

# ESSENTIALS OF MIS

THIRTEENTH EDITION



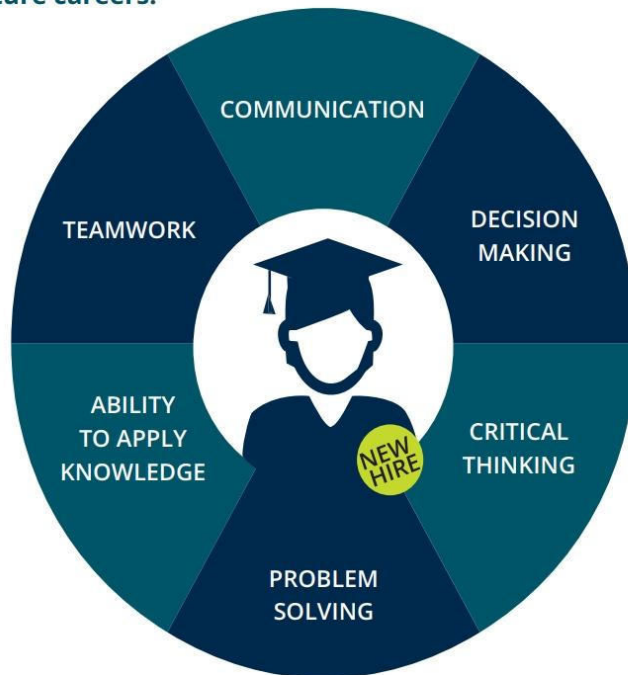
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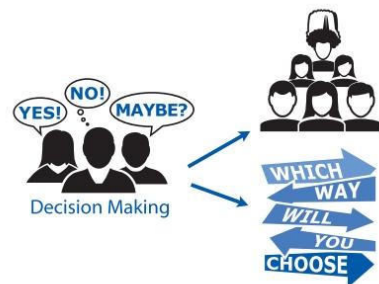
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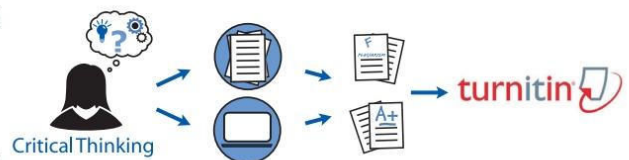


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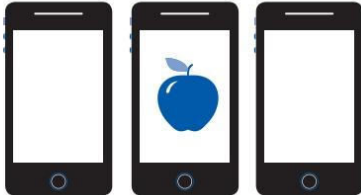
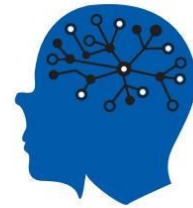
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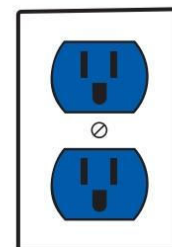
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# Integrating Business with Technology

By completing the projects in this text, students will be able to demonstrate business knowledge, application software proficiency, and Internet skills. These projects can be used by instructors as learning assessment tools and by students as demonstrations of business, software, and problem-solving skills to future employers. Here are some of the skills and competencies students using this text will be able to demonstrate:

**Business Application skills:** Use of both business and software skills in real-world business applications. Demonstrates both business knowledge and proficiency in spreadsheet, database, and Web page/blog creation tools.

**Internet skills:** Ability to use Internet tools to access information, conduct research, or perform online calculations and analysis.

**Analytical, writing and presentation skills:** Ability to research a specific topic, analyze a problem, think creatively, suggest a solution, and prepare a clear written or oral presentation of the solution, working either individually or with others in a group.

\* **Dirt Bikes Running Case in MyLabMIS**

## Business Application Skills

| Business Skills                                 | Software Skills                        | Chapter     |
|---|--|-------------|
| <b>Finance and Accounting</b>                   |  |             |
| Financial statement analysis                    | Spreadsheet charts                     | Chapter 2*  |
|   | Spreadsheet formulas                   | Chapter 10  |
|   | Spreadsheet downloading and formatting |             |
| Pricing hardware and software                   | Spreadsheet formulas                   | Chapter 5   |
| Technology rent vs. buy decision                | Spreadsheet formulas                   | Chapter 5*  |
| Total Cost of Ownership (TCO) Analysis          |  |             |
| Analyzing telecommunications services and costs | Spreadsheet formulas                   | Chapter 7   |
| Risk assessment                                 | Spreadsheet charts and formulas        | Chapter 8   |
| <b>Human Resources</b>                          |  |             |
| Employee training and skills tracking           | Database design                        | Chapter 12* |
|   | Database querying and reporting        |             |
| <b>Manufacturing and Production</b>             |  |             |
| Analyzing supplier performance and pricing      | Spreadsheet date functions             | Chapter 2   |
|   | Data filtering                         |             |
|   | Database functions                     |             |
| Inventory management                            | Importing data into a database         | Chapter 6   |
|   | Database querying and reporting        |             |
| Bill of materials cost sensitivity analysis     | Spreadsheet data tables                | Chapter 11* |
|   | Spreadsheet formulas                   |             |
| <b>Sales and Marketing</b>                      |  |             |
| Sales trend analysis                            | Database querying and reporting        | Chapter 1   |
| Customer reservation system                     | Database querying and reporting        | Chapter 3   |
| Customer sales analysis                         | Database design                        |             |
| Marketing decisions                             | Spreadsheet pivot tables               | Chapter 11  |
| Customer profiling                              | Database design                        | Chapter 6*  |
|   | Database querying and reporting        |             |

