ESSENTIALS OF
BUSINESS
INFORMATION
SYSTEMS

SEVENTH EDITION

KENNETH C. LAUDON · JANE P. LAUDON

Essentials of Business Information Systems
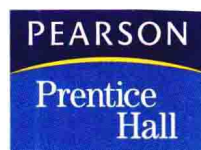
Seventh Edition

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For Erica and Elisabeth

Kenneth C. Laudon   is a Professor of Information Systems at New York University's Stern School of Business. He holds a B.A. in Economics from Stanford and a Ph.D. from Columbia University. He has authored 12 books dealing with electronic commerce, information systems, organizations, and society. Professor Laudon has also written over 40 articles concerned with the social, organizational, and management impacts of information systems, privacy, ethics, and multimedia technology.

Professor Laudon's current research is on the planning and management of large-scale information systems and multimedia information technology. He has received grants from the National Science Foundation to study the evolution of national information systems at the Social Security Administration, the IRS, and the FBI. Ken's research focuses on enterprise system implementation, computer-related organizational and occupational changes in large organizations, changes in management ideology, changes in public policy, and understanding productivity change in the knowledge sector.

Ken Laudon has testified as an expert before the United States Congress. He has been a researcher and consultant to the Office of Technology Assessment (United States Congress) and to the Office of the President, several executive branch agencies, and Congressional Committees. Professor Laudon also acts as an in-house educator for several consulting firms and as a consultant on systems planning and strategy to several Fortune 500 firms. At NYU's Stern School of Business, Ken Laudon teaches courses on Managing the Digital Firm, Information Technology and Corporate Strategy, Professional Responsibility (Ethics), and Electronic Commerce and Digital Markets. Ken Laudon's hobby is sailing and he is a veteran Newport to Bermuda Race captain.

Jane Price Laudon   is a management consultant in the information systems area and the author of seven books. Her special interests include systems analysis, data management, MIS auditing, software evaluation, and teaching business professionals how to design and use information systems.

Jane received her Ph.D. from Columbia University, her M.A. from Harvard University, and her B.A. from Barnard College. She has taught at Columbia University and the New York University Graduate School of Business. She maintains a lifelong interest in Oriental languages and civilizations.

The Laudons have two daughters, Erica and Elisabeth.

BRIEF CONTENTS

We wrote this book for business school students who wanted a brief but in-depth look at how business firms in the United States use information technologies and systems to achieve corporate objectives. The premise of this book is that all business school students—regardless of their majors—require some basic understanding and knowledge of how to use information systems and technologies on their jobs. The reason for this is quite simple: Information systems are one of the major tools available to business managers for achieving corporate goals, such as operational excellence, developing new products and services, improving decision making, and achieving competitive advantage.

When interviewing potential employees, business firms often look for new hires who know how to use information systems and technologies for achieving bottom-line business results. Regardless of whether you are an accounting, finance, management, operations management, marketing, or information systems major, the knowledge and information you find in this book will be valuable throughout your business career.

It's a New World of Business

A continuing stream of information technology innovations, combined with new business practices and superb management decisions, is transforming the way we do business, the way revenues are generated, and the way customers receive products and services. New avenues of telecommunication, such as high-speed wireless Wi-Fi networks, cellular phone networks and high-speed telecommunications service to the home and small business, coupled with entirely new hardware platforms, such as smart phones, personal digital assistants, and very powerful wireless laptop computers, are changing how people work, where they work, and what they do when they work. In the process, some old businesses, even industries, are being destroyed while new businesses are springing up.

For instance, the emergence of online music stores—driven by millions of consumers who prefer iPods and MP3 players to CDs—has forever changed the older business model of distributing music on physical devices, such as records and CDs. The emergence of online DVD rentals has transformed the old model of distributing films through theaters and then through DVD rentals at physical stores. New high-speed broadband connections to the home have supported these two business changes, and in addition, permanently altered the marketing and advertising worlds as newspaper advertising declines and Internet advertising explodes.

Likewise, the management of business firms has changed: The emergence of powerful mobile phones based on high-speed digital networks means even remote salespeople on the road are only seconds away from their managers' questions and oversight. The growth of enterprise-wide information systems that provide extraordinarily rich data to managers on customers, suppliers, and employees, means that managers no longer operate in a fog of confusion but instead have online, nearly instant, access to the really important information they need to make accurate and timely decisions.

