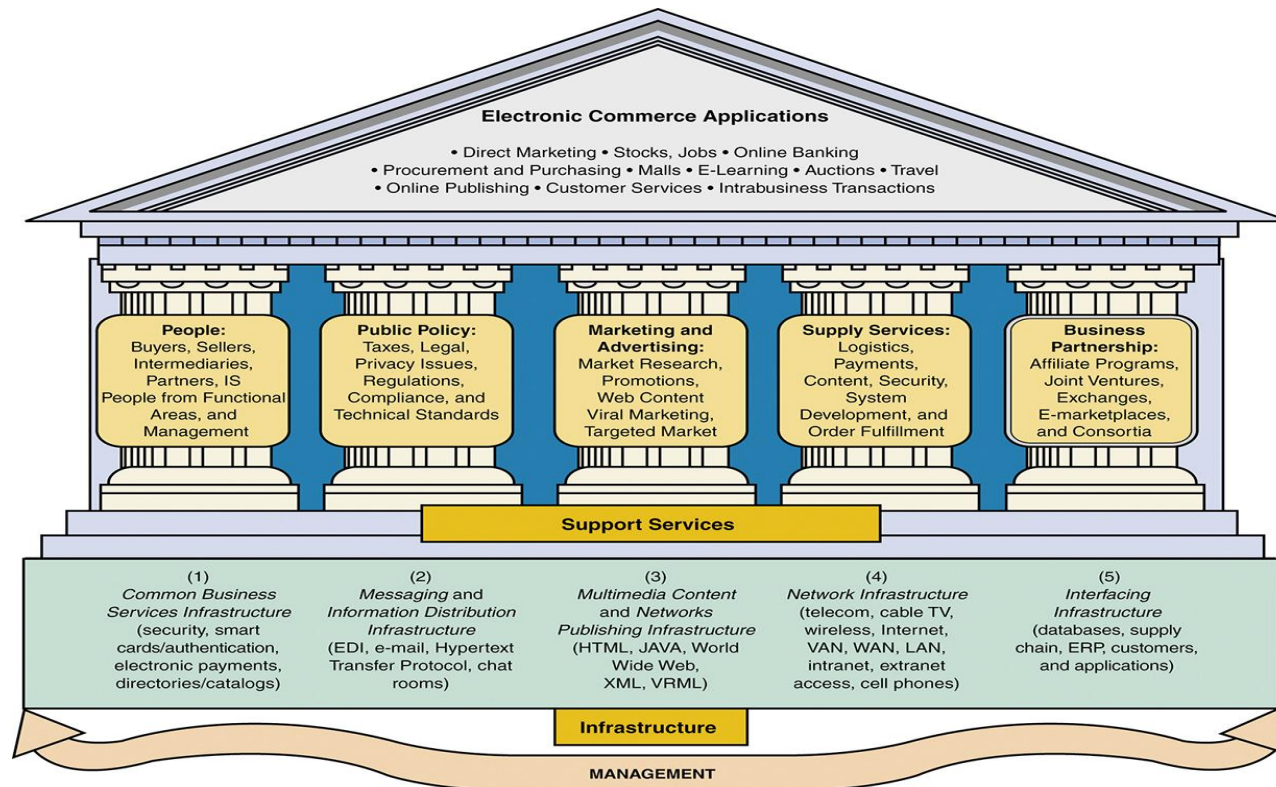
Overview of E-Business and E-Commerce

Brief History and Scope of EC

- EC Newcomers: Social Network Sites
- Social Commerce
- The Scope of EC
 - People
 - Public Policy
 - Marketing and advertising
 - Support services
 - Business partnerships

Figure 6.2 A framework for E-commerce.

