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Experiencing MIS

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David M. Kroenke • Randall J. Boyle

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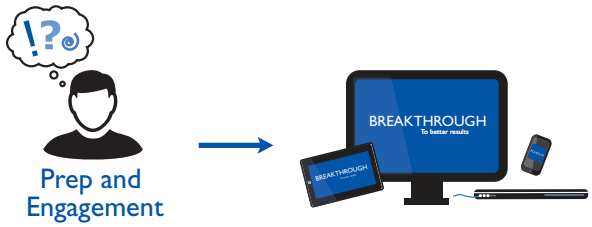

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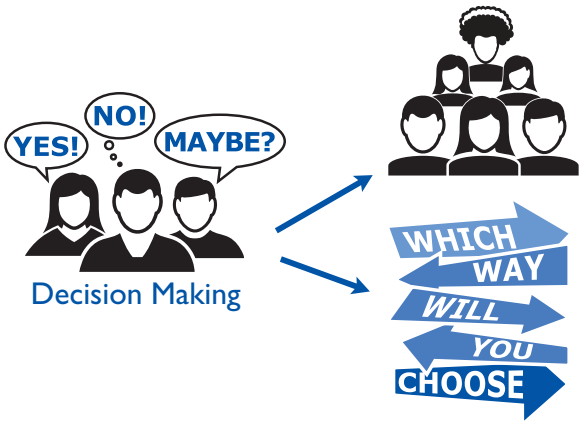

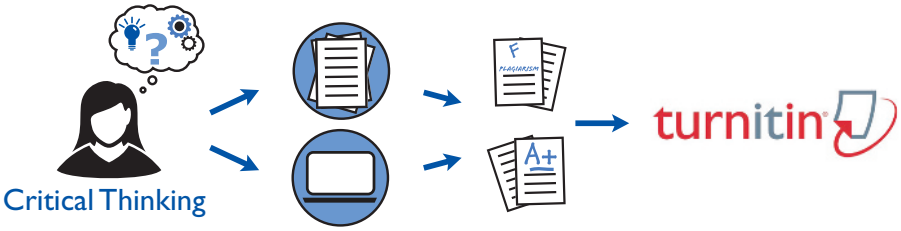

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Dear Student,

College is a fun time in your life. You've experienced the freedom of living on your own, made new friends, and enjoyed once-in-a-lifetime experiences. However, at this point in your college career you've begun to realize that a life transition is on your horizon. You will graduate and you will need to find a career, not just another job. Now is the time to start thinking about that career and how you prepare for it.

Most students say they want a successful career. But defining *successful* is different for each. Most students want an exciting, stable, well-paying job. You owe it to yourself to think about what that job is and how you're going to get it. Which jobs pay the salary you want? Are some jobs more stable than others? What type of work do you want to do for the next 40 years?

This MIS course is important for answering those questions. Over time, technology creates new jobs . . . examples today are mobile application developers, social media analysts, information security specialists, business intelligence analysts, and data architects, to consider just a few jobs that didn't exist 20, even 10, years ago. Similarly, the best jobs 20 years from now probably don't currently exist.

The trick to turning information systems to your advantage is getting ahead of their effect. During your career, you will find many opportunities for the innovative application of information systems in business and government, but only if you know how to look for them.

Once found, those opportunities become your opportunities when you—as a skilled, creative, nonroutine problem solver—apply emerging technology to facilitate your organization's strategy. This is true whether your job is in marketing, operations, sales, accounting, finance, entrepreneurship, or another discipline.

Using technology in innovative ways enabled superstars like Steve Jobs, Bill Gates, Larry Ellison, Mark Zuckerberg, Larry Page, Sergey Brin, and Jeff Bezos to earn billions and revolutionize commerce. You may not be such a superstar, but you can exceed beyond your expectations by applying the knowledge you learn in this class.