What Do You Really Need to Know About Information Systems and Technologies?

One of the challenges in writing this book was discovering exactly what a business student needs to know about information systems and technologies. We decided early on that knowing how the technology works in detail might be important for information systems (IS) majors, or for the curious, but less important for accounting, finance, management, marketing, operations research, and other business majors. What was important for all groups of business students—including IS majors—was a solid knowledge of *how businesses today use the technology* to achieve business objectives.

But what are the most important business objectives through which to examine IS? We decided the most important objectives that drive the use of information systems and technologies are the following:

- Operational excellence
- New products and services
- Customer and supplier intimacy
- Improved decision making by all employees
- Competitive advantage
- Survival

A Problem-Solving Perspective

Achieving these objectives is usually not easy, and it presents many challenges to real-world businesses. Companies turn to information systems to meet these challenges, along with changes in organizational culture and structure, and employee behavior. We came to realize that a *problem-solving perspective* is very useful for explaining how businesses go about achieving their business objectives by using information systems. We want students to understand this business problem-solving and critical-thinking perspective because it will be an important asset for them to demonstrate when seeking employment opportunities. Businesses seek out problem solvers. Throughout the book, beginning in Chapter 1, we use the problem-solving perspective by showing how real-world companies identified and ultimately solved key business challenges using information systems and technologies.

New to the Seventh Edition

This edition has been totally rewritten as a concise, student-friendly introduction to information systems for business students. It shows how information systems help businesses achieve their core objectives and integrates a career orientation that demonstrates the relevance of information systems to all business students regardless of their majors. This edition also puts more emphasis on showing students how to use information systems in business problem solving. The following features and content reflect this new direction.

Streamlined Student-Friendly Content

We've streamlined the text into 12 chapters to make it more accessible for students. The revision focuses on the essential information systems concepts students need, making the

text suitable for quarter courses or courses where the instructor wishes to supplement the text with additional projects.

Career Resources Integrated Throughout

This edition contains several new features showing how the text and the course are directly useful in future business careers.

New Heads Up Section

A new **Heads Up** section at the beginning of each chapter shows why students need to know about the chapter contents and how this knowledge will help them in their future careers in finance and accounting; human resources; manufacturing, production, and operations management; and sales and marketing.

New Career Guidelines

Chapter 1 includes a detailed discussion of information systems skills required of accounting, finance, management, marketing, operations management, and information systems majors.

New Structured Digital Portfolio

Concluding the text is a new Building Your Digital Portfolio section to help students with career building. It shows how to use the text with a template on the Laudon student Web site for building a structured digital portfolio demonstrating the business knowledge, application software proficiency, and Internet skills they have acquired from using this text. This portfolio can be included in a resume or job application or used as a learning assessment tool for instructors.

New Career Opportunities Slide Presentation

A slide presentation prepared by Kenneth Laudon examines the future occupational and employment outlook for information systems majors until 2012. This presentation is available to adopters on the Laudon Web site.

Modularization: New Learning Tracks Feature

A new **Learning Tracks** feature gives instructors the flexibility to provide in-depth coverage of the topics they choose. A Learning Tracks section at the end of each chapter directs students to supplementary material on the Laudon student Web site. This optional content provides additional details on chapter topics that instructors can select for more in-depth coverage. For example, the Learning Tracks provide additional coverage of topics such as developments in computer processing, storage, and networking that have transformed IT infrastructure for the hardware/software chapter; entity-relationship diagramming and normalization for the database chapter; general and application controls for information systems in the security chapter; or capital budgeting methods for new information systems in the building information systems chapter.

LEARNING TRACKS

1. If you want to learn more about entity-relationship diagramming and normalization, you will find a Learning Track on Database Design, Normalization, and Entity-Relationship Diagramming at the Laudon Web site for this chapter.
2. If you want to learn more about using SQL to query a database, you will find a Learning Track on SQL at the Laudon Web site for this chapter.

Problem-Solving and Skills Emphasis

This edition puts more emphasis on showing students how to use information systems to solve business problems than did earlier editions.