(Source: Drawn by E. Turban)



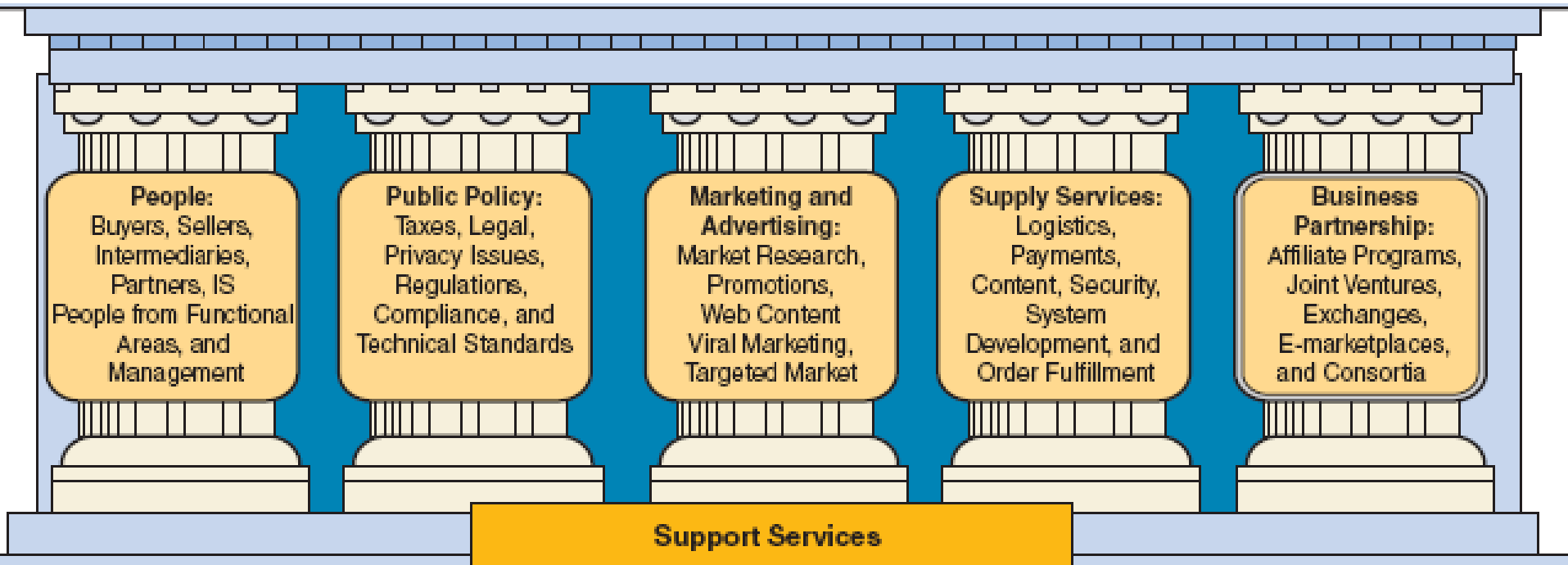
Components of EC

The field of e-commerce is broad, and there are many of EC applications



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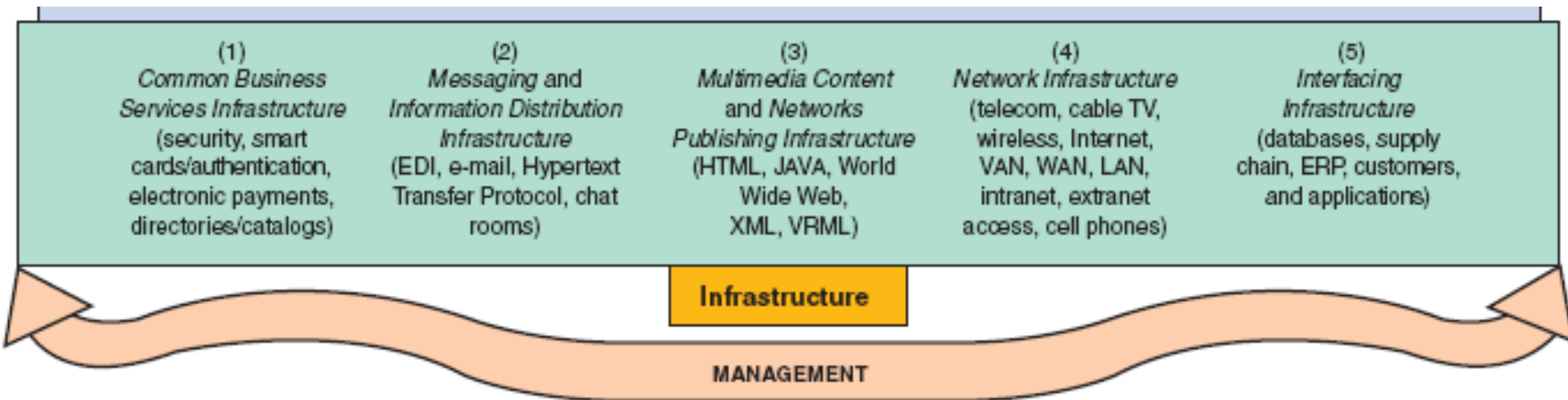


Table 6.2

TABLE 6.2 Benefits of E-Commerce

To Organizations

- Expands a company's selling and buying opportunities to national and international markets. With minimal capital outlay, a company can quickly locate more customers, the best suppliers, and the most suitable business partners worldwide.
- Enables companies to procure material and services from other countries rapidly and at less cost.
- Shortens or even eliminates marketing distribution channels, making products cheaper and vendors' profits higher.
- Decreases (by as much as 90 percent) the cost of creating, processing, distributing, storing, and retrieving digitizable products and services (e.g., music, software).
- Allows lower inventories by facilitating "pull"-type supply chain management (see Online Appendix 2A). This allows product customization and reduces inventory costs.
- Lowers telecommunications costs because the Internet is much cheaper than value-added networks (VANs).
- Helps some small businesses compete against large companies.
- Enables a very specialized niche market (e.g., *cattoys.com*).

To Customers

- Frequently provides less expensive products and services by allowing consumers to conduct quick online searches and comparisons (e.g., *Froogle.com*).
- Gives consumers more choices in selecting products and vendors.
- Enables customers to shop or make other transactions 24 hours a day, from almost any location.
- Retrieves relevant and detailed information in seconds.
- Enables consumers to get customized products or services, from PCs to cars, at competitive prices.
- Makes it possible for people to work and study at home.
- Makes possible electronic auctions that benefit buyers and sellers.
