

Management Information Systems

FOR THE INFORMATION AGE

SEVENTH EDITION

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MANAGEMENT INFORMATION SYSTEMS FOR THE INFORMATION AGE

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DEDICATION

For Alexis; my new daughter
and special princess.

Stephen Haag

To the memory of Steve Lunce who
was a good friend and a good man.

Maeve Cummings

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The seventh edition of *Management Information Systems for the Information Age* provides you the ultimate in flexibility to tailor content to the exact needs of your MIS or IT course. The nine chapters and thirteen Extended Learning Modules may be presented in logical sequence, or you may choose your own mix of technical topics and business/managerial topics.

The nine chapters form the core of material covering business and managerial topics, from strategic and competitive technology opportunities to the organization and management of information using databases and data warehouses. If you covered only the chapters and none of the modules, the focus of your course would be MIS from a business and managerial point of view.

The thirteen Extended Learning Modules provide a technical glimpse into the world of IT, covering topics ranging from building a Web site, to computer crimes and digital forensics, to how to use Microsoft Access. If you chose only the modules and none of the chapters, the focus of your course would be on the technical and hands-on aspects of IT.

At the beginning of each chapter (and in the Instructor's Manual for each chapter), we include our recommendations concerning which modules to cover immediately after covering a given chapter. For example, Module H on computer crime and digital forensics follows logically after Chapter 8 on protecting people and information. But you can cover Chapter 8 and omit Module H—that's completely up to you. On the other hand, you can omit Chapter 8 and cover Module H—you have flexibility to do what suits your needs and the needs of your students.

You can easily select a course format that represents your own desired blend of topics. While you might not choose to cover the technologies of networks, for example, you might require your students to build a small database application. In that case, you would omit Module E (Network Basics) and spend more time on Module C (Designing Databases and Entity-Relationship Diagramming) and Module J (Implementing a Database with Microsoft Access).

On the facing page, we've provided a table of the chapters and the modules. As you put your course together and choose the chapters and/or modules you want to cover, we would offer the following:

- Cover any or all of the chapters as suits your purposes.
- Cover any or all of the modules as suits your purposes.
- If you choose a chapter, you do not have to cover its corresponding module.
- If you choose a module, you do not have to cover its corresponding chapter.
- You may cover the modules in any order you wish.

Please note that your students will find Modules F, G, I, K, L, and M on the CD that accompanies the textbook. Also, to better serve a large and diverse market, we have provided two versions of Module D (Decision Analysis with Spreadsheet Software) and two of Module J (Implementing a Database with Microsoft Access). In the book, these two modules cover Office 2007 Excel and Access. However, if you're using a previous iteration of Microsoft Office, you can teach Excel and Access using the versions of Modules D and J found on the CD, as they teach Excel and Access using Office 2003.

The unique organization of this text gives you **complete flexibility** to design your course as you see fit.

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CHAPTER 6 Systems Development	Extended Learning Module F* Building a Web Page with HTML
CHAPTER 7 Enterprise Infrastructure, Metrics, and Business Continuity Planning	Extended Learning Module G* Object-Oriented Technologies
CHAPTER 8 Protecting People and Information	Extended Learning Module H Computer Crime and Digital Forensics
CHAPTER 9 Emerging Trends and Technologies	Extended Learning Module I* Building an E-Portfolio
	Extended Learning Module J Implementing a Database with Microsoft Access
	Extended Learning Module K* Careers in Business
	Extended Learning Module L* Building Web Sites with FrontPage
	Extended Learning Module M* Programming in Excel with VBA

*The complete text for Modules F, G, I, K, L, and M are on the CD that accompanies this text. (On the CD also are versions of Modules D and J using Office 2003.)

- **Management focus**—By focusing on the chapters, your class will take a managerial approach to MIS.
- **Technical focus**—If hands-on, technical skills are more important, focus your MIS course on the modules.

Assurance of Learning Ready

All educational institutions today are focused on the notion of assurance of learning, the demonstration that students are indeed learning in the classroom. *Assurance of learning* is key in accreditation and in reassuring all constituents (employers, prospective students, the parents of prospective students, institutional administration, and so on) that the value of the educational dollar is very high.