Congratulations on deciding to study business. Use this course to help you obtain and then thrive in an interesting and rewarding career. Learn more than just the MIS terminology; understand the ways information systems are transforming business and the many, many ways you can participate in that transformation.

In this endeavor, we wish you, a future business professional, the very best success!

David Kroenke & Randy Boyle

The Guides

Each chapter includes two unique guides that focus on current issues in information systems. In each chapter, one of the guides focuses on an ethical issue in business. The other guide focuses on the application of the chapter's contents to some other dimension of business. The content of each guide is designed to stimulate thought, discussion, and active participation in order to help *you* develop your problem-solving skills and become a better business professional.

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LEARNING AIDS FOR STUDENTS

We have structured this book so you can maximize the benefit from the time you spend reading it. As shown in the table below, each chapter includes a series of learning aids to help you succeed in this course.

Resource	Description	Benefit	Example
Question-Driven Chapter Learning Objectives	These queries, and the subsequent chapter sections written around them, focus your attention and make your reading more efficient.	Identify the main point of the section. When you can answer each question, you've learned the main point of the section.	Chapter 6, Q6-1: Why Is the Cloud the Future for Most Organizations?
Guides	Each chapter includes two guides that focus on current issues relating to information systems. One addresses ethics, and the other addresses other business topics.	Stimulate thought and discussion. Help develop your problem-solving skills. Help you learn to respond to ethical dilemmas in business.	Chapter 5 *Ethics Guide:* Querying Inequality? Chapter Extension 12 *Guide:* Data Mining in the Real World
So What?	Each chapter of this text includes a feature called So What? This feature presents a current issue in IS that is relevant to the chapter content and asks you to consider why that issue matters to you as a future business professional.	Understand how the material in the chapter applies to everyday situations.	Chapter 2 So What?: Augmented Collaboration
How Does the Knowledge in This Chapter Help You? (near the end of each chapter)	This section revisits the opening scenario and discusses what the chapter taught you about it.	Summarizes the "takeaway" points from the chapter as they apply to the company or person in the story and to you.	Chapter 11 How Does the Knowledge in This Chapter Help You?
Active Review	Each chapter concludes with a summary-and-review section, organized around the chapter's study questions.	Offers a review of important points in the chapter. If you can answer the questions posed, you understand the material.	Chapter 9 Active Review
Key Terms and Concepts	Highlight the major terms and concepts with their appropriate page references.	Provide a summary of key terms for review before exams.	Chapter 6 Key Terms and Concepts

Resource	Description	Benefit	Example
Using Your Knowledge	These exercises ask you to take your new knowledge one step further by applying it to a practice problem.	Tests your critical-thinking skills and keeps reminding you that you are learning material that applies to the real world.	Chapter 4 Using Your Knowledge
Collaboration Exercise	A team exercise that focuses on the chapter's topic.	Use Google Drive, Windows OneDrive, Microsoft SharePoint, or some other tool to collaborate on team answers.	Collaboration Exercise 3, which explores the use of information systems at a high-value bike rental service
Case Study	A case study closes each chapter. You will reflect on real organizations' use of the technology or systems presented in the chapter and recommend solutions to business problems.	Requires you to apply newly acquired knowledge to real situations.	Case Study 6: Cloud Solutions that Test for Consumer Risk and Financial Stability
Application Exercises (at the end of the book)	These exercises ask you to solve business situations using spreadsheet (Excel) or database (Access) applications and other Office applications.	Help develop your computer skills.	6-2, which builds on your knowledge from Chapter 6 by asking you to import spreadsheet data into Access and produce cost reports
SharePoint Hosting	Pearson will host Microsoft SharePoint site collections for your university. Students need access to MyMISLab and a browser to participate.	Enables students to collaborate using the world's most popular collaboration software.	