- Allows consumers to interact in electronic communities and to exchange ideas and compare experiences.

To Society

- Enables individuals to work at home and to do less traveling, resulting in less road traffic, less energy use, and less air pollution.
- Allows some merchandise to be sold at lower prices, thereby increasing people's standard of living.
- Enables people in developing countries and rural areas to enjoy products and services that otherwise are not available. This includes opportunities to learn professions and even earn college degrees, or to receive better medical care.
- Facilitates delivery of public services, such as government entitlements, reducing the cost of distribution and chance of fraud, and increasing the quality of social services, police work, healthcare, and education.

Table 6.3

TABLE 6.3 | Limitations of E-Commerce

Technological Limitations

- Lack of universally accepted standards for quality, security, and reliability.
- Insufficient telecommunications bandwidth.
- Still-evolving software development tools.
- Difficulties in integrating the Internet and EC applications and software with some existing (especially legacy) applications and databases.
- Need for special Web servers in addition to the network servers.
- Expensive and/or inconvenient Internet accessibility for many would-be users.

Nontechnological Limitations

- Some unresolved legal issues (see Section 6.7).
- Lack of national and international government regulations and industry standards.
- Lack of mature methodologies for measuring benefits of and justifying EC.
- Many sellers and buyers waiting for EC to stabilize before they take part.
- Customer resistance to changing from a real to a virtual store. Many people do not yet sufficiently trust paperless, faceless transactions.
- Perception that EC is expensive and unsecured.
- An insufficient number (critical mass) of sellers and buyers exists for many EC products and services.