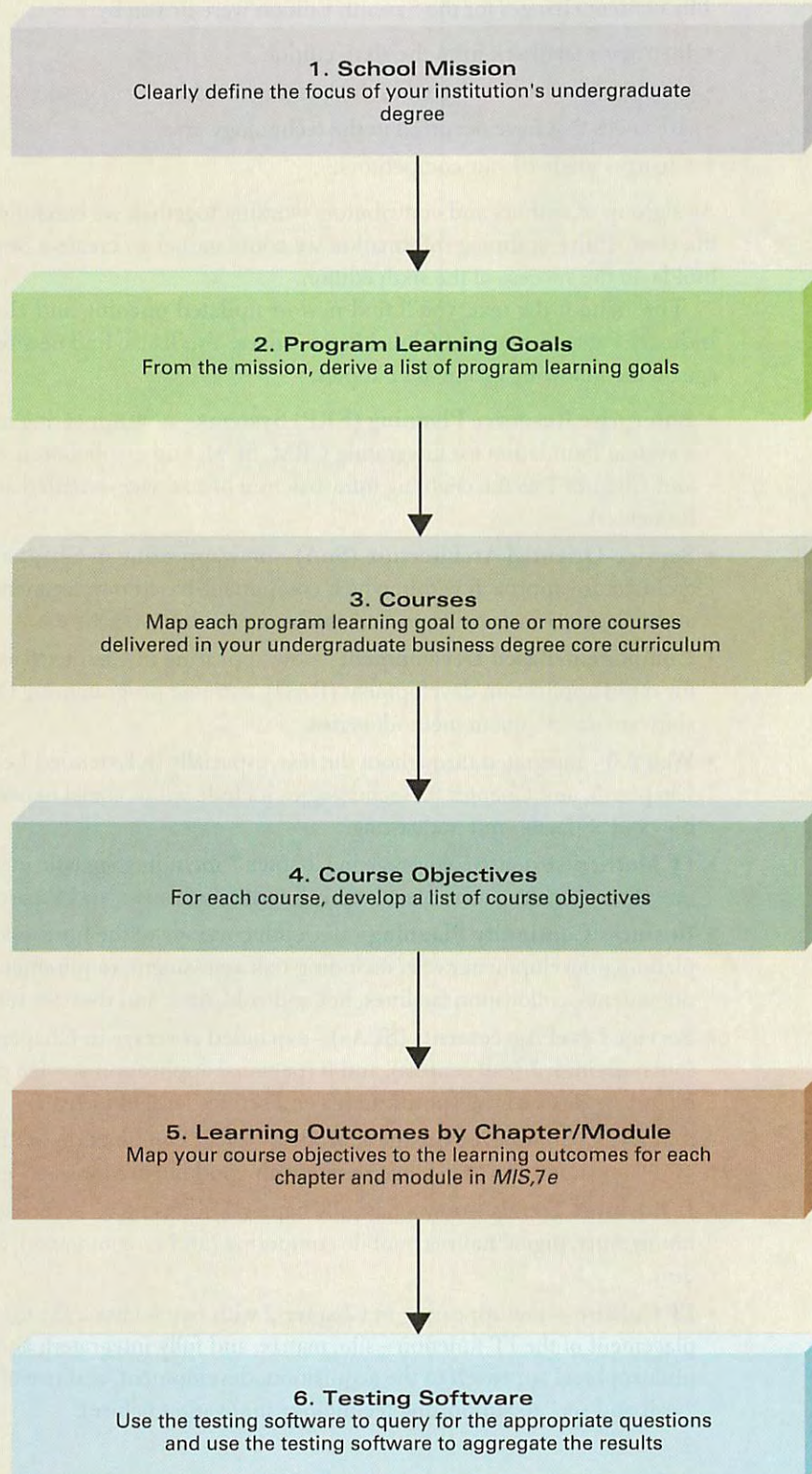
Management Information Systems for the Information Age, Seventh Edition, is designed specifically to support your assurance of learning initiatives. It does so in simple, yet powerful, fashion.