- Chapter 1 introduces a **four-step problem-solving method** that students can use throughout the course. They will learn how to identify a business problem, design alternative solutions, choose the correct solution, and implement the solution.

This four-step method helps students analyze information systems problems and develop solutions.

Problem identification

Solution design

Feedback

Solution evaluation and choice

Implementation
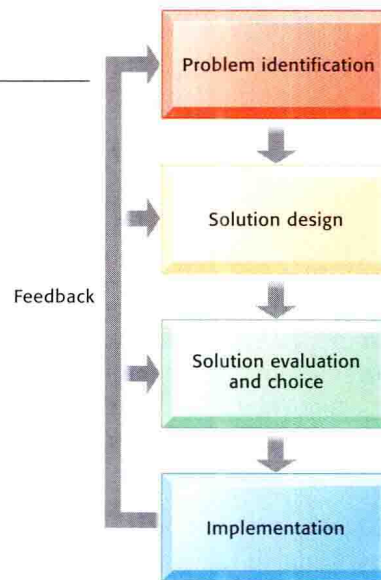
- Case studies in the text require students to use this problem-solving method to analyze the case and answer the case study questions.
- The end of each chapter provides an array of hands-on projects that promote higher-order thinking and encourage students to apply information from the course to real-world business problems. These projects include hands-on application software exercises, running case projects, and exercises for building Internet skills. Each end-of-chapter project identifies both the business skills and the software skills required for the solution.

New Leading-Edge Topics

This edition includes up-to-date treatment of the following topics:

- Offshore and domestic outsourcing (Chapters 1, 4, 11)
- Wi-Fi, WiMax, and broadband cellular networks (Chapter 6)
- Radio frequency identification (RFID) systems (Chapter 6)
- Internet telephony (VoIP) (Chapter 6)
- RSS (Chapter 6)
- Wireless sensor networks (Chapter 6)
- Digital convergence (convergence of communications and computing; Chapters 4 and 6)
- Software mashups (Chapter 4)
- *Grid computing, edge computing, and autonomic computing (Chapter 4)*
- *Web services and service-oriented architecture (Chapter 4)*

- Wi-Fi security issues (Chapter 7)
- Information system implications of Sarbanes–Oxley, HIPAA, and other government regulations (Chapter 7)
- Blogging and social networking (Chapter 9)

Video Cases

A video segment for each chapter in the text is available on the Laudon Web site and interactive CD-ROM. These videos cases include companies such as Lands' End, Acxiom, Cisco Systems, UPS, Oracle-PeopleSoft, and Verisign. Each video illustrates chapter concepts and includes questions for students to answer to help them apply what they have learned.

Hallmark Features of This Text

As in all Laudon texts, *Essentials of Business Information Systems,* seventh edition, has many unique features designed to create an active, dynamic learning environment.

Integrated Framework for Describing and Analyzing Information Systems

An integrated framework portrays information systems as being composed of people, organization, and technology elements. This framework is used throughout the text to describe and analyze information systems and information systems problems, and is reinforced in the student projects and case studies.
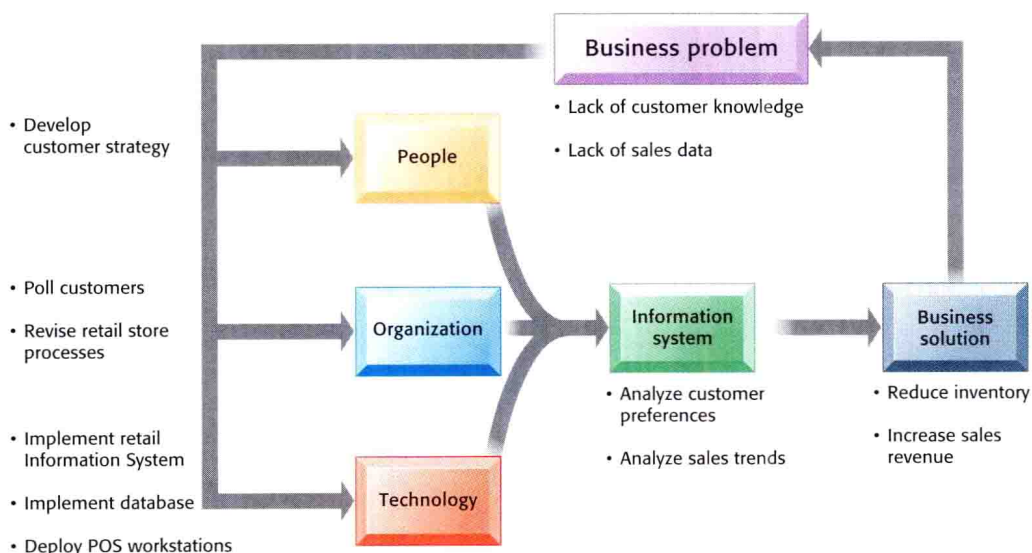
A special diagram accompanying each chapter-opening case graphically illustrates how people, organization, and technology elements work together to create an information system solution to the business challenges discussed in the case.