|                                  |                                 |            |
|----------------------------------|---------------------------------|------------|
| Customer service analysis        | Database design                 | Chapter 9  |
|                                  | Database querying and reporting |            |
| Sales lead and customer analysis | Database design                 | Chapter 12 |
|                                  | Database querying and reporting |            |
| Blog creation and design         | Blog creation tool              | Chapter 4  |

## Internet Skills

|   |            |
|---|------------|
| Using online software tools for job hunting and career development                | Chapter 1  |
| Using online interactive mapping software to plan efficient transportation routes | Chapter 2  |
| Researching product information   | Chapter 3  |
| Evaluating Web sites for auto sales   |            |
| Analyzing Web browser privacy protection  | Chapter 4  |
| Researching travel costs using online travel sites                                | Chapter 5  |
| Searching online databases for products and services                              | Chapter 6  |
| Using Web search engines for business research                                    | Chapter 7  |
| Researching and evaluating business outsourcing services                          | Chapter 8  |
| Researching and evaluating supply chain management services                       | Chapter 9  |
| Evaluating e-commerce hosting services  | Chapter 10 |
| Using shopping bots to compare product price, features, and availability          | Chapter 11 |
| Analyzing Web site design   | Chapter 12 |

## Analytical, Writing, and Presentation Skills\*

| <b>Business Problem</b>                     | <b>Chapter</b> |
|---|----------------|
| Management analysis of a business           | Chapter 1      |
| Value chain and competitive forces analysis | Chapter 3      |
| Business strategy formulation               |                |
| Formulating a corporate privacy policy      | Chapter 4      |
| Employee productivity analysis              | Chapter 7      |
| Disaster recovery planning                  | Chapter 8      |
| Locating and evaluating suppliers           | Chapter 9      |
| Developing an e-commerce strategy           | Chapter 10     |

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# Essentials of Management Information Systems

**Kenneth C. Laudon**

New York University

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## About the Authors

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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), Department of Homeland Security, 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.

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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 Stern School of Business. She maintains a lifelong interest in languages and civilizations of Asia.

The Laudons have two daughters, Erica and Elisabeth, to whom this book is dedicated.

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UPS Competes Globally with Information Technology  
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## Chapter 2 Global E-business and Collaboration

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Data Changes How NFL Teams Play the Game and How Fans See It  
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Carter's Redesigns Its Business Processes  
Walmart Versus Amazon and the Future of Retail

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Will Automation Kill Jobs?  
Facebook Privacy: Your Life for Sale

## Chapter 5 IT Infrastructure: Hardware and Software

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GE Bets on the Internet of Things and Big Data Analytics

## **Chapter 12 Building Information Systems and Managing Projects**

Girl Scout Cookie Sales Go Digital  
Developing Mobile Apps: What’s Different  
Snohomish County Public Utility District Implements a New Human Resources System  
The Philly311 Project: The City of Brotherly Love Turns Problems into Opportunities

# Preface

---

We wrote this book for business school students who wanted an in-depth look at how today's business firms use information technologies and systems to achieve corporate objectives. Information systems are one of the major tools available to business managers for achieving operational excellence, developing new products and services, improving decision making, and achieving competitive advantage. Students will find here the most up-to-date and comprehensive overview of information systems used by business firms today. After reading this book, we expect students will be able to participate in, and even lead, management discussions of information systems for their firms.


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.

## What's New in This Edition

### CURRENCY

The 13th edition features all new opening, closing, and Interactive Session cases. The text, figures, tables, and cases have been updated through September 2017 with the latest sources from industry and MIS research.

### NEW FEATURES

- **New Career Opportunities** section in each chapter, identified by  shows students specifically how this book can help them find a job and build their careers. The last major section of each chapter presents a description of an entry-level job for a recent college graduate based on a real-world job description. The job requirements are related to the topics covered in that chapter. The job description shows the required educational background and skills, lists business-related questions that might arise during the job interview, and provides author tips for answering the questions and preparing for the interview.
- **New Conceptual Videos** collection includes 45 conceptual videos of 3 to 5 minutes in length. Ken Laudon walks students through three of the most important concepts in each chapter using a contemporary animation platform. Available only in the MyLabMIS digital edition
- **New Video Cases** collection: 28 video cases (two or more per chapter) and 10 additional instructional videos covering key concepts and experiences in the MIS world. The video cases illustrate how real-world corporations and managers are using information technology and systems. Video Cases are listed at the beginning of each chapter.
- **Learning Tracks:** 53 Learning Tracks in MyLabMIS for additional coverage of selected topics. This edition includes new Learning Tracks for case-based reasoning and fuzzy logic.