Management Information Systems for the Information Age, Seventh Edition, maps each test bank question to a learning outcome for the chapter or module. The instructor can use the test bank software to easily query for learning outcome questions that relate directly to the learning objectives for the course. The instructor can then use the reporting features of the software to aggregate results in similar fashion, making the collection and presentation of *assurance of learning* information simple and easy.

If you're just starting your assurance of learning initiatives, take a close look at the diagram on the opposite page.

1. **School Mission**—start here to clearly define and understand the focus of your educational institution in delivering its undergraduate degree.
2. **Program Learning Goals**—from your school's mission, derive a list of program learning goals. Each of these usually maps to a specific business functional area. For example, a program learning goal for MIS might be: "Understand the use of information technology in business (and other types of organizations, i.e., not-for-profit, etc.) (1) to create and sustain a competitive advantage, (2) to be more efficient in operations, (3) to make more effective decisions, and (4) to transform the organization to remain viable in the marketplace."
3. **Courses**—map each program learning goal to one or more courses delivered in your undergraduate business degree core curriculum. This will tell you in which courses you need to provide assurance of learning for each program learning goal.
4. **Course Objectives**—for each course, develop a list of course objectives. You probably already have these and include them in your syllabus to inform students of what they will be learning.
5. **Learning Outcomes by Chapter/Module**—map your course objectives to the learning outcomes for each chapter and module in *Management Information Systems for the Information Age*, Seventh Edition. Some of your course objectives may cross more than one chapter or module or they may be inclusive of just one chapter or module.
6. **Testing Software**—use the testing software provided with the text to query for questions by the learning outcomes you identified in the previous step. Choose the questions most appropriate to you. Use the reporting features of the testing software to aggregate results by learning outcome.

If you would like further insight into assurance of learning in MIS, including rubrics for software projects, contact your McGraw-Hill sales representative. Stephen Haag can provide a two-part presentation on assurance of learning.



Changes for the Seventh Edition

The content changes for the Seventh Edition were driven by:

- Instructor feedback from the sixth edition.
- Changes that have occurred in the business world.
- Advances that have occurred in the technology area.
- Changes made by our competitors.

As a group of authors and contributors working together, we carefully sifted through all the competitive scanning information we could gather to create a Seventh Edition that builds on the success of the sixth edition.

Throughout the text, you'll find new or updated opening and closing case studies, Industry Perspectives, and Global Perspectives. You'll also find new or expanded coverage on the following essential IT topics:

- **Enterprise Resource Planning (ERP) Systems**—now appearing in Chapter 2 (as a system foundation for integrating CRM, SCM, and e-collaboration functions) and Chapter 7 as the enabling infrastructure of a service-oriented architecture framework.
- **Service-Oriented Architecture (SoA)**—now appearing in Chapter 6 (as the architecture approach within which component-based development is undertaken) and Chapter 7 in creating an SoA-enabled ERP infrastructure.
- **Component-Based Development**—now appearing in Chapter 6 as the “umbrella” for rapid application development (RAD), extreme programming (XP), and agile software development methodologies.
- **Web 2.0**—integrated throughout the text, especially in Extended Learning Module B, Chapter 5, and Chapter 9. Technologies include wikis, social networking sites, blogs, RSS feeds, and podcasting.
- **IT Metrics**—extensive coverage in Chapter 7 including specific metrics that focus on infrastructure-centric measures, call center measures, and Web-centric measures.
- **Business Continuity Planning**—in-depth coverage of the business continuity planning development cycle, including risk assessment, requirement recovery documents, collocation facilities, hot and cold sites, and disaster recovery plans.
- **Service Level Agreements (SLAs)**—expanded coverage in Chapters 6 (outsourcing), 7 (call centers), and 9 (personal application service providers), including service level specifications and service level objectives.
- **9 Major E-Commerce Business Models**—every combination of “B” Business, “C” Consumer, and “G” Government with good illustrations and examples.
- **E-Business Trends**—now a part of Chapter 5, focusing on screenagers, digital immigrants, digital natives, mobile computing (and m-commerce), and the *Long Tail*.
- **IT Culture**—now appearing in Chapter 2 with two focuses: (1) the structural placement of the IT function—silo, matrix, and fully integrated; and (2) the philosophical approach to the acquisition, development, and use of IT (ranging from “wait and see” to supporting technology innovation failure).