6.2 Major EC Mechanisms

Major EC Mechanisms

- **Electronic Markets**
- **Electronic Catalogs and Classifieds**
- **Electronic Auctions (E-Auctions)**
 - Forward Auctions
 - Reverse Auctions
- **Bartering and Negotiations**

6.3 Business-to-Consumer Applications

Business-to-Consumer Applications

Electronic Retailing Mechanisms: Storefronts and Malls

- Electronic Storefronts
- Electronic Malls – referral malls and complete mall (with one shopping cart and payment gateway)

E-Tailing: The Essentials - customization

Business-to-Consumer Applications

Online Services Industries

- Cyber-banking
- Online Securities Trading
- The online Job Market
- Travel Services
- Real Estate

Business-to-Consumer Applications

Customer Service

- Phase in the Customer Service Life Cycle
 - Phase 1. Requirements
 - Phase 2. Acquisition
 - Phase 3. Ownership
 - Phase 4. Retirement - resale
- E-Entertainment
- Customization and Personalization

Business-to-Consumer Applications

Issues in E-Tailing

- Resolving Channel conflict
- Resolving conflicts within click-and-mortar organization
- Organizing order fulfillment and logistics
- Determining viability and risk of online e-tailers
- Identifying appropriate revenue models

6.4 B2B Applications

B2B Applications

Sell-Side Corporate Marketplaces

By-Side Corporate Marketplaces

- E-Procurement
 - Group Purchasing
 - Desktop Purchasing

B2B Applications

Public Exchanges - Types of public exchanges

- Vertical exchanges for direct materials
- Vertical exchanges for indirect materials
- Horizontal exchanges
- Functional exchanges

6.5 Major Models of E-Business: From E-Government to C2C

Major Models of E-Business: From E-Government to C2C

- **Business-to-Employees (B2E) Commerce**
- **E-Commerce Between and Among Corporate Employees**
- **E-Commerce Between and Among Units within the Business**
- **Collaborative Commerce**