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Seventh Edition
Global Edition

David M. Kroenke
Randall J. Boyle

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To C. J., Carter, and Charlotte
—David Kroenke

To Courtney, Noah, Fiona, and Layla
—Randy Boyle

CONTENTS OVERVIEW

Experiencing MIS offers basic topic coverage of MIS in its 12 chapters and more in-depth, expanded coverage in its chapter extensions. This modular organization allows you to pick and choose among those topics. Here chapter extensions are shown below the chapters to which they are related. You will preserve continuity if you use each of the 12 chapters in sequence. In most cases, a chapter extension can be covered any time in the course after its related chapter. You need not use any of the chapter extensions if time is short.

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In Chapter 1, we claim that MIS is the most important class in the business curriculum. That's a bold statement, and every year we ask whether it remains true. Is there any discipline having a greater impact on contemporary business and government than IS? We continue to doubt there is. Every year brings important new technology to organizations, and many of these organizations respond by creating innovative applications that increase productivity and otherwise help them accomplish their strategies.

Over the past year, we've seen the largest IPO in history ($25 billion) come from e-commerce giant Alibaba. Amazon revealed that it's using an army of Kiva robots to increase productivity in its fulfillment centers by 50 percent. And we've seen an unprecedented flurry of IoT smart devices aimed at personal, home, and automobile automation services hit the market. It seems like every industry is running full tilt toward the smart door. Technology is fundamentally changing the way organizations operate. It's forcing them to be more productive, innovative, and adaptable.

Even innovations we've known about for several years took big leaps forward this year. MakerBot made huge strides in 3D printing by introducing new composite filaments that can print materials that look just like wood, metal, and stone—not just plastics. Mercedes-Benz was the hit of CES 2015 when it debuted its new driverless F 015 car with saloon-style doors, complete touch-screen interface, and front-room seating. And Google announced it was deploying 25 of its driverless cars around Mountain View, California, starting summer 2015.

Large-scale data breaches were a major problem again this year. eBay, Home Depot, JP Morgan Chase, and Anthem all suffered enormous data losses. Sony Pictures lost more than 100 TB of confidential corporate data, and Apple lost hundreds of explicit celebrity photos to hackers. And these are just a fraction of the total number of organizations affected this year.

In addition, normal revisions were needed to address emergent technologies such as cloud-based services, mobile devices, innovative IS-based business models like that at zulily, changes in organizations' use of social media, and so on.

More sophisticated and demanding users push organizations into a rapidly changing future, one that requires continual adjustments in business planning. To participate, our graduates need to know how to apply emerging technologies to better achieve their organizations' strategies. Knowledge of MIS is critical. And this pace continues to remind us of Carrie Fisher's statement "The problem with instantaneous gratification is that it's just not fast enough."

WHY THIS SEVENTH EDITION?

The changes in this seventh edition, Global Edition, are listed in Table 1. Substantial changes were made in Chapter 1 to strengthen the argument for MIS being the most important course in the business curriculum. The chapter now looks at the Digital Revolution and the exponential change happening to technology. It discusses how digital devices are changing due to increased processing power (Moore's Law), connectivity (Metcalfe's Law), network speed (Nielsen's Law), and storage capacity (Kryder's Law). It then gives examples of how new technology creates entirely new types of businesses and forces existing businesses to change the way they operate.

Chapter 1 also includes new salary data projections from the Bureau of Labor Statistics through 2022. These salary projections cover pay ranges from typical information systems jobs, general business occupations, and managerial-level positions.

Chapters 1 through 6 begin with a new discussion of Falcon Security, a privately owned company that provides surveillance and inspection services for companies using flying drones.