Extensive Real-World Examples

Real-world examples drawn from business and public organizations are used throughout the text to illustrate text concepts. All opening and ending cases, as well as in-chapter cases, describe companies or organizations that are familiar to students, such as Google, eBay, Kazaa, Amazon, iTunes, Procter & Gamble, Marriott, Seven-Eleven, and the Girl Scouts. Recognizing the global nature of business today, the cases and in-text discussions include numerous companies in Canada, Europe, Australia, Asia, Latin America, and the Middle East.

Variety of Hands-On Projects

Hands-On Application Software Exercises

Each chapter features a hands-on Application Software Exercise where students can solve problems using spreadsheet, database, Web-page development tool, or electronic presentation software. Some of these exercises require students to use these application software tools in conjuction with Web activities. The Application Software Exercises include business problems dealing with supply chain management (Chapter 2), inventory management (Chapter 5), customer relationship management (Chapters 8 and 11), and break-even analysis (Chapter 10).

The application exercises are included in each chapter, and their data files are available on the Laudon Web site and in the Laudon interactive CD-ROM along with complete instructions.

Running Case Study

A running case study at the end of each chapter provides students with opportunities for problem solving in an ongoing real-world business scenario. Students learn about a simulated company, Dirt Bikes U.S.A., where they can apply their information systems knowledge to problems facing this growing firm. Examples of running case projects include the following:

- Performing a competitive analysis for Dirt Bikes (Chapter 3)
- Redesigning Dirt Bikes's database for customer relationship management (Chapter 5)
- Identifying supply chain management solutions for Dirt Bikes (Chapter 8)
- Analyzing the impact of price changes in product components (Chapter 10)

The running case and any required files are on the Laudon Web site and the Laudon interactive CD-ROM.

Students can use their application software skills to solve real-world business problems based on chapter concepts.

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Application Software Exercise

Database Exercise: Building a Relational Database for a Small Business

Software skills: Importing data; querying and reporting

Business skills: Inventory management

Sylvester's Bike Shop, located in San Francisco, California, sells road, mountain, hybrid, leisure, and children's bicycles. Currently, Sylvester's purchases bikes from three suppliers but plans to add new suppliers in the near future. This rapidly growing business needs a database system to manage this information.

Initially, the database should house information about suppliers and products. The database will contain two tables: a supplier table and a product table. The reorder level refers to the number of items in inventory that triggers a decision to order more items to prevent a stockout. (In other words, if the number of units of a particular inventory item falls below the reorder level, the item should be reordered.) The user should be able to perform several queries and produce several managerial reports based on the data contained in the two tables.

Using the information found in the tables on the Laudon Web site for Chapter 5, build a simple relational database for Sylvester's. Once you have built the database, perform the following activities.

1. Prepare a report that identifies the five most expensive bicycles. The report should list the bicycles in descending order from most expensive to least expensive, the quantity on hand for each, and the markup percentage for each.
2. Prepare a report that lists each supplier, its products, the quantities on hand, and associated reorder levels. The report should be sorted alphabetically by supplier. Within each supplier category, the products should be sorted alphabetically.
3. Prepare a report listing only the bicycles that are low in stock and need to be reordered. The report should provide supplier information for the items identified.
4. Write a brief description of how the database could be enhanced to further improve management of the business. What tables or fields could be added? What additional reports would be useful?