### NEW TOPICS

- **Updated coverage of artificial intelligence (AI):** Chapter 11 has been rewritten to include new coverage of machine learning, natural language systems, computer vision systems, and robotics, reflecting the surging interest in business uses of AI and “intelligent” techniques.

- **Big Data and the Internet of Things:** In-depth coverage of big data, big data analytics, and the Internet of Things (IoT) in Chapters 1, 6, 7, and 11. Includes big data analytics, analyzing IoT data streams, Hadoop, in-memory computing, non-relational databases, data lakes, and analytic platforms.
- **Cloud Computing:** Updated and expanded coverage of cloud computing in Chapter 5 (IT infrastructure) with more detail on types of cloud services, private and public clouds, hybrid clouds, managing cloud services, and a new Interactive Session on using cloud services. Cloud computing also covered in Chapter 6 (databases in the cloud), Chapter 8 (cloud security), Chapter 9 (cloud-based CRM and ERP), Chapter 10 (e-commerce), and Chapter 12 (cloud-based systems development).
- **Social, Mobile, Local:** New e-commerce content in Chapter 10 describing how social tools, mobile technology, and location-based services are transforming marketing and advertising.
- **Social Business:** Expanded coverage of social business, introduced in Chapter 2 and discussed in throughout the text. Detailed discussions of enterprise (internal corporate) social networking as well as social networking in e-commerce.
- Machine learning
- Natural language processing
- Computer vision systems
- Robotics
- Chatbots
- Blockchain
- Data lake
- Distributed database
- DevOps
- FinTech
- Near field communication (NFC)
- Native advertising
- Platforms
- Software-defined storage (SDS)

## The 13th Edition: The Comprehensive Solution for the MIS Curriculum

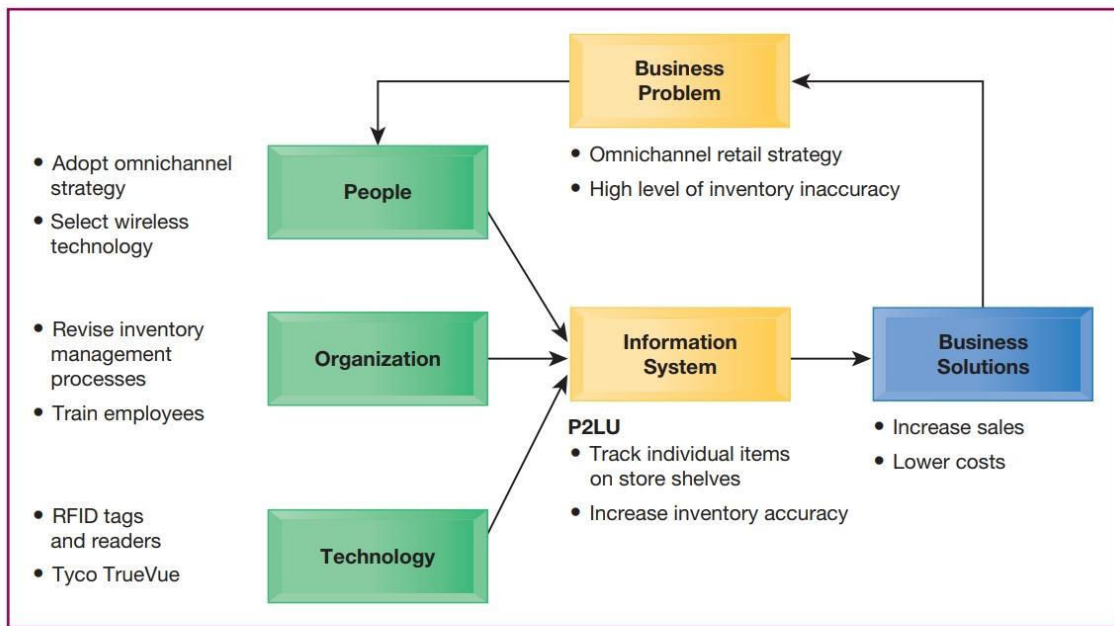
Since its inception, this text has helped to define the MIS course around the globe. This edition continues to be authoritative but is also more customizable, flexible, and geared to meeting the needs of different colleges, universities, and individual instructors. Many of its learning tools are now available in digital form. This book is now part of a complete learning package that includes the core text, Video Case Package, and Learning Tracks.

The core text consists of 12 chapters with hands-on projects covering the most essential topics in MIS. An important part of the core text is the Video Case Study and Instructional Video Package: 28 video case studies (two to three per chapter) plus 10 instructional videos that illustrate business uses of information systems, explain new technologies, and explore concepts. Videos are keyed to the topics of each chapter.

In addition, for students and instructors who want to go deeper into selected topics, there are 53 Learning Tracks in MyLabMIS that cover a variety of MIS topics in greater depth.

### THE CORE TEXT

The core text provides an overview of fundamental MIS concepts using an integrated framework for describing and analyzing information systems. This framework shows information systems composed of people, organization, and technology elements and is reinforced in student projects and case studies.



A 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.