Table 1 Changes in the Seventh Edition

Chapter	Change
1	New Falcon Security Part 1 Introduction
1	New Falcon Security chapter introduction
1	New So What? Feature: Biggest IPO Ever: Alibaba
1	Updated industry statistics throughout the chapter
1	New Q1-1 covering the Information Age, Digital Revolution, and power of exponential change
1	New discussion about forces pushing digital change: Bell's Law, Moore's Law, Metcalfe's Law, Nielsen's Law, and Kryder's Law
1	New Q1-2 looking at how changes in technology will affect students' future job security
1	New statistics about projected technology job growth from BLS
1	Combined discussion about MIS, IS, and IT
2	New Falcon Security chapter introduction
2	New So What? Feature: Augmented Collaboration
2	New Guide: Egocentric Versus Empathetic Thinking
2	Updated Q2-1 for Falcon Security
2	Updated Q2-2 for Best Bikes example
2	Updated SharePoint images
3	New Falcon Security chapter introduction
3	New So What? Feature: Driving Strategy
3	Updated Q3-1 focusing on organizational strategy and systems structure
3	Revised Q3-2 five forces examples using Falcon Security
3	Updated statistics in the chapter and Amazon case study
4	New Falcon Security chapter introduction
4	New So What? Feature: New From CES 2015
4	New Ethics Guide: Free Apps for Data
4	Updated industry statistics throughout
4	New discussion about augmented reality hardware
4	Updated developments in 3D printing, self-driving cars, and IoT
4	Updated terms: *Internet Explorer* to *Edge, Windows 8* to *Windows 10*
5	New Falcon Security chapter introduction
5	New justification for learning database technology
5	New Q5-5 on Falcon Security maintaining video metadata in a database
5	New discussion of NewSQL and in-memory DBMS
6	New Falcon Security chapter introduction
6	New So What? Feature: Net Neutrality Enabled
6	New Guide: From Anthem to Anathema
6	Updated statistics and AWS offerings
7	Added new technology as a fifth implementation challenge
8	New Ethics Guide: Synthetic Friends
8	New Guide: Digital Is Forever
8	New discussion about the use of social media in recruiting
8	Expanded discussion of social capital using a YouTube channels example
8	Expanded discussion of mobile ad spending
8	Updated social media statistics throughout the chapter

Chapter	Change
9	Replaced predictive policing example with reporting application in medicine
9	Updated parts analysis example to remove AllRoad Parts and keep the example anonymous
9	New So What? Feature: BI for Securities Trading
9	Updated WebTrends and HDInsight decription
9	Included latest CEO surveys on the importance of BI
10	New So What? Feature: New from Black Hat 2014
10	New Guide: EMV to the Rescue
10	New Ethics Guide: Hacking Smart Things
10	New discussion of notable APTs
10	Updated security statistics and figures throughout the chapter
10	New discussion of ransomware
10	Added discussion of recent large-scale data breaches
11	New Ethics Guide: Privacy Versus Productivity: The BYOD Dilemma
11	Updated IS jobs, descriptions, and salary data
12	New So What? Feature: Using This Knowledge for Your Number-One Priority
12	Rewrote explanation of why systems development is important to all business professionals today

Chapter Extension	Change
All CEs	Added new auto-graded questions
CE 2	Changed *Microsoft Lync* to *Skype for Business* and *Google Grid* to *Google Drive*
CE 2	Updated images for Skype for Business, SharePoint, and Google Drive
CE 3	Updated statistics about mobile adoption and use
CE 3	Updated *Windows 8* to *Windows 10* and *Internet Explorer* to *Microsoft Edge*
CE 5	Updated E-R notation for minimum cardinality to conform to contemporary usage
CE 8	Added discussion of new net neutrality regulations
CE 8	Added discussion about personal area networks (PANs) and Bluetooth
CE 9	Defined hybrid-model
CE 9	Updated ERP vendor rankings and comments; replaced Epicor with Sage
CE 9	Discussed the effect of mobility, security threats, and the Internet of Things on enterprise applications
CE 11	Updated social media statistics
CE 14	Updated data breach statistics and trends
CE 14	Added new figures with updated major data breaches
CE 14	Updated QCE14-2 related to the Target data breach
CE 15	Added new discussion of localization using IBM's Watson
CE 15	Expanded discussion of EU's "right to be forgotten" law
Appl Ex	Added new data files and updated images
Appl Ex	Added new exercise using open source software (LibreOffice)
Appl Ex	Added new exercise using software to compress and encrypt files (7-Zip)
Appl Ex	Added new exercise related to social media policy

Chapters 7–12 continue to be introduced by PRIDE Systems, a cloud-based virtual exercise competition and healthcare startup. In addition to motivating the chapter material, both case scenarios provide numerous opportunities for students to practice one of Chapter 1's key skills: "Assess, evaluate, and apply emerging technology to business."