Dirt Bikes U.S.A.

Redesigning the Customer Database

Software skills: Database design; querying and reporting

Business skills: Customer profiling

Dirt Bikes U.S.A. sells primarily through its distributors. It maintains a small customer database with the following data: customer name, address, telephone number, model purchased, date of purchase, and distributor. You can find this database on the Laudon Web site for Chapter 5. These data are collected by its distributors when they make a sale and are then forwarded to Dirt Bikes. Dirt Bikes would like to be able to market more aggressively to its customers. The Marketing Department would like to be able to send customers e-mail notices of special racing events and of sales on parts. It would also like to learn more about customers' interests and tastes: their ages, years of schooling, another sport in which they are interested, and whether they attend dirt bike racing events. Additionally, Dirt Bikes would like to know whether customers own more than one motorcycle. (Some Dirt Bikes customers own two or three motorcycles purchased from Dirt Bikes U.S.A. or other manufacturer.) If a motorcycle was purchased from Dirt Bikes, the company would like to know the date of purchase, model purchased, and distributor. If the customer owns a non–Dirt Bikes motorcycle, the company would like to know the manufacturer and model of the other motorcycle (or motorcycles) and the distributor from whom the customer purchased that motorcycle.

1. Redesign Dirt Bikes's customer database so that it can store and provide the information needed for marketing. You will need to develop a design for the new customer database and then implement that design using database software. Consider using multiple tables in your new design. Populate each new table with 10 records.
2. Develop several reports that would be of great interest to Dirt Bikes's marketing and sales department (for example, lists of repeat Dirt Bikes customers, Dirt Bikes customers who attend racing events, or the average ages and years of schooling of Dirt Bikes customers) and print them.

Each chapter contains a project requiring students to use application software, Web tools, or analytical skills to solve a problem that Dirt Bikes U.S.A. has encountered.

Each Application Software Exercise and Dirt Bikes project lists both business and software skills required for the solution.

Building Internet Skills Projects

A Building Internet Skills project concludes each chapter. These projects require students to use Web research tools and explore business resources on the Internet, and include assignments such as configuring and pricing an automobile (Chapter 3), searching online databases (Chapter 5), using Web search engines for business research (Chapter 6), or evaluating supply chain management services (Chapter 8).

Variety of Case Studies

This text provides a variety of case studies to help students synthesize chapter concepts and apply their new knowledge to real-world problems and scenarios. Every chapter contains a short chapter-opening case, two short **Focus On** cases, and a long chapter-ending case.

Electronic case studies on both U.S. and non-U.S. companies at the Laudon Web site provide additional opportunities for problem solving.

FOCUS ON ORGANIZATIONS Southwest Airlines: New Strategy, New Systems

In a tumultuous time for the airline industry, when some of the major players are taking the hardest hits, Southwest Airlines stands alone in the profit column. It has posted a profit for an unparalleled 32 straight years.

What began as a small Texas airline is now one of the largest airlines in the United States, transporting more than 70 million people each year to 60 cities in the continental United States and Hawaii. Southwest "took off" with a "keep it simple" philosophy that focused on the leisure traveler who was willing to sacrifice luxury for lower airfares and casual service. It used a single style of aircraft (the Boeing 737), alternative airports, reusable boarding passes, and unassigned seating, rapidly turning around its planes when they landed to keep them in the air as much as possible. No domestic airline in the United States has such a low cost structure.

Southwest's approach to information technology was equally no-frills. Unlike other airlines, it did not automate aircraft maintenance, for example, or use systems that analyzed an extensive pool of customer data to improve marketing and customer loyalty. Management did not think Southwest's size justified automation in these areas. Although the airline had digital systems for ticketing and reservations, until recently, getting the boarding pass was a manual operation.

These no-frill days appear to be ending. Southwest is no longer a regional airline and is expanding into markets where the larger carriers, such as Delta, American, and United, operate. It must also compete with JetBlue, which combines low fares with extras, such as more legroom, leather seats, and personal satellite TV screens. In these markets, Southwest has to manage passengers more efficiently, know customers better, and shorten the amount of time that aircraft spend out of service.