## Chapter Organization

Each chapter contains the following elements:

- A Chapter Outline based on Learning Objectives
- Lists of all the Case Studies and Video Cases for each chapter
- 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
- Two Interactive Sessions with Case Study Questions
- A Career Opportunities section showing students how to use the text for job hunting and career preparation
- A Review Summary keyed to the Student Learning 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
- A series of Hands-on MIS Projects consisting of two Management Decision Problems, a hands-on application software project, and a project to develop Internet skills
- A Collaboration and Teamwork Project to develop teamwork and presentation skills with options for using open source collaboration tools
- A chapter-ending case study for students to apply chapter concepts
- Two assisted-graded writing questions with prebuilt grading rubrics
- Chapter references

## KEY FEATURES

We have enhanced the text to make it more interactive, leading edge, and appealing to both students and instructors. The features and learning tools are described in the following sections.

## Business-Driven with Real-World Business Cases and Examples

The text helps students see the direct connection between information systems and business performance. It describes the main business objectives driving the use of information systems and technologies in corporations all over the world: operational excellence, new products and services, customer and supplier intimacy, improved decision making, competitive advantage, and survival. In-text examples and case studies show students how specific companies use information systems to achieve these objectives.

We use current (2017) examples from business and public organizations throughout the text to illustrate the important concepts in each chapter. All the case studies describe companies or organizations that are familiar to students, such as Uber, the NFL, Facebook, Crayola, Walmart, Amazon, Google, Macy's, and GE.

## Interactivity

There's no better way to learn about MIS than by doing MIS! We provide different kinds of hands-on projects where students can work with real-world business scenarios and data and learn firsthand what MIS is all about. These projects heighten student involvement in this exciting subject.

- **Online Video Case Package.** Students can watch short videos online, either in-class or at home or work, and then apply the concepts of the book to the analysis of the video. Every chapter contains at least two business video cases that explain how business firms and managers are using information systems and explore concepts discussed in the chapter. Each video case consists of one or more videos about a real-world company, a background text case, and case study questions. These video cases enhance students' understanding of MIS topics and the relevance of MIS to the business world. In addition, there are 10 Instructional Videos that describe developments and concepts in MIS keyed to respective chapters.
- **Online Conceptual Videos [the digital edition only].** Forty-five video animations where the authors walk students through three concepts from each chapter.
- **Interactive Sessions.** Two short cases in each chapter have been redesigned as Interactive Sessions to be used in the classroom (or on Internet discussion boards) to stimulate student interest and active learning. Each case concludes with case study questions. The case study questions provide topics for class discussion, Internet discussion, or written assignments.
- **Hands-On MIS Projects.** Every chapter concludes with a Hands-On MIS Projects section containing three types of projects: two Management Decision Problems; a hands-on application software exercise using Microsoft Excel, Access, or web page and blog creation tools; and a project that develops Internet business skills. A Dirt Bikes USA running case in MyLabMIS provides additional hands-on projects for each chapter.

### INTERACTIVE SESSION: PEOPLE

### "Socializing" with Customers

More than 2 billion people worldwide use social media, making it an obvious platform for companies seeking to engage consumers, amplify product messages, discover trends and influencers, build brand awareness, and take action on customer requests and recommendations. More than 30 million businesses have active Facebook brand pages, enabling users to interact with the brand through blogs, comment pages, contests, and offerings on the brand page. The "like" button gives users a chance to share with their social network their feelings about content and other objects they are viewing and websites they are visiting. With like buttons on many millions of websites, Facebook can track user behavior on other sites and then sell

social campaigns are designed to teach first-time homeowners or young renters about home improvement, the company is also hoping they will encourage consumers to think differently about the brand beyond its products and services. Management believes millennials who are becoming first-time homeowners want to know the deeper meaning of what a company is trying to stand for, not just the products and services it offers.

An estimated 90 percent of customers are influenced by online reviews, and nearly half of U.S. social media users actively seek customer service through social media. As a result, marketing is now placing much more emphasis on customer satisfaction and service. Social media monitoring

Each chapter contains two Interactive Sessions on, People, Organizations, or Technology using real-world companies to illustrate chapter concepts and issues.

Case Study Questions encourage students to apply chapter concepts to real-world companies in class discussions, student presentations, or writing assignments.

### CASE STUDY QUESTIONS

1. Assess the people, organization, and technology issues for using social media technology to engage with customers.
2. What are the advantages and disadvantages of using social media for advertising, brand building, market research, and customer service?
3. Give an example of a business decision in this case study that was facilitated by using social media to interact with customers.
4. Should all companies use social media technology for customer service and marketing? Why or why not? What kinds of companies are best suited to use these platforms?

## Hands-On MIS Projects

### MANAGEMENT DECISION PROBLEMS

The projects in this section give you hands-on experience in analyzing data quality problems, establishing companywide data standards, creating a database for inventory management, and using the web to search online databases for overseas business resources. Visit **MyLab MIS** to access this chapter's Hands-On MIS Projects.

Two real-world business scenarios per chapter provide opportunities for students to apply chapter concepts and practice management decision making.