Major Models of E-Business: From E-Government to C2C

Consumer-to-Consumer E-Commerce

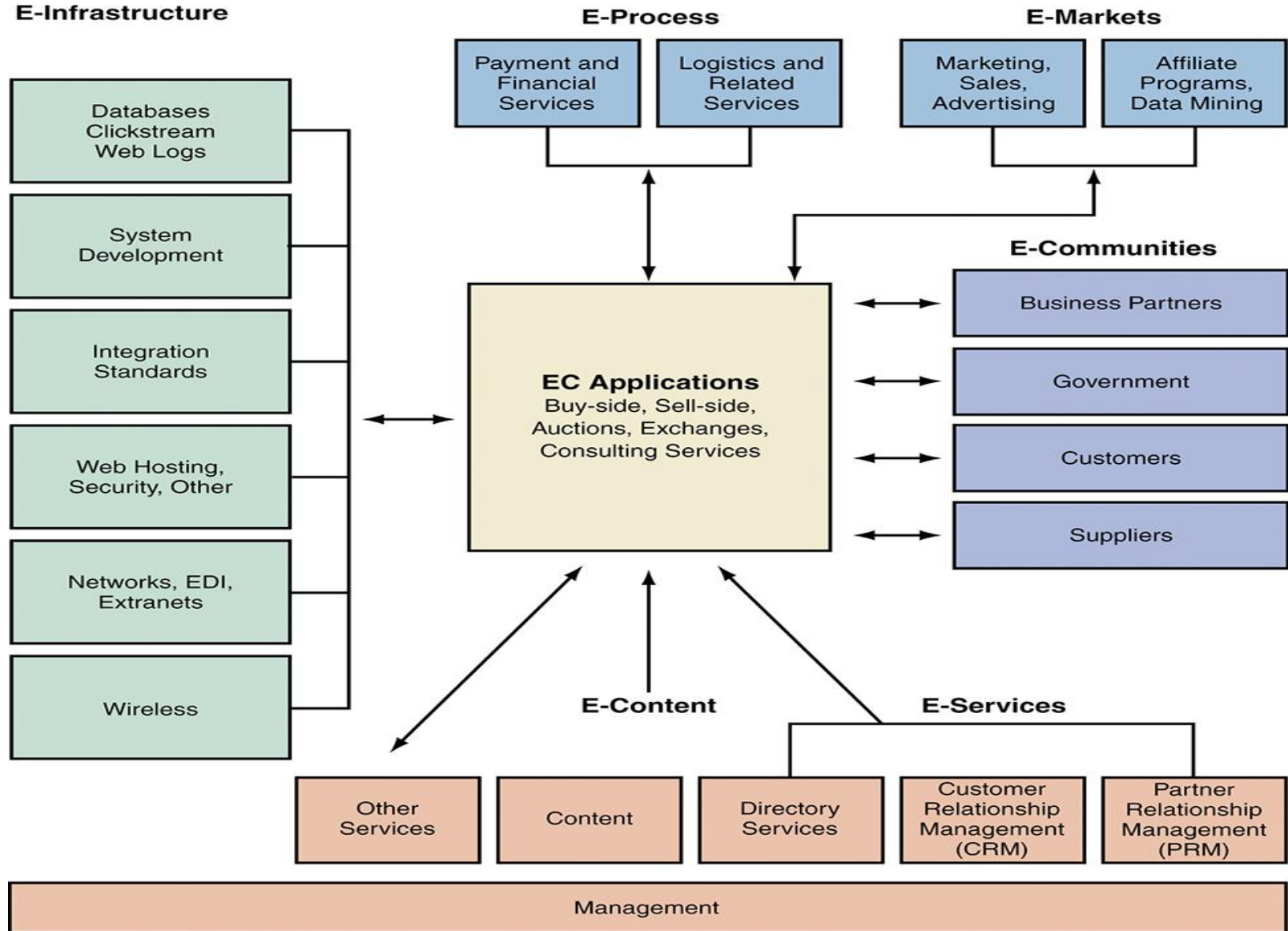
- C2C Auctions
- Classified Ads
- Personal Services
- Support Services to C2C

E-Government to C2C

- **B2E** – organizations disseminate information to employees over company intranet.
- **E2E** – employees communicate with each other. I.e.: goods & services bought & sold among fellow employees.
- **SBU/SBU** – company owned dealerships buy goods & services from main company. Improves internal supply chain operations.
- **E-Collaborative** – digital technologies that enable collaboration.
- **E-Government** – delivers information & services to citizens, business partners & suppliers. I.e.: G2C, G2B, G2G.

6.6 E-Commerce Support Services: Payment, & Order Fulfillment

Figure 6.3 E-commerce support services.



E-Commerce Support Services: Payment, & Order Fulfillment

Market Research for EC

Web Advertising

- Affiliate Marketing and Advertising
- Search Engine Advertisement
- Ads as a Commodity
- Viral Marketing
- Customizing Ads - Online Events, Promotions, and Attractions.
- Live Web Events
- Advertising in Newsletters
- Posting Press Releases Online
- Advergaming

E-Commerce Support Services: Payment, & Order Fulfillment

Electronic Payments

Electronic Payment Systems

- Electronic Credit Cards
- Electronic Bill Payments
 - Online Banking
 - Biller Direct
 - Bill Consolidator

E-Commerce Support Services: Payment, & Order Fulfillment

Electronic Payments

Electronic Payment Systems

- Electronic Credit Cards
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 - Bill Consolidator