Southwest is upgrading its information systems so that, as CEO Gary Kelly puts it, "we can continue to be tops in all categories" and "be the low-fare airline." To provide high-touch customer service, Southwest will have to automate processes that it previously accomplished without technology.

Southwest.com is the company's main sales channel, accounting for more than $3 billion in annual sales, or 65 percent of total revenue. Swabiz.com is a business travel portal the company started in 2000. Southwest moved to e-tickets in the mid-1990s, and today it uses paper tickets for only 5 percent of transactions. Direct e-ticketing saves the airline travel agency commissions, which cost about $10 per booking. Electronic bookings cost at most $1. Customers now have the convenience of obtaining board-

ing passes at multiple airport locations or online instead of waiting on a line at the gate.

Southwest's information systems team is also addressing the issue of maintenance modernization. The system has reduced the time that planes are out of service for regular maintenance by 10 to 15 percent. Inspectors detail problems on Panasonic tablets, which wirelessly transmit the problems to a centralized content library that publishes information in real time to kiosks used by maintenance crews. The kiosks reduce the amount of time technicians spend searching for information, which used to take up to 30 to 40 percent of their working days. An improved optimization capability to integrate and analyze scheduling and maintenance systems will ensure that costs are kept low and that maintenance remains a high priority.

Passengers will see a greater presence of self-service kiosks. By replacing the legacy check-in systems, agents will be able to access check-in, ticketing, baggage, and security modules through the kiosk interface, thereby shortening wait time for passengers and reducing data entry keystroking. One way that Kelly measures the level of efficiency at Southwest is by a ratio of employees to aircraft. In 2000, the airline employed about 95 people per aircraft. Today, the number is down to about 70.

Southwest is enhancing its customer systems, which, until recently, held only the transactional records of customers who paid by credit cards, gift cards, or airline vouchers, and obtained e-tickets. An old legacy reservations system contains data on each passenger's specific booking, including those who pay by check or cash. These data will be added to the basic customer data, along with frequent-flier data stored in another system. The combined data will give the airline a broader view of all passengers to alert airport workers to particular passenger requirements, predict market trends and buying habits, and conduct targeted marketing.

Sources: Tony Kontzer, "Wings of Change," InformationWeek, March 28, 2005, and "Customer Connections," InformationWeek, March 14, 2005; Tom Stienert-Threlkeld, "Southwest Airlines: Flying Low," Baseline, April 10, 2005; and Susan Carey, "Amid JetBlue's Rapid Ascent, CEO Adopts Big Rivals' Traits," The Wall Street Journal, August 25, 2005.
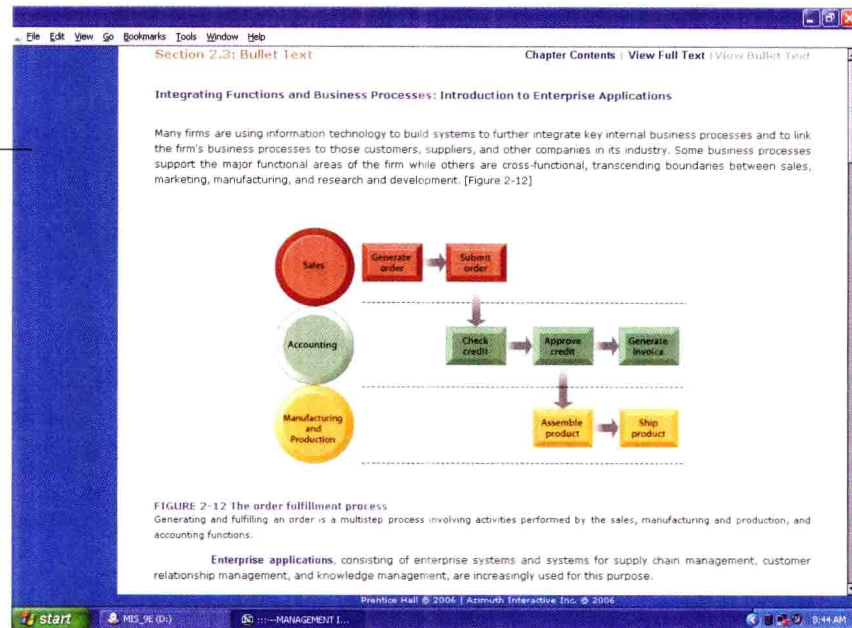
To Think About:
What is Southwest Airline's business strategy? How is Southwest dealing with the current problems plaguing the airline industry? What role do information systems play in Southwest's strategy and business model? How much will information systems help Southwest deal with its problems and compete in the industry?