**6-8** Emerson Process Management, a global supplier of measurement, analytical, and monitoring instruments and services based in Austin, Texas, had a new data warehouse designed for analyzing customer activity to improve service and marketing. However, the data warehouse was full of inaccurate and redundant data. The data in the warehouse came from numerous transaction processing systems in Europe, Asia, and other locations around the world. The team that designed the warehouse had assumed that sales groups in all these areas would enter customer names and addresses the same way. In fact, companies in different countries were using multiple ways of entering quote, billing, shipping, and other data. Assess the potential business impact of these data quality problems. What decisions have to be made and steps taken to reach a solution?

Students practice using software in real-world settings for achieving operational excellence and enhancing decision making.

| 1  | Store | Sales Regic | Item I            | Item Descripti | Unit Pri | Units So   | Week Ending | Click to Add |
|----|-------|-------------|-------------------|----------------|----------|------------|-------------|--------------|
| 1  | 1     | South       | 2005 17" Monitor  | \$229.00       | 28       | 10/27/2017 |             |              |
| 2  | 1     | South       | 2005 17" Monitor  | \$229.00       | 30       | 11/24/2017 |             |              |
| 3  | 1     | South       | 2005 17" Monitor  | \$229.00       | 9        | 12/29/2017 |             |              |
| 4  | 1     | South       | 3006 101 Keyboard | \$19.95        | 30       | 10/27/2017 |             |              |
| 5  | 1     | South       | 3006 101 Keyboard | \$19.95        | 35       | 11/24/2017 |             |              |
| 6  | 1     | South       | 3006 101 Keyboard | \$19.95        | 39       | 12/29/2017 |             |              |
| 7  | 1     | South       | 6050 PC Mouse     | \$8.95         | 28       | 10/27/2017 |             |              |
| 8  | 1     | South       | 6050 PC Mouse     | \$8.95         | 3        | 11/24/2017 |             |              |
| 9  | 1     | South       | 6050 PC Mouse     | \$8.95         | 38       | 12/29/2017 |             |              |
| 10 | 1     | South       | 8500 Desktop CPU  | \$849.95       | 25       | 10/27/2017 |             |              |
| 11 | 1     | South       | 8500 Desktop CPU  | \$849.95       | 27       | 11/24/2017 |             |              |
| 12 | 1     | South       | 8500 Desktop CPU  | \$849.95       | 33       | 12/29/2017 |             |              |
| 13 | 2     | South       | 2005 17" Monitor  | \$229.00       | 8        | 10/27/2017 |             |              |
| 14 | 2     | South       | 2005 17" Monitor  | \$229.00       | 8        | 11/24/2017 |             |              |
| 15 | 2     | South       | 2005 17" Monitor  | \$229.00       | 10       | 12/29/2017 |             |              |
| 16 | 2     | South       | 3006 101 Keyboard | \$19.95        | 8        | 10/27/2017 |             |              |
| 17 | 2     | South       | 3006 101 Keyboard | \$19.95        | 8        | 11/24/2017 |             |              |
| 18 | 2     | South       | 3006 101 Keyboard | \$19.95        | 8        | 12/29/2017 |             |              |
| 19 | 2     | South       | 6050 PC Mouse     | \$8.95         | 9        | 10/27/2017 |             |              |
| 20 | 2     | South       | 6050 PC Mouse     | \$8.95         | 9        | 11/24/2017 |             |              |
| 21 | 2     | South       | 6050 PC Mouse     | \$8.95         | 8        | 12/29/2017 |             |              |
| 22 | 2     | South       | 8500 Desktop CPU  | \$849.95       | 18       | 10/27/2017 |             |              |
| 23 | 2     | South       | 8500 Desktop CPU  | \$849.95       | 18       | 11/24/2017 |             |              |
| 24 | 2     | South       | 8500 Desktop CPU  | \$849.95       | 20       | 12/29/2017 |             |              |
| 25 | 3     | South       | 2005 17" Monitor  | \$229.00       | 38       | 10/27/2017 |             |              |
| 26 | 3     | South       | 2005 17" Monitor  | \$229.00       | 30       | 11/24/2017 |             |              |
| 27 | 3     | South       | 2005 17" Monitor  | \$229.00       | 3        | 12/29/2017 |             |              |



## IMPROVING DECISION MAKING: USING WEB TOOLS TO CONFIGURE AND PRICE AN AUTOMOBILE

Software skills: Internet-based software

Business skills: Researching product information and pricing

**3-11** In this exercise, you will use software at car-selling websites to find product information about a car of your choice and use that information to make an important purchase decision. You will also evaluate two of these sites as selling tools.


You are interested in purchasing a new Ford Escape (or some other car of your choice). Go to the website of CarsDirect ([www.carsdirect.com](http://www.carsdirect.com)) and begin your investigation. Locate the Ford Escape. Research the various Escape models; choose one you prefer in terms of price, features, and safety ratings. Locate and read at least two reviews. Surf the website of the manufacturer, in this case Ford ([www.ford.com](http://www.ford.com)). Compare the information available on Ford's website with that of CarsDirect for the Ford Escape. Try to locate the lowest price for the car you want in a local dealer's inventory. Suggest improvements for CarsDirect.com and Ford.com.