Changes specific to each chapter/module include:

- **Chapter 1** is no longer an introduction to the book. Now it jumps right into the integration of business strategy and information technology by covering Porter's Five Forces Model, Porter's three generic strategies, top line versus bottom line, the run-grow-transform (RGT) framework, and value-chain analysis. These major topics drive all our discussions of technology throughout the book.
- **Updated Chapter 2**, expanded coverage of e-collaboration and new content on IT culture and enterprise resource planning (ERP) systems.
- **Updated Chapter 5**, less coverage of electronic government and new content on e-business trends.
- **Updated Chapter 6**, new content on component-based development (CBD), service-oriented architectures (SoA), and service level agreements (SLAs).
- **Updated Chapter 7**, expanded coverage of ERP systems and new content on IT success metrics and business continuity planning.
- **Updated Chapter 9**, including such topics as haptic interfaces and nanotechnology.
- **Updated Module B**, new content on Web 2.0.

In all, you'll find exciting new content on the following topics (and many more):

- | | |
|-------------------------------------|---------------------------------|
| • Call center success metrics | • Microsoft Windows Vista |
| • Ad-supported e-commerce model | • Nanotechnology |
| • Blogs | • Near Field Communication |
| • Web-centric success metrics | • Open-source information |
| • Botnets | • Path-to-profitability (P2P) |
| • Business continuity planning | • Pharming |
| • Component-based development (CBD) | • Podcasting |
| • Crowdsourcing | • Predictive analytics |
| • Porter's three generic strategies | • Redacting |
| • Digital immigrants | • Requirement recovery document |
| • Digital natives | • Rootkit |
| • Drones | • RSS feeds |
| • GIGO | • Screenagers |
| • Infrastructure-centric metrics | • Service level agreements |
| • Intrusion prevention systems | • Service-oriented architecture |
| • Invisible backlog | • Technology innovation failure |
| • IT culture | • Web 2.0 |
| • Location mashups | • Wiki |
| • The <i>Long Tail</i> | • Zombie |
| • Mashups | |

Organization—The Haag Advantage

The separation of content between the chapters and the Extended Learning Modules is very simple. We can sum it up by saying:

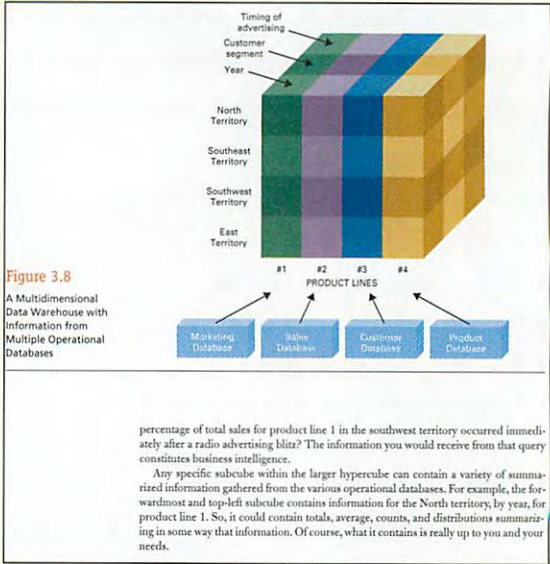
- The **chapters** address what you want your students to **know**.
- The **modules** address what you want your students to **be able to do**.

Together, both combine to provide a well-balanced repository of important information aimed at developing a prospective business professional equipped with both foundational knowledge and application experience, ready to take on today's highly competitive job market.