This edition continues to have a focus on teaching ethics. Every Ethics Guide asks students to apply Immanuel Kant's categorical imperative, Bentham and Mill's utilitarianism, or both to the business situation described in the guide. We hope you find the ethical considerations richer and deeper with these exercises. The categorical imperative is introduced in the Ethics Guide in Chapter 1 (pages 52–53) and utilitarianism is introduced in the Ethics Guide in Chapter 2 (pages 78–79).

As shown in Table 1, additional changes were made to every chapter, including eight new So What? Features, four new Ethics Guides, and updates to chapter cases. Additional figures, like one showing mobile ad spending in Chapter 8, were added to make the text more accessible. Numerous changes were made throughout the chapters in an attempt to keep them up to date. MIS moves fast, and to keep the text current, we checked every fact, data point, sentence, and industry reference for obsolescence and replaced them as necessary.

To reiterate the preface of earlier editions, we believe it is exceedingly important to make these frequent adaptations because of the delays associated with a 2-year revision cycle. Text materials that we develop starting in April of one year are published in January of the next year and are first used by students in September—a minimum 17-month delay.

For some areas of study, a year and a half may not seem like a long time because little changes in that amount of time. But in MIS, entire companies can be founded and then sold for billions of dollars in just a few years. YouTube, for example, was founded in February 2005 and then sold in November 2006 to Google for $1.65 billion (21 months). Facebook started in 2004 and currently (2015) has a market capitalization exceeding $212 billion. MIS changes fast—very fast. We hope this new edition is the most up-to-date MIS textbook available.

STRUCTURE, ORGANIZATION, AND APPEARANCE OF THIS TEXT

Teaching today is a very different endeavor than it was years ago. Students have many more distractions and demands on their time. They are quick to tune in and quick to tune out, so much so that someone compared their attention spans to those of Labrador Retriever puppies. We can lament that fact, but we can't change it. What we can do is to meet students where they are and creatively attempt to obtain their engagement.

We designed this text with that hope and goal in mind. Every feature of this book is designed to make it easy for students to engage with the content, not by watering it down but rather, we hope, by making it interesting and relevant to them. This text is not an encyclopedia; it attempts to teach essential topics well. It does so by providing opportunities for students to actively engage with the content, by providing features to help students better manage their study time, and with an appearance that makes it easy for students to pick up and start.

ACTIVE ENGAGEMENT

The structure of this edition of *Experiencing MIS* provides many opportunities for active engagement. Each chapter includes a So What? feature that contains exercises and questions for students to answer to demonstrate the relevancy of the chapter's material to them. As with earlier editions, each chapter contains two guides that describe practical implications of the chapter contents that can be used for small in-class exercises. Finally, this edition contains 41 application exercises (see page 669).

FACILITATE STUDENT STUDY

Today's students were reared in an environment of constant stimulation and channel surfing, and it seems nearly impossible for many students to focus on a single topic for more than a few minutes. Again, we can wish it otherwise, but short attention spans are students' and our reality. And recent research does seem to substantiate students' claim that, except for texting in class, students can multitask in class without problem.[1]

This text is structured to accommodate today's students' learning styles. First, to help students manage their time, it is organized around questions. Each chapter or chapter extension starts with a list of questions. Each major heading of the material is one of those questions, and the end of the chapter or extension includes an Active Review in which students are asked to demonstrate their learning of the answer to each question. Students should study until they can answer the questions; that may be 5 minutes or 5 hours, but their job is to answer those questions. This technique, from Marilla Svinicki's research, vastly helps students manage their study time.[2]

You can also use the questions to structure class sessions or at least parts of those sessions.