Each chapter features a project to develop Internet skills for accessing information, conducting research, and performing online calculations and analysis.

- **Collaboration and Teamwork Projects.** Each chapter features a collaborative project that encourages students working in teams to use Google Drive, Google Docs, or other open source collaboration tools. The first team project in Chapter 1 asks students to build a collaborative Google site.

## Career Opportunities and Resources

Every student who reads this text wants to know: How will this book help my career? Our new Career Opportunities feature shows you how to use this text as a tool for job-hunting and career-building. Job interviewers will typically ask about why you want the job, along with your ability to communicate, multitask, work in a team, show leadership, solve problems, and meet goals. These are general skills and behaviors you'll need to succeed in any job, and you should be prepared to provide examples from your course work and job experiences that demonstrate these skills. But there are also business knowledge and professional skills that employers will ask you about. Career Opportunities will show you how to use what you have learned in this text to demonstrate these skills.

The Career Opportunities section, identified by this icon  is the last major section of each chapter under the heading "How will MIS help my career?". There you will find a description of an entry-level job for a recent college graduate based on a real-world job description from major online job sites related to the topics covered in that chapter. The name of the company offering the job and its location have been changed. Each chapter's job posting describes the required educational background and specific job skills, and suggests some of the business-related questions that might arise during the job interview. The authors provide tips for answering the questions and preparing for the interview. Career Opportunities also show where students can find out more information about the technical and business knowledge required for the job in this text and on the web and social media.

Below are the job descriptions used in this edition based on postings from both large and small businesses. A few of these jobs call for an MIS major, others for MIS course work, but many postings are not that specific. Some require some previous internship or job experience, but many are entry level positions suitable for new college graduates, and some of these positions provide on-the-job training. However, all require knowledge of business information systems and applications and the ability to work in a digital environment.

| <b>Chapter</b>  | <b>Career Opportunity Job Description</b>                     |
|---|---|
| 1 Business Information Systems in Your Career                                     | Financial Client Support and Sales Assistant                  |
| 2 Global E-business and Collaboration   | Entry Level Sales Support Specialist                          |
| 3 Achieving Competitive Advantage with Information Systems                        | Entry Level Business Development Representative               |
| 4 Ethical and Social Issues in Information Systems                                | Junior Privacy Analyst  |
| 5 IT Infrastructure: Hardware and Software  | Entry Level IT Consultant                                     |
| 6 Foundations of Business Intelligence: Databases and Information Management      | Entry Level Data Analyst                                      |
| 7 Telecommunications , the Internet, and Wireless Technology                      | Automotive Digital Advisor                                    |
| 8 Securing Information Systems  | Entry Level Identity Access and Management Support Specialist |
| 9 Achieving Operational Excellence and Customer Intimacy: Enterprise Applications | Manufacturing Management Trainee                              |
| 10 E-Commerce: Digital Markets, Digital Goods                                     | Junior E-Commerce Data Analyst                                |
| 11 Improving Decision Making and Managing Knowledge                               | Entry Level Data Analyst                                      |
| 12 Building Information Systems and Managing Projects                             | Entry Level Junior Business Systems Analyst                   |

Students can use Career Opportunities to shape their resumes and career plans as well as to prepare for interviews. For instructors, Career Opportunities are potential projects for student research and in-class discussion.

Along with Career Opportunities, we have provided in MyLabMIS additional Career Resources, including job-hunting guides and instructions on how to build a Digital Portfolio demonstrating the business knowledge, application software proficiency, and Internet skills acquired from using the text. The portfolio can be included in a resume or job application or used as a learning assessment tool for instructors.

### **Assessment and AACSB Assessment Guidelines**

The Association to Advance Collegiate Schools of Business (AACSB) is a not-for-profit corporation of educational institutions, corporations, and other organizations that seeks to improve business education primarily by accrediting university business programs. As a part of its accreditation activities, the AACSB has developed an Assurance of Learning Program designed to ensure that schools do in fact teach students what they promise. Schools are required to state a clear mission, develop a coherent business program, identify student learning objectives, and then prove that students do in fact achieve the objectives.

We have attempted in this book to support AACSB efforts to encourage assessment-based education. The front papers of this edition identify student learning objectives and anticipated outcomes for our Hands-On MIS projects. The authors will provide custom advice on how to use this text in colleges with different missions and assessment needs. Please e-mail the authors or contact your local Pearson representative for contact information.

### **Customization and Flexibility: Learning Track Modules**

Our Learning Tracks feature gives instructors the flexibility to provide in-depth coverage of the topics they choose. There are 53 Learning Tracks in MyLabMIS available to instructors and students. This supplementary content takes students

deeper into MIS topics, concepts, and debates and reviews basic technology concepts in hardware, software, database design, telecommunications, and other areas.