E-Commerce Support Services: Payment, & Order Fulfillment

- Security in Electronic Payment
 - Authentication
 - Integrity
 - Nonrepudiation
 - Privacy
 - Safety
- Security Protection
- E-wallets
- Virtual Credit Card
- Payment Using Fingerprints

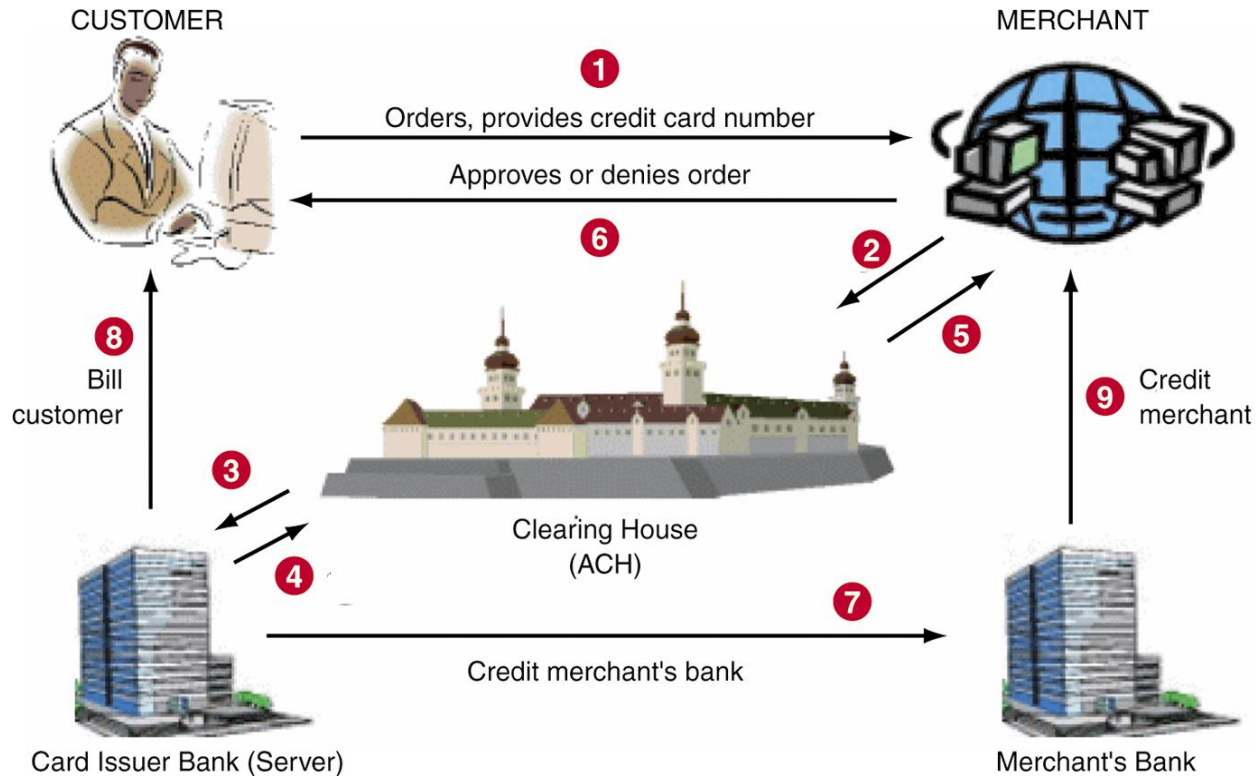
E-Commerce Support Services: Payment, & Order Fulfillment

- Security in Electronic Payment
 - Authentication
 - Integrity
 - Nonrepudiation
 - Privacy
 - Safety
- Security Protection
 - E-wallets. E-wallets
 - Virtual Credit Card
 - Payment Using Fingerprints