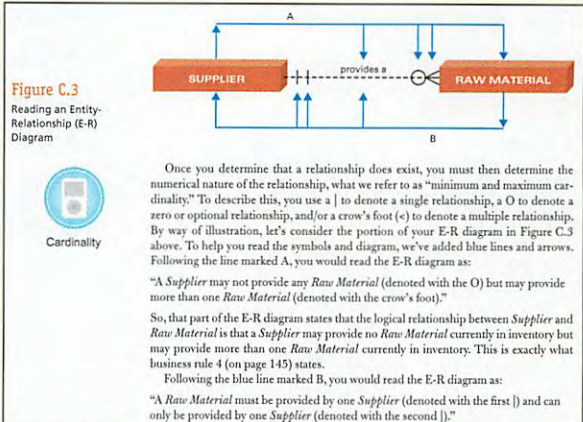
Each chapter and module contains full pedagogical support:

- Student Learning Outcomes
- Summary
- Key Terms and Concepts
- Short-Answer Questions
- Assignments and Exercises

The chapters focus on the business and managerial applications of MIS and information technology.



The modules focus on giving your students real hands-on-knowledge they can apply in both their personal and professional experiences.



Student Engagement and Enrichment—the Haag Advantage

Your students exhibit three different learning styles:

1. Auditory (hearing)
2. Visual (seeing)
3. Tactile (doing and experiencing)

To be at your best in the classroom, you need engagement and enrichment support that fosters learning within each of the three different learning styles. *Management Information Systems for the Information Age*, Seventh Edition, provides you with a vast array of engagement and enrichment support for all learning styles, including:

- High-quality, relevant videos
- “Study to Go” material downloaded to electronic handheld devices
- An opening case study (now with questions) and two closing case studies per chapter
- 24 electronic commerce projects
- 22 group projects requiring your students to use technology to solve a problem or take advantage of an opportunity
- Over 175 assignments, exercises, homework, and in-class breakout activities. For those of you who have been using the sixth edition, we have removed the Team Work and On Your Own boxes to make the text more streamlined. You can still find these great assignments in the Instructor’s Manual.

Use high-quality videos covering such topics as Hurricane Katrina, Motley Fool, Spawn.com, and Digital Domain to challenge your students to define the role of IT and MIS in real-life situations.



3. YOUR RESPONSIBILITIES DURING EACH STEP IN THE SDLC During insourcing, you have many responsibilities because you’re a business process expert, liaison to the customer, quality control analyst, and manager of other people. According to which step of the SDLC you’re in, your responsibilities may increase or decrease. In the table below, determine the extent to which you participate in each SDLC step according to your four responsibilities. For each row you should number the SDLC steps 1 through 7, with a 1 identifying the step in which your responsibility is the greatest and a 7 identifying the step in which your responsibility is the least.

	SDLC STEP						
	PLANNING	ANALYSIS	DESIGN	DEVELOPMENT	TESTING	IMPLEMENTATION	MAINTENANCE
Business process expert							
Liaison to the customer							
Quality control analyst							
Manager of other people							

Engage your students in active participation by assigning any of the over 175 assignments, exercises, homework, and in-class breakout activities. Some can be used in class and others require outside class work.

Case Studies

Opening Case Study

Each chapter begins with a one-page opening case study, highlighting how an organization has successfully implemented many of that chapter's concepts.

CHAPTER TWO

Major Business Initiatives Gaining Competitive Advantage with IT

OPENING CASE STUDY: A SMACK—A GROUP OF JELLYFISH OR SOCIAL COMMERCE SHOPPING?

A *smack* is actually both. It is the term for a group of jellyfish (just like a group of crows is called a *murder*), and it's also the term Mark McGuire uses to describe how customers shop on his social commerce site, that is, *smack shopping*. Mark is the CEO of Jellyfish.com (www.jellyfish.com), a Web site that provides for collaborative shopping by groups of customers to get the best deals.

too early, letting everyone profit from rising discounts. As you might guess, many of these buyers then resell the items on other traditional auction sites such as eBay.

The whole concept of *social commerce shopping* seems to be catching on. Jellyfish has more than 100,000 participants (both buyers and sellers) on a monthly basis. In the first five months of operation, the users of Jellyfish rose by a factor of five. As Mark describes it, *smacking* is turning marketing into entertainment. "We call it the Internet's first live shopping game show," says Mark.