### **Author-Certified Test Bank and Supplements**

- **Author-Certified Test Bank.** The authors have worked closely with skilled test item writers to ensure that higher-level cognitive skills are tested. Test bank multiple-choice questions include questions on content but also include many questions that require analysis, synthesis, and evaluation skills.
- **Annotated Slides.** The authors have prepared a comprehensive collection of 50 PowerPoint slides for each chapter to be used in your lectures. Many of these slides are the same as used by Ken Laudon in his MIS classes and executive education presentations. Each of the slides is annotated with teaching suggestions for asking students questions, developing in-class lists that illustrate key concepts, and recommending other firms as examples in addition to those provided in the text. The annotations are like an Instructor's Manual built into the slides and make it easier to teach the course effectively.

### **Student Learning-Focused**

Student Learning Objectives are organized around a set of study questions to focus student attention. Each chapter concludes with a Review Summary and Review Questions organized around these study questions, and each major chapter section is based on a Learning Objective.

## **INSTRUCTOR RESOURCES**

At the Instructor Resource Center, [www.pearsonhighered.com/irc](http://www.pearsonhighered.com/irc), instructors can easily register to gain access to a variety of instructor resources available with this text in downloadable format. If assistance is needed, our dedicated technical support team is ready to help with the media supplements that accompany this text. Visit [support.pearson.com/getsupport](http://support.pearson.com/getsupport) for answers to frequently asked questions and user support.

The following supplements are available with this text:

- Instructor's Resource Manual
- Test Bank
- TestGen® Computerized Test Bank
- PowerPoint Presentation
- Image Library
- Lecture Notes

### **Video Cases and Instructional Videos**

Instructors can download step-by-step instructions for accessing the video cases from the Instructor Resources Center. Video Cases and Instructional Videos are listed at the beginning of each chapter as well as in the Preface.

### **Learning Tracks Modules**

There are 53 Learning Tracks in MyLabMIS providing additional coverage topics for students and instructors. See page xxvii for a list of the Learning Tracks available for this edition.

## Video Cases and Instructional Videos

| Chapter  | Video  |
|--|--|
| Chapter 1: Business Information Systems in Your Career                                     | Business in the Cloud: Facebook, Google, and eBay Data Centers<br>UPS Global Operations with the DIAD and Worldport<br>Instructional Video: Tour IBM's Raleigh Data Center   |
| Chapter 2: Global E-business and Collaboration   | Walmart's Retail Link Supply Chain<br>CEMEX: Becoming a Social Business<br>Instructional Video: US Foodservice Grows Market with Oracle CRM on Demand  |
| Chapter 3: Achieving Competitive Advantage with Information Systems,                       | GE Becomes a Digital Firm: The Emerging Industrial Internet<br>National Basketball Association: Competing on Global Delivery with Akamai OS Streaming  |
| Chapter 4: Ethical and Social Issues in Information Systems                                | What Net Neutrality Means for You<br>Facebook and Google Privacy: What Privacy?<br>The United States v. Terrorism: Data Mining for Terrorists and Innocents<br>Instructional Video: Viktor Mayer Schönberger on the Right to Be Forgotten                            |
| Chapter 5: IT Infrastructure: Hardware and Software  | Rockwell Automation Fuels the Oil and Gas Industry with the Internet of Things (IoT)<br>ESPN.com: The Future of Sports Coverage in the Cloud<br>Netflix: Building a Business in the Cloud  |
| Chapter 6: Foundations of Business Intelligence: Databases and Information Management      | Dubuque Uses Cloud Computing and Sensors to Build a Smarter City<br>Brooks Brothers Closes in on Omnichannel Retail<br>Maruti Suzuki Business Intelligence and Enterprise Databases  |
| Chapter 7: Telecommunications, the Internet, and Wireless Technology                       | Telepresence Moves out of the Boardroom and into the Field<br>Virtual Collaboration with IBM Sametime  |
| Chapter 8: Securing Information Systems  | Stuxnet and Cyberwarfare<br>Cyberespionage: The Chinese Threat<br>Instructional Video: Sony PlayStation Hacked; Data Stolen from 77 Million Users<br>Instructional Video: Meet the Hackers: Anonymous Statement on Hacking SONY                                      |
| Chapter 9: Achieving Operational Excellence and Customer Intimacy: Enterprise Applications | Life Time Fitness Gets in Shape with Salesforce CRM<br>Evolution Homecare Manages Patients with Microsoft CRM<br>Instructional Video: GSMS Protects Products and Patients by Serializing Every Bottle of Drugs   |
| Chapter 10: E-commerce: Digital Markets, Digital Goods                                     | Walmart Takes on Amazon: A Battle of IT and Management Systems<br>Groupon: Deals Galore<br>Etsy: A Marketplace and Community<br>Instructional Video: Walmart's eCommerce Fulfillment Center Network<br>Instructional Video: Behind the Scenes of an Amazon Warehouse |
| Chapter 11: Improving Decision Making and Managing Knowledge                               | How IBM's Watson Became a Jeopardy Champion<br>Business Intelligence Helps the Cincinnati Zoo Work Smarter   |
| Chapter 12: Building Information Systems and Managing Projects                             | IBM: Business Process Management in a SaaS Environment<br>IBM Helps the City of Madrid with Real-Time BPM Software<br>Instructional Video: What is PaaS? What is PaaS?<br>Instructional Video: BPM: Business Process Management Customer Story                       |

