



CHAPTER 1



Introduction to Information Systems

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1. Why Should I Study Information Systems?
 2. Overview of Computer-Based Information Systems
 3. How Does IT Impact Organizations?
 4. Importance of Information Systems to Society
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1. Identify the reasons why being an informed user of information systems is important in today's world.
 2. Describe the various types of computer-based information systems in an organization.
 3. Discuss ways in which information technology can affect managers and non-managerial workers.
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4. Identify positive and negative societal effects of the increased use of information technology.



Opening Case

- **FanDuel**

1. Describe how information technology is essential to FanDuel's operations.
2. Discuss the nontechnological problems that FanDuel faces.
3. Describe FanDuel's information technology infrastructure. Now discuss possible technological problems that FanDuel might face.

1.1 Why Should I Study Information Systems

- The Informed User – You!
- IT Offers Career Opportunities
- Managing Information Resources

Reasons Why You Should Be An Informed User...

1. You will benefit more from your organization's IT applications because you will understand what is "behind" those applications.
 2. Your input can enhance your organization's IT applications.
 3. As you enter the workforce you can assist in selecting the IT applications your organization will use.
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Reasons Why You Should Be An Informed User (con't)...

4. You will aware of both new information technologies and rapid developments in existing technologies.
 5. You will understand how using IT can improve your organization's performance.
 6. If you are entrepreneurial minded, you can use IT to start your own business.
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IT Offers Career Opportunities


- Chief Information Officer (CIO)
 - Substantial Demand for IT Staff
 - Programmers
 - Business Analysts
 - System Analysts
 - Designers
 - \$130,000 is the median salary in 2015 for IS Managers (US Dept of Labor)
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IT Skills Open Many Doors Because IT Is So Widely Used



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Managing Information Resources

- Managing information systems (IS) is difficult and complex
 - Contributing Factors:
 - Strategic value of IS's
 - Acquiring, operating, and maintaining IS's is very expensive
 - Evolution of the IS Function
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1.2 Overview of Computer-Based IS's

- Data – Information – Knowledge
- Computer-Based Information System (CBIS)
- Types of Computer-Based Information Systems (CBIS)

Data – Information – Knowledge



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Data



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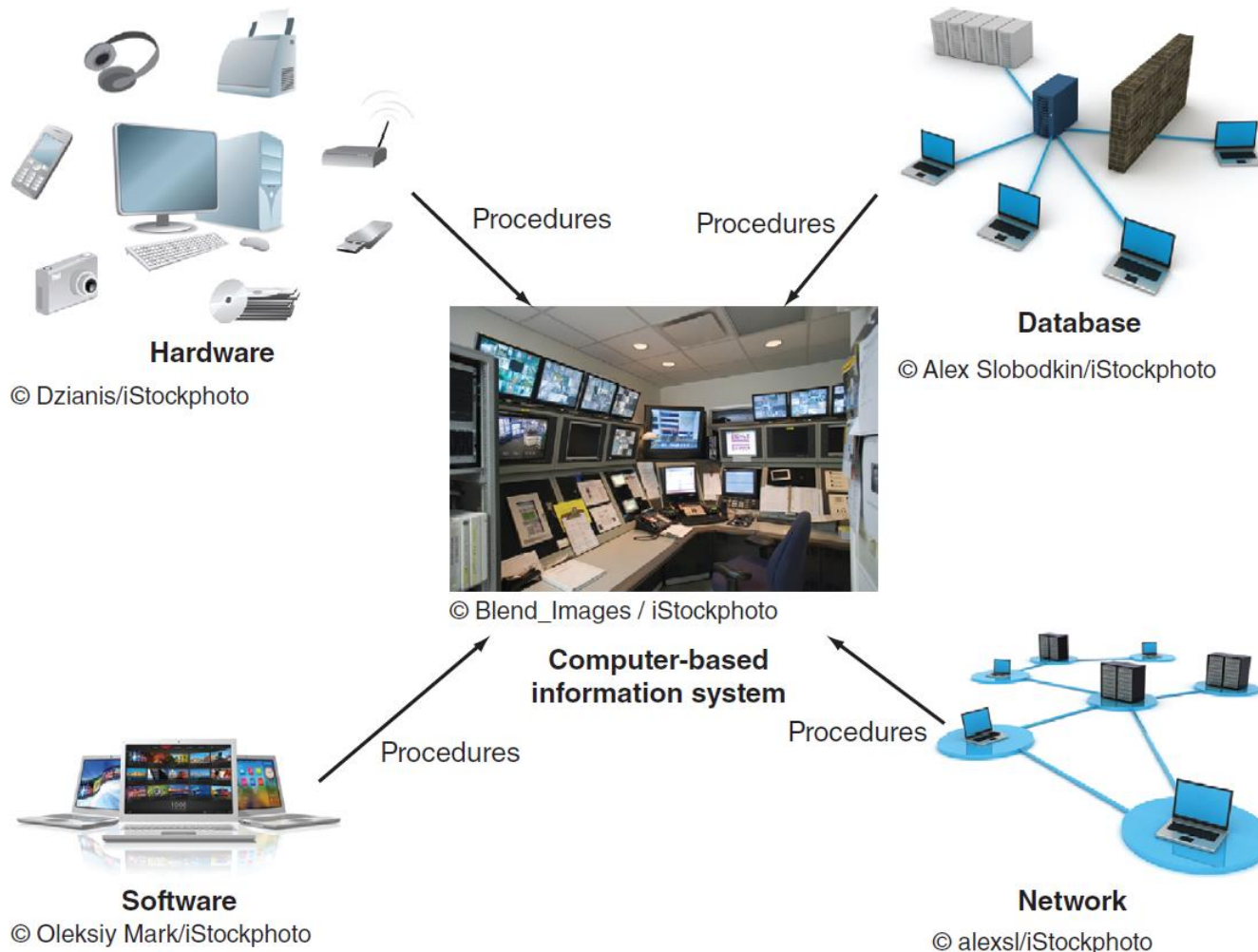
Information