Each chapter contains two Focus On boxes (Focus on People, Focus on Organizations, or Focus on Technology) that present real-world examples illustrating the people, organization, and technology issues in the chapter.

Interactive CD-ROM

An interactive CD-ROM version of the text is available with the text. In addition to the full text and bullet text summaries by chapter, the CD-ROM features audio/video overviews explaining key concepts, online quizzes, hyperlinks to the exercises on the Laudon Web site, video cases, the complete running case and application software exercises with required files, technology updates, and more. Students can use the CD-ROM edition as an interactive supplement or as an alternative to the traditional text.

Bulleted text highlights the key points of each chapter to help students review material before quizzes and exams. Students can reinforce and extend their knowledge of chapter concepts using the glossaries and other interactive resources in the CD-ROM edition.

Overview of the Text

Table of Contents

Part I introduces the major themes and the problem-solving approach that are used throughout the book. While surveying the role of information systems in today's busi-

nesses, this part addresses several major questions: What is an information system? Why are information systems so essential in businesses today? How can information systems help businesses become more competitive? What do I need to know about information systems to succeed in my business career?

Part II provides the technical foundation for understanding information systems by examining hardware, software, databases, networking technologies, and tools and techniques for security and control. This part answers questions such as these: What technologies and tools do businesses today need to accomplish their work? What do I need to know about these technologies to make sure they enhance the performance of my firm? How are these technologies likely to change in the future?

Part III examines the core information systems applications businesses are using today to improve operational excellence and decision making. These applications include enterprise systems; systems for supply chain management, customer relationship management, and knowledge management; e-commerce applications; decision-support systems; and executive support systems. This part answers questions such as these: How can enterprise applications improve business performance? How do firms use e-commerce to extend the reach of their business? How can systems improve decision making and help companies make better use of their knowledge assets?

Part IV shows how to use the knowledge acquired in earlier chapters to analyze and design information systems solutions to business problems. This part answers questions such as these: How can I develop a solution to an information system problem that provides genuine business benefits? How can the firm adjust to the changes introduced by the new system solution? What alternative approaches are available for building system solutions? What broader ethical and social issues should be addressed when building and using information systems?

Chapter Outline

Each chapter contains the following elements:

- A chapter-opening case describing a real-world organization to establish the theme and importance of the chapter
- A diagram analyzing the opening case in terms of the people, organization, and technology model used throughout the text
- A series of Student Objectives to identify learning outcomes
- Two short case studies
- A Learning Tracks section identifying supplementary material on the Laudon Web site
- A chapter Summary keyed to the Student Objectives
- A list of Key Terms that students can use to review concepts
- Review Questions for students to test their comprehension of chapter material
- Discussion Questions raised by the broader themes of the chapter
- An Application Software Exercise requiring students to use application software tools to develop solutions to real-world business problems based on chapter concepts
- A Dirt Bikes U.S.A. running case project
- A Building Internet Skills exercise
- A Video Case
- A Teamwork project to develop teamwork and presentation skills
- A chapter-ending case study illustrating important themes

Instructional Support Materials

Instructor's Resource CD-ROM

Most of the support materials described in the following sections are conveniently available for adopters on the Instructor's Resource CD-ROM. The CD includes the Instructor's

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Resource Manual, Test Item File, TestGen, PowerPoint slides, and the helpful lecture tool "Image Library."

Image Library (on Instructor's Resource CD-ROM)

The Image Library is an impressive resource to help instructors create vibrant lecture presentations. Almost every figure and photo in the text is provided and organized by chapter for convenience. These images and lecture notes can be imported easily into Microsoft PowerPoint to create new presentations or to add to existing ones.