## Learning Tracks

| Chapter  | Learning Tracks   |
|--|---|
| Chapter 1: Business Information Systems in Your Career                                     | <ul style="list-style-type: none"> <li>How Much Does IT Matter?</li> <li>The Changing Business Environment for IT</li> <li>The Business Information Value Chain</li> <li>The Mobile Digital Platform</li> <li>Occupational and Career Outlook for Information Systems Majors 2014–2020</li> </ul>                                   |
| Chapter 2: Global E-business and Collaboration   | <ul style="list-style-type: none"> <li>Systems From a Functional Perspective</li> <li>IT Enables Collaboration and Teamwork</li> <li>Challenges of Using Business Information Systems</li> <li>Organizing the Information Systems Function</li> </ul>   |
| Chapter 3: Achieving Competitive Advantage with Information Systems                        | <ul style="list-style-type: none"> <li>Challenges of Using Information Systems for Competitive Advantage</li> <li>Primer on Business Process Design and Documentation</li> <li>Primer on Business Process Management</li> </ul>   |
| Chapter 4: Ethical and Social Issues in Information Systems                                | <ul style="list-style-type: none"> <li>Developing a Corporate Code of Ethics for IT</li> </ul>  |
| Chapter 5: IT Infrastructure: Hardware and Software  | <ul style="list-style-type: none"> <li>How Computer Hardware and Software Work</li> <li>Service Level Agreements</li> <li>Cloud Computing</li> <li>The Open Source Software Initiative</li> <li>The Evolution of IT Infrastructure</li> <li>Technology Drivers of IT Infrastructure</li> <li>Fourth Generation Languages</li> </ul> |
| Chapter 6: Foundations of Business Intelligence: Databases and Information Management      | <ul style="list-style-type: none"> <li>Database Design, Normalization, and Entity-Relationship Diagramming</li> <li>Introduction to SQL</li> <li>Hierarchical and Network Data Models</li> </ul>  |
| Chapter 7: Telecommunications, the Internet, and Wireless Technology                       | <ul style="list-style-type: none"> <li>Broadband Network Services and Technologies</li> <li>Cellular System Generations</li> <li>Wireless Applications for Customer Relationship Management, Supply Chain Management, and Healthcare</li> <li>Introduction to Web 2.0</li> <li>LAN Topologies</li> </ul>                            |
| Chapter 8: Securing Information Systems  | <ul style="list-style-type: none"> <li>The Booming Job Market in IT Security</li> <li>The Sarbanes-Oxley Act</li> <li>Computer Forensics</li> <li>General and Application Controls for Information Systems</li> <li>Management Challenges of Security and Control</li> <li>Software Vulnerability and Reliability</li> </ul>        |
| Chapter 9: Achieving Operational Excellence and Customer Intimacy: Enterprise Applications | <ul style="list-style-type: none"> <li>SAP Business Process Map</li> <li>Business Processes in Supply Chain Management and Supply Chain Metrics</li> <li>Best-Practice Business Processes in CRM Software</li> </ul>  |
| Chapter 10: E-commerce: Digital Markets, Digital Goods                                     | <ul style="list-style-type: none"> <li>E-Commerce Challenges: The Story of Online Groceries</li> <li>Build an E-commerce Business Plan</li> <li>Hot New Careers in E-Commerce</li> <li>E-commerce Payment Systems</li> <li>Building an E-commerce Web Site</li> </ul>   |
| Chapter 11: Improving Decision Making and Managing Knowledge                               | <ul style="list-style-type: none"> <li>Building and Using Pivot Tables</li> <li>The Expert System Inference Engine</li> <li>Case-Based Reasoning</li> <li>Fuzzy Logic</li> <li>Challenges of Knowledge Management Systems</li> </ul>  |
| Chapter 12: Building Information Systems and Managing Projects                             | <ul style="list-style-type: none"> <li>Capital Budgeting Methods for Information Systems Investments</li> <li>Enterprise Analysis: Business Systems Planning and Critical Success Factors</li> <li>Unified Modeling Language</li> <li>Information Technology Investments and Productivity</li> </ul>                                |

## **MyLabMIS**

Available in MyLabMIS

- MIS Video Exercises – Videos illustrating MIS concepts, paired with brief quizzes
- MIS Decision Simulations – interactive exercises allowing students to play the role of a manager and make business decisions
- Auto-Graded writing exercises
- Assisted-Graded writing exercises – taken from the end of chapter, with a rubric provided
- Chapter Warm Ups, Chapter Quizzes – objective-based quizzing to test knowledge
- Discussion Questions – threaded discussion topics taken from the end of chapter
- Dynamic Study Modules – on the go adaptive quizzing, also available on a mobile phone
- Learning Catalytics – bring-your-own-device classroom response question banks of critical thinking and collaboration interactive quizzes
- Enhanced eText – an accessible, mobile-friendly eText with interactive elements, including Conceptual Animations, which walk students through key concepts in the chapter by making figures come to life
- Excel & Access Grader Projects – live in the application auto-graded Grader projects provided inside MyLabMIS to support classes covering Office tools