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Knowledge

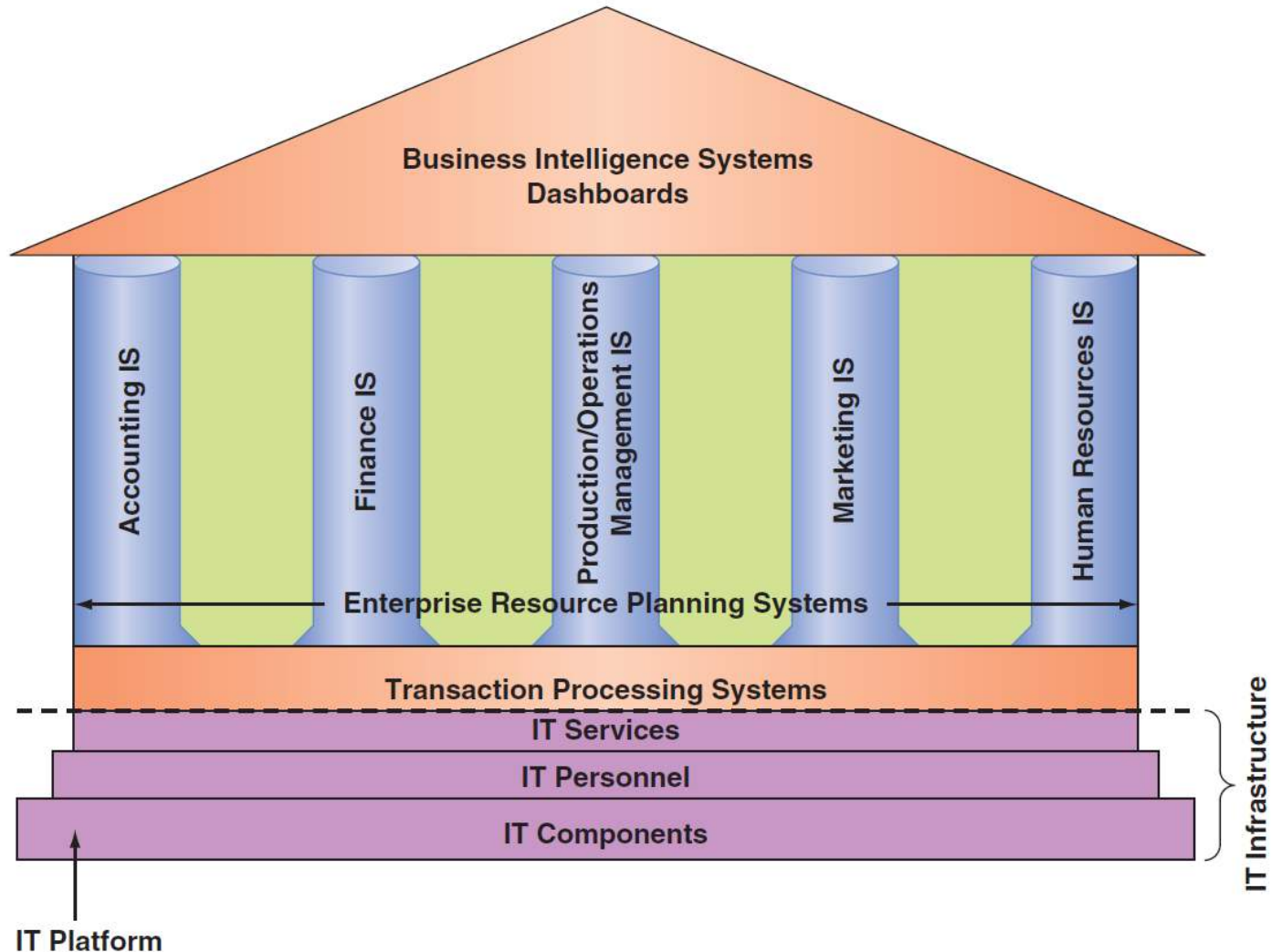
Data versus Information versus Knowledge