You can open class by asking students to "do the questions." Go around the room and call on someone to answer a question or part of one.

Second, students learn more when they are emotionally engaged in the material. The purpose of the vignettes that introduce each chapter is to raise student emotion; their purpose is to cause students to care about the chapter material.

Third, 82 percent of students in the business school prefer visual learning to auditory (voice or word) learning.[3] To make it easier for students to open this book and continue to read it, interesting and engaging art and photos have been used. *In every instance, however, we have insisted that the photo or art be related to the topic under discussion; these photos are not simply eye candy.* Pearson allows us to personally review and approve every photo and art exhibit in this text. We believe a good book does not have to appear boring, but all art must be relevant.

FEATURES FOR ENGAGING THE STUDENT

Experiencing MIS was written to make it impossible for readers of this text to miss the importance of MIS in business. The text is designed to be approachable, easy to use, sometimes humorous, with an upbeat and in-your-face attitude, but always with the goal of underlining the importance of MIS to all businesspeople in the 21st century.

An important part of making the text approachable was choosing a modular design. The text consists of 12 short chapters along with 18 supplemental discussions, called chapter extensions.

The modular nature of this text is discussed in more detail later in this preface.

Emphasis on Collaboration

As with prior editions, this text emphasizes collaboration. It is one of Reich's key skills for the 21st-century professional, as described in Chapter 1. We believe we need not only to require our students to collaborate but also to teach them key skills for doing so. The first two chapter extensions present collaboration techniques and collaboration information systems, respectively. Each chapter also includes a collaboration exercise at the end of the chapter.

Additionally, Pearson Education is sponsoring Microsoft SharePoint for student use. At your request, Pearson will set up a SharePoint site collection that your students can use when responding to the collaboration exercises at the end of each chapter. Students need nothing more than a browser to participate. See your Pearson sales representative for more information.

Opening Scenarios for Parts and Chapters

Each part and each chapter opens with a scenario intended to get students involved emotionally. We want students to mentally place themselves in the situation and to realize that this

situation—or something like it—could happen to them. Each scenario sets up the chapter's content and provides an obvious example of why the chapter is relevant to them. These scenarios help support the goals of student motivation and learning transfer.

Furthermore, both of these introductory cases involve the application of new technology to existing businesses. Our goal is to provide opportunities for students to see and understand how businesses are affected by new technology and how they need to adapt while, we hope, providing numerous avenues for you to explore such adaptation with your students.

In developing these scenarios, we endeavor to create business situations rich enough to realistically carry the discussions of information systems while at the same time simple enough that students with little business knowledge and even less business experience can understand. We also attempt to create scenarios that will be interesting to teach. This edition introduces the new Falcon Security case and continues the PRIDE Systems case from the sixth edition.

Falcon Security

The chapters in Parts 1 and 2 are introduced with dialogue from key players at Falcon Security, a privately owned company that provides surveillance and inspection services for companies using flying drones. We wanted to develop the case around an interesting business model that students would want to learn more about. Drones get a lot of attention in the press, but students may not know a lot about how they're used in business. Drones are getting cheaper and easier to fly and have a lot more functionality than they did just a few years ago. It's likely that students will see drones deployed widely during their careers.

Falcon Security is considering strengthening its competitive advantage by 3D printing its own drones. Buying fleets of drones is expensive, and they become outdated quickly. However, were the company to do so, it would be changing its fundamental business model, or at least adding to it. Making drones would require Falcon Security to hire new employees, develop new business processes, and potentially develop a new IS to support the custom-built drones. All of this is good fodder for Chapter 3 and for underlining the importance of the ways IS needs to support evolving business strategy.

Ultimately, Falcon Security determines that it does not want to become a drone manufacturer. It could print some drone parts, but not enough to make it cost effective. They'd still have to buy a lot of expensive component parts to assemble an airworthy drone, something they're not sure they can do consistently. Falcon decides to focus on its core strength of providing integrated security services.

Students may object that, in studying Falcon Security, they devoted considerable time to an opportunity that ultimately didn't make business sense and was rejected. But this outcome is at least as informative as a successful outcome. The example uses knowledge of processes as well as application of business intelligence to avoid making a serious blunder and wasting substantial money. Falcon Security didn't have to open a factory and 3D-print a fleet of custom-built drones just to find out it would be a mistake. It could make a prototype, *analyze* the costs and benefits, and then avoid making the mistake in the first place. The very best way to solve a problem is not to have it!

PRIDE Systems

The Performance Recording, Integration, Delivery, and Evaluation (PRIDE) system was first developed for the fourth edition. In that version it was an embryonic, entrepreneurial opportunity that used mobile devices, data-gathering exercise equipment, and the cloud to share integrated data among healthcare providers, heart surgery patients, health clubs, health insurance companies, and employers.

PRIDE is a real-world prototype developed for the owner of a health club who wanted to connect the workout data of his club members to their workout data at home and to their employers, insurance companies, and healthcare professionals. PRIDE is written in C#, and the code runs against an Azure database in the cloud. The PRIDE system uses the Windows Phone emulator that is part of Visual Studio. PRIDE was going to be ported to iOS and Android devices after demonstrating feasibility and after the club owner obtained financing. Unfortunately, before the prototype reached that point, the sponsor of the project lost interest.

As reflected in the PRIDE case, the developers realized that it was unlikely to succeed because, as Zev says in Chapter 7, "Doctors don't care about exercise." Dr. Flores was too busy as a cardiac surgeon to make his startup a success. Therefore, he sold it to a successful businessman who changed the staff and the strategy and repurposed the software. All of this is described at the start of Chapter 7.

Use of the Categorical Imperative and Utilitarianism in Ethics Guides

Since the introduction of the Ethics Guides into the first edition of this text, we believe there was a shift in students' attitudes about ethics. Students seem, at least many of them, to be more cynical and callous about ethical issues.

As a result, in the fifth edition, we began to use Kant's categorical imperative and Bentham and Mill's utilitarianism to ask students, whose ethical standards are often immature, to adopt the categorical imperative and utilitarian perspectives rather than their own perspectives and, in some cases, in addition to their own perspectives. By doing so, the students are asked to "try on" those criteria, and we hope in the process they think more deeply about ethical principles than they do when we allow them simply to apply their personal biases.

The Ethics Guide in Chapter 1 introduces the categorical imperative, and the guide in Chapter 2 introduces utilitarianism. If you choose to use these perspectives, you will need to assign both of those guides.

Modular Design

Not every MIS class is the same, and even though most MIS professors would agree on the basic content of this class, each professor has his or her own interests, expertise, and emphasis. Further, courses differ not only because of student and professor interests, but also because of the local employment environment, the grade level at which the class is taught, the background and educational maturity of students, and so on.

To support such specialization, the text is organized into short chapters and optional chapter extensions. Each of the 12 short chapters describes the minimum essentials of a topic. Additional material is then presented in 18 optional chapter extensions. Thus, for example, Chapter 9 addresses the basic ideas and purpose of business intelligence. That chapter is then supported by two chapter extensions: one on data mining and one on reporting and OLAP.

You can pick the extensions that relate to your class's interests and needs, or you can use just the chapter itself and skip the extensions without loss of continuity. For a more specific description of how the book is organized, see the section titled "How Is the Content Organized?"

Guides

This book contains boxed essays called "guides" that amplify each chapter's core material. These features are intended to force students to grapple with some intriguing aspect of the core material, to think about its relevance to them and their future needs as businesspeople, and to discuss that material in small groups or as a class.

Each chapter in this book contains two guides—one of which addresses ethics and one on some other topic. Guides appear in some of the chapter extensions as well. Use of the Ethics Guides will expose students to some of the fundamental principles relating to ethics, information systems, and business in general. The other guides present a variety of ideas: some from cognitive science that will help students become better problem solvers; some that show "contrarian" opinions that have been commonly voiced in business settings; and some that state our personal opinions. All of the guides encourage students to grapple with some idea and its application to them either now or as future business professionals. Working with the guides should help students transfer knowledge from their MIS class to other classes and eventually to their business careers.

Integration of Excel and Access

Most MIS courses today include some use of Microsoft Office. Usually, professors adopt a main MIS book and then select another book for Office instruction. The result is an expensive

package for the student to buy and a schizophrenic break between the "principles" text and the "applications" text.

To eliminate these problems, this text includes four chapter extensions on Microsoft Excel and Access 2013. Chapter Extension 4 teaches the fundamentals of Excel. Chapter Extension 5 teaches database design, and Chapter Extension 6 shows how to apply the principles of database design using Microsoft Access. Finally, Chapter Extension 7 discusses the use of Excel and Access together. Data are passed back and forth between those products so that students can compare and contrast Excel and Access features and strengths. Also, students learn practical skills for managing real data.

Most students should be able to learn (or review) fundamental Excel and Access skills with no supplemental text. Students who need extra instruction can, of course, find it in one of the many excellent tutorials. But having that material in this text means that most students need not buy another book. Those exercises are consolidated into one list, starting on page 672.

HOW IS THE CONTENT ORGANIZED?

The text is organized into four parts. See the graphic outline on pages 10–11 of the front matter for a visual presentation of the parts and chapters and of the relationship of the chapter extensions to the parts and chapters.

Part 1, "Why MIS?," introduces MIS and explains why and how it is important for business students. The three chapters in Part 1 address basic MIS definitions and the five-component framework, show how information and information systems relate to business processes, and explain the role of IS in support of organizational strategy and competitive advantage. Chapter extensions for Part 1 concern collaboration techniques and collaboration IS.

Part 2, "Information Technology," addresses fundamental IT concepts. The three chapters in Part 2 discuss hardware and software, database processing, and data communication. Chapter Extension 3 describes the development of Web and native mobile applications and describes an array of bring your own device (BYOD) policies. The next four chapter extensions teach the basics of Excel and Access, describe database design techniques, and show how to use Excel and Access together. Finally, Chapter Extension 8 discusses data communication technology that supports the cloud with particular focus on SOA and Web service standards.

Part 3 is titled "Using IS for Competitive Advantage." The three chapters in this part consider organization and systems, social media, and business intelligence systems. Part 3 chapter extensions present information on systems for ERP and supply chain management. Chapter Extensions 12 and 13 discuss database marketing and reporting systems and OLAP.

Part 4, "Information Systems Management," concludes the text with three chapters that address information systems security, IS management including outsourcing, and systems development. Note that due to the increased importance of security, that chapter is the first chapter in this part. Part 4 chapter extensions include a detailed description of data breaches, discussions of international MIS, systems development project management, agile systems development with scrum, and business process management.

Again, the goal of the modular organization of this text is to allow you to pick and choose among those topics that best fit your needs. You will preserve continuity if you use each of the 12 chapters in sequence, but you need not use any of the chapter extensions if time is short.

INSTRUCTOR RESOURCES

At the Instructor Resource Center, *www.pearsonglobaleditions.com/Kroenke*, 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 *https://support.pearson.com/getsupport/s/* for answers to frequently asked questions and toll-free user support phone numbers.

The following supplements are available with this text:

- Test Bank
- TestGen® Computerized Test Bank
- PowerPoint Presentation

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