Instructor's Manual (on Web and Instructor's Resource CD-ROM)

The Instructor's Manual features not only answers to review, discussion, case study, and teamwork questions but also an in-depth lecture outline, teaching objectives, key terms, teaching suggestions, and Internet resources. This supplement can be downloaded from the secure faculty section of the Laudon Web site and is also available on the Instructor's Resource CD-ROM.

Test Item File (on Instructor's Resource CD-ROM)

The Test Item File is a comprehensive collection of true–false, multiple-choice, fill-in-the-blank, and essay questions, including questions on the case study material. The questions are rated by difficulty level and the answers are referenced by section. An electronic version of the Test Item File is available in TestGen on the Instructor's Resource CD-ROM.

PowerPoint Slides (on Web and Instructor's Resource CD-ROM)

Electronic color slides created by Azimuth Interactive Corporation, Inc., are available in Microsoft PowerPoint. The slides illuminate and build on key concepts in the text. Both students and faculty can download the PowerPoint slides from the Web site, and they are also provided on the Instructor's Resource CD-ROM.

Web Site

The Laudon/Laudon text is supported by an excellent Web site at http://www.prenhall.com/laudon that truly reinforces and enhances text material with the Dirt Bikes U.S.A. running case, Video Cases, data files for the hands-on Application Software Exercises, an Interactive Study Guide, International Resources, additional case studies, PowerPoint slides for the course, and a special PowerPoint slide show on IT careers custom-prepared by Kenneth Laudon. The Web site also features a secure password-protected faculty area from which instructors can download the Instructor's Manual and suggested answers to the running case, Application Software Exercise, and Building Internet Skills projects. The site has an improved online syllabus tool to help professors add their own personal syllabi to the site in minutes.

Videos

Prentice Hall MIS Video, Volume 1. The first video in the Prentice Hall MIS Video Library includes custom clips created exclusively for Prentice Hall featuring real companies, such as Andersen Consulting, Lands' End, Lotus Development Corporation, Oracle Corporation, and Pillsbury Company.

Prentice Hall MIS Video, Volume 2. Video clips are provided to adopters to enhance class discussion and projects. These clips highlight real-world corporations and organizations and illustrate key concepts found in the text.

Online Courses

OneKey http://www.prenhall.com/onekey. OneKey is a dynamic, interactive, online course management tool powered exclusively for Pearson Education by Blackboard. This exciting product allows you to teach market-leading Pearson Education content in an easy-to-use customizable format.

WebCT http://www.prenhall.com/webct. Gold Level customer support, available exclusively to adopters of Prentice Hall courses, is provided free of charge on adoption and provides priority assistance, training discounts, and dedicated technical support.

BlackBoard http://www.prenhall.com/blackboard. Prentice Hall's abundant online content, combined with Blackboard's popular tools and interface, result in robust, Web-based courses that are easy to implement, manage, and use—taking your courses to new heights in student interaction and learning.

Tutorial Software

For instructors seeking application software support to use with this text, Prentice Hall is pleased to offer the PH Train IT CD-ROM and the Web-delivered PH Train and Assess IT. These exciting tutorial and assessment products are fully certified up to the expert level of the Microsoft Office User Specialist (MOUS) Certification Program. These items can be packaged with the Laudon/Laudon text at an additional charge. Please go to http://www.prenhall.com/phit for an online demonstration of these products or contact your local Prentice Hall representative for more details.

Software Cases

A series of optional management software cases, *Solve It! Management Problem Solving with PC Software,* has been developed to support the text. *Solve It!* consists of 12 spreadsheet cases, 12 database cases, and 6 Internet projects drawn from real-world businesses, plus the data files associated with the cases. The cases are graduated in difficulty. The case book contains complete tutorial documentation showing how to use spreadsheet, database, and Web browser software to solve the problems. A new version of *Solve It!* with all new cases is published every year. *Solve It!* must be adopted for an entire class. It can be purchased directly from the supplier, Azimuth Interactive Corporation, Inc., 23 North Division Street, Peekskill, New York, 10566 (telephone: 800-416-6786; Web site: www.mysolveit.com).

Also available for supplementing the text is *MIS Cases: Decision Making with Application Software*, 2nd ed., by M. Lisa Miller. This casebook features 24 cases using spreadsheet, database, Web-page development, or presentation graphics software.

Acknowledgments

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