Components of a CBIS

- Hardware
 - Software
 - Database
 - Network
 - Procedures
 - People
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Computer-Based Information Systems (CBIS)



Types of Computer Based Information Systems (CBIS)

- Breadth of Support for Information Systems (IS)
- Support for Organizational Employees

Breadth of Support for Information Systems (IS)

- Functional Area Information Systems (FAIS)
 - Enterprise Resource Planning Systems (ERP)
 - Transaction Processing Systems (TPS)
 - Interorganizational Information Systems (IOS)
 - E-Commerce Systems
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Major Capabilities of Information Systems (Table 1.3)

- Perform high-speed, high-volume numerical computations.
 - Provide fast, accurate communication and collaboration within and among organizations.
 - Store huge amounts of information in an easy-to-access, yet small space.
 - Allow quick and inexpensive access to vast amounts of information, worldwide.
 - Analyze and interpret vast amounts of data quickly and efficiently.
 - Automate both semiautomatic business processes and manual tasks.
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Figure 1.5: IS that function among multiple organizations

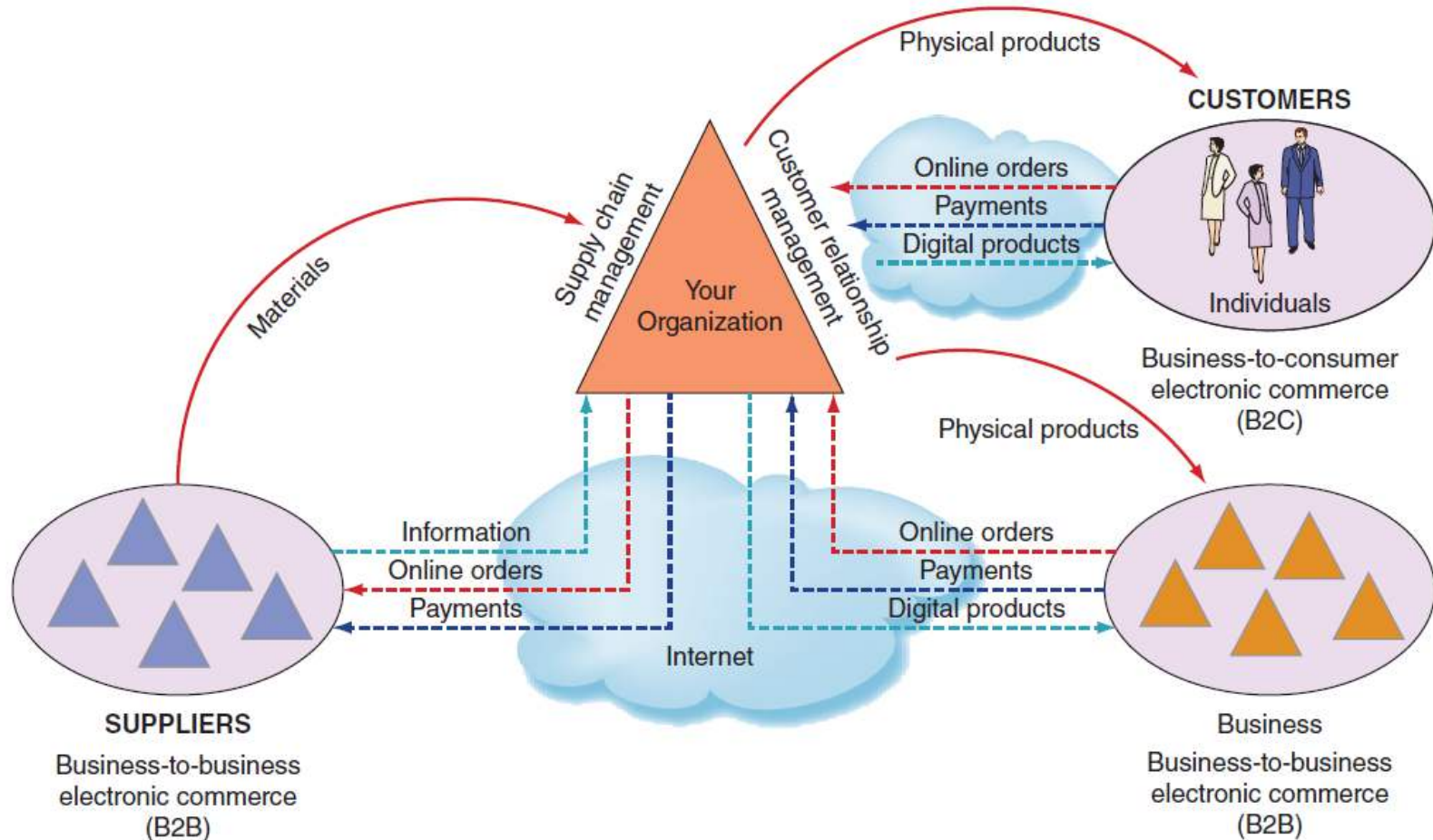



Figure 1.5 Information systems that function among multiple organizations.

Support for Organizational Employees

- Knowledge Workers
 - Office Automation Systems (OASs)
 - Business Intelligence (BI) Systems
 - Expert Systems (ES)
 - Dashboards
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About Business 1.1

- Disrupting the Roadside Assistance Industry
 1. Discuss how information technology enables the business models of the Urgent.ly and Honk apps.
 2. Describe the advantages and disadvantages of Urgent.ly and Honk for customers and for tow-truck operators.
 3. Would you use Urgent.ly or Honk? Why or why not?
 4. If you were the CEO of AAA, how would you compete with Urgent.ly and Honk? Provide specific examples in your answer.

Types of Organizational Information Systems (Table 1.4)

Type of System	Function	Example
Functional area IS	Supports the activities within specific functional area.	System for processing payroll
Transaction processing system	Processes transaction data from terminal	Walmart checkout point-of-sale business events
Enterprise resource planning	Integrates all functional areas of the organization.	Oracle, SAP system
Office automation system	Supports daily work activities of individuals and groups.	Microsoft® Office
Management information system	Produces reports summarized from transaction data, usually in one functional area.	Report on total sales for each customer