Table 6.4

TABLE 6.4	Electronic Payments Methods
Method	Description
Electronic funds transfer	Popular for paying bills online. Money is transferred electronically from payer's account to the recipient's.
Electronic checks	Digitally signed e-check is encrypted and moved from the buying customer to the merchant.
Electronic credit cards	Paying with regular credit cards (encrypted numbers); example: <i>eCharge.com</i> .
Purchasing e-cards	Corporate credit cards, with limits, work like regular credit cards, but must be paid quicker (e.g., in one week).
e-Cash—stored-value money cards	Prepaid card can be used for transportation, making copies in the library, parking (in some cities), telephone calls, etc.
e-Cash—smart cards	Cards that contain considerable information can be manipulated as needed and used for several purposes, including transfer of money.
e-Cash—person-to-person	Special online account from which funds can be sent to others is created. PayPal is the best-known company (an eBay company). You can pay businesses as well. Another example is Yahoo Pay Direct.
Electronic bill presentment and payments	Bills are presented for payer's approval. Payment is made online (e.g., funds transfer). Examples: <i>CheckFree.com</i> , Yahoo Bill Pay.
Pay at ATMs	ATM allows you to pay monthly bills (e.g., to utility companies) by transferring money from your account to the biller.
Micropayments	Payments are too small to be paid with credit cards. Can be paid with stored-value money cards, or with special payment methods, including payments from cell phones.
B2B special methods	Enterprise invoice presentment and payment, wire transfer, and electronic letter of credit are popular methods.

Figure 6.4



How e-credit cards work. (The numbers 1-9 indicate the sequence of activities.) (Source: Drawn by E. Turban.)

E-Commerce Support Services: Payment, & Order Fulfillment

Models for mobile payments:

- Premium SMS based transactional payments
- Direct Mobile Billing - PIN and One-Time-Password
- Mobile web payments (WAP) - additional applications downloaded and installed on the mobile phone
- Contactless NFC (Near Field Communication) - special mobile phone equipped with a smartcard waves his/her phone near a reader module

Figure 6.5



**The use of a mobile phone as an e-wallet.
(Source: Koichi Kamoshida/Getty Images.)**

6.7 Ethical & Legal Issues in E-Business

Ethical & Legal Issues in E-Business

Ethical and Implementation Issues

- Privacy
- Web Tracking
- Loss of Jobs
- Disintermediation and Reintermediation

Legal Issues Specific To E-Commerce

Ethical & Legal Issues in E-Business

Protection of EC Buyers and Sellers

- Buyer Protection
- Seller Protection

Table 6.5

TABLE 6.5 Tips for Safe Electronic Shopping

- Look for reliable brand names at sites such as Wal-Mart Online, Disney Online, and *Amazon.com*. Before purchasing, make sure that the site is authentic by entering the site directly and not from an unverified link.
- Search any unfamiliar selling site for the company's address and phone and fax numbers. Call up and quiz the employees about the seller.
- Check out the vendor with the local Chamber of Commerce or Better Business Bureau (*bbbonline.org*). Look for seals of authenticity such as TRUSTe.
- Investigate how secure the seller's site is by examining the security procedures and by reading the posted privacy policy.
- Examine the money-back guarantees, warranties, and service agreements.
- Compare prices to those in regular stores. Too-low prices could prove too good to be true, and some "catch" is probably involved.
- Ask friends what they know. Find testimonials and endorsements in community sites and well-known bulletin boards.
- Find out what your rights are in case of a dispute. Consult consumer protection agencies and the National Fraud Information Center (*fraud.org*).
- Check *consumerworld.org* for a listing of useful resources.
- Check *cfnenet.com* and *isaca.org*.

6.8 Managerial Issues

Managerial Issues

- E-Commerce failures – common. Solid business analyses a must.
- Failed initiatives within an organization.
- Success stories & lessons learned should be shared.
- Managing resistance to change.
- Integration into business overall.
- Lack of qualified personnel & outsourcing.
- Managing impact on organization.
- Alliances can be very helpful & productive.
- Choosing appropriate strategy.