CHAPTER ONE

The Information Age in Which You Live Changing the Face of Business

OPENING CASE STUDY: IS YOUR SOCIAL SECURITY NUMBER WORTH \$98?

The answer for many people is yes. But they're not referring to the worth of their own social security numbers; they're referring to how much they are willing to pay for your Social Security number. And they're willing to pay for other data such as:

- \$490—credit number and PIN.
- \$78–\$294—billing data including account number, address, birth date, etc.
- \$147—driver's license number.
- \$147—birth certificate.
- \$6–\$24—credit card number with security code and expiration date.
- \$6—PayPal logon and password.

for retail outlets including T. J. Maxx, Marshalls, and HomeGoods—reported the infiltration of its identity management systems, which may eventually affect over 40 million customers.

By some accounts, the black market for identity information is now a billion-dollar-a-year industry. Transactions occur daily with the buying and selling of identities, credit card information, and even brokerage accounts. One man stole numerous online brokerage accounts and used them to employ the old "pump-and-dump" stock scam. With his legitimate personal account he bought many shares of a penny stock. He then used the accounts he'd stolen to buy more shares of the same stock, which raised the price significantly. He then sold the shares in his legitimate personal account for a tidy profit of \$82,000. We can tell you this story because he got caught.

CLOSING CASE STUDY TWO

IS THE WORLD DUMPING DATA ON YOU?

It goes by many terms—information overload, analysis paralysis, data dumping, and so on. You know what we're talking about. It is indeed great to live in the information age with a plethora of digital technologies at your fingertips giving you access almost instantly to massive amounts of information. But is all of that information really useful? Do you find yourself spending hours on end searching through that vast amount of information to find exactly what you need? Are search engines really good at helping you quickly locate the exact information you need?

Those are very important questions in the business world. Time is money, and time spent looking for the right information is wasted time and therefore an increased cost which results in a decrease in profits. An Accenture study of 1,009 managers at U.S. and U.K. companies with annual revenues exceeding \$500 million in revenues revealed the following startling facts:

- IT managers spend 30 percent of their time trying to find information relevant to their jobs.
- 42 percent say they are bombarded by too much information.
- 44 percent complain that other departments don't share data.
- 39 percent can't figure out which information is current.
- 38 percent often receive duplicate data.
- 21 percent don't understand the value of the information once they receive it.
- 84 percent say they store information on hard drives or e-mail and don't share data that might be relevant to others.
- Only 16 percent state that they use collaborative tools, essential tools for sharing information.

Information is a critical and valuable resource to any organization. It can easily be shared and used by

Closing Case Studies

To help your students apply what they have just learned, you'll find two closing case studies at the end of each chapter. Each case has a set of questions that are great for class discussion.

Interactive Learning Pedagogy

Student learning outcomes open and close each chapter and module. We summarize the learning content by revisiting each student learning outcome—"tell them what you're going to tell them, tell them, and then tell them what you told them."

CHAPTER FOUR OUTLINE

STUDENT LEARNING OUTCOMES

1. Compare and contrast decision support systems and geographic information systems.
2. Define expert systems and describe the types of problems to which they are applicable.
3. Define neural networks and fuzzy logic and the use of these AI tools.
4. Define genetic algorithms and list the concepts on which they are based and the types of problems they solve.
5. Describe the four types of agent-based technologies.

Summary: Student Learning Outcomes Revisited

1. Compare and contrast decision support systems and geographic information systems. A **decision support system (DSS)** is a highly flexible and interactive IT system that is designed to support decision making when the problem is not structured. A **geographic information system (GIS)** is a decision support system designed specifically to analyze spatial information. So, they both are designed to support decision-making efforts. While traditional DSSs mainly use text and numeric data, GISs represent many types of information in spatial or map form.
- problems they solve. A **genetic algorithm** is an artificial intelligence system that mimics the evolutionary, survival-of-the-fittest process to generate increasingly better solutions to a problem. Genetic algorithms use the principles of **selection, crossover, and mutation** from evolution theory. These systems are best suited to problems where hundreds or thousands of solutions are possible and you need an optimum solution.
5. Describe the four types of agent-based technologies. An **intelligent agent** is software that assists you, or acts on your behalf, in

Each chapter and module contains complete pedagogical support in the form of:

1. Summary of Student Learning Outcomes
2. Closing case studies and discussion questions (chapters only)
3. Key terms and concepts
4. Assignments and Exercises

Short-Answer Questions

1. How is a peer-to-peer network different from a client-server network?
2. What is an Ethernet card?
3. What does a network switch do?
4. What is bandwidth?
5. What do you need to have a dial-up connection to the Internet?
6. How is a DSL Internet connection different from a telephone modem connection?
7. What impact does Frame Relay have on a metropolitan area network?
8. What is Cat 5 cable used for?
9. What is Bluetooth?
10. What does VPN do?
11. How does a VPN protect confidentiality?
12. How is client-server model 1 different from client-server model 2?

Assignments and Exercises

1. **WHAT ARE THE INTERNET ACCESS OPTIONS IN YOUR AREA?** Write a report on what sort of Internet connections are available close to you. How many ISPs offer telephone modem access? Is DSL available to you? Is it available to anyone in your area? Does your cable company offer a cable modem? If your school has residence halls, does it offer network connections? Compare each available service on price, connection speed, and extras like a help line, list of supported computers and operating systems, and people who will come out to your home and help you if you're having difficulties. What type of Internet connection do you currently use? Do you plan to upgrade in the future? If so, to what type of connection? If not, why not?
2. **INVESTIGATE BUILDING YOUR OWN HOME NETWORK.** Build your own home network on paper. Assume you have the computers already and just need to link them together. Find prices for switches and routers on the Web. It is to read that material and build a Web site that contains the table below. Did you find it easy or difficult to build a table? Is this perhaps one of those instances when using a Web authoring tool or Word to create Web site content is much easier than actually writing the HTML code? Why or why not?
3. **WEB SPACE AT YOUR SCHOOL.** Most schools offer their students Web space for building and posting Web sites. Check to see what your school offers. Does it offer Web space? How much storage memory are you provided? What sort of restrictions does your school have for what can and cannot be on your Web site? How long do you get to continue to use your school's Web space after you graduate?
4. **BUILDING A WEB SITE WITH MICROSOFT WORD.** You can build a Web site in a variety of ways. You can use a simple text editor, such as Notepad, as we did in this module. You can use powerful Web authoring tools such as Microsoft FrontPage (see Extended Learning Module 4). And you can also use Microsoft Word. To use Microsoft Word, you create a Word document, insert images, and provide all the necessary formatting just as if you were creating a standard Word document. Then, you save the Word document as a Web page. Go through this process for creating a simple Web site with at least one image, some text, and one list (either numbered or unnumbered). How do you save the Word document as a Web page? Is this easier than using something like Notepad to actually write the HTML code? Why or why not? How do you go about changing a Web site you created in Word?
5. **BUILDING A TABLE IN HTML.** On the Web site that supports this text (www.mhhe.com/itexp/inet/SLM1/), we've provided more information about creating a Web site with HTML, including how to build a table. Your task

operating systems, and people who will come out to your home and help you if you're having difficulties. What type of Internet connection do you currently use? Do you plan to upgrade in the future? If so, to what type of connection? If not, why not?

operating systems, and people who will come out to your home and help you if you're having difficulties. What type of Internet connection do you currently use? Do you plan to upgrade in the future? If so, to what type of connection? If not, why not?

Name	Job	Seniority
John Doe	Accountant	15 years
Jane Smith	Systems analyst	10 years
Sue Morgan	Web developer	18 years
Bill Rodriguez	Accountant	9 years

operating systems, and people who will come out to your home and help you if you're having difficulties. What type of Internet connection do you currently use? Do you plan to upgrade in the future? If so, to what type of connection? If not, why not?

PROJECTS

Group PROJECTS

CASE 1: ASSESSING THE VALUE OF