Decision support system	Provides access to data and analysis tools.	“What-if” analysis of changes in budget
Expert system	Mimics human expert in a particular area and makes decisions.	Credit card approval analysis
Executive dashboard	Presents structured, summarized information about aspects of business important to executives.	Status of sales by product
Supply chain management system	Manages flows of products, services, and information among organizations.	Walmart Retail Link system connecting suppliers to Walmart
Electronic commerce system	Enables transactions among organizations and between organizations and customers.	www.dell.com

1.3 How Does IT Impact Organizations?

- IT Impacts Entire Industries
 - IT Reduces the Number of Middle Managers
 - IT Change's the Manager's Job
 - Will IT Eliminate Jobs?
 - IT Impacts Employees at Work
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IT Impacts Entire Industries

- Book Industry
 - Music Industry
 - Video Industry
 - Software Industry
 - Videogame Industry
 - Photography Industry
 - Marketing Industry
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IT Impacts Entire Industries (Continued)

- Recruiting Industry
 - Financial Services Industry
 - Motion Picture Industry
 - Automotive Industry
 - Agriculture Industry
 - National Defense Industry
 - Fashion Industry
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IT Impacts Entire Industries (Continued)

- Education
- Legal Profession



IT Impacts Employees at Work

- IT Impacts Employees' Health and Safety
- IT Provides Opportunities for People with Disabilities

Figure 1.6: Ergonomic products protect computer users.



Media Bakery

(a)



Media Bakery

(b)



Media Bakery

(c)



Media Bakery

(d)

1.4 Importance of IS to Society

- IT Affects Our Quality of Life
- The Robot Revolution is Here Now
- Improvements in Healthcare

About Business 1.2

- Information Technology Has the Potential for “Revolutionizing” Cuba
 1. Describe the “work-arounds” that Cuban entrepreneurs must perform to use digital technologies in the four examples discussed in this case.
 2. Discuss how free, open access to high-speed Internet connections would transform the operations of each of the four examples.
 3. Why would the Cuban government limit access to the Internet? Provide specific examples in your answer.

About Business 1.3

- Apricot Forest Helps China's Physicians
 1. Explain how Apricot Forest's apps will help improve the relationship between physicians and patients in China.
 2. Explain how Apricot Forest's apps will help improve overall healthcare in China.
 3. Discuss potential disadvantages of Apricot Forest's apps to patients.
 4. Discuss potential disadvantages of Apricot Forest's apps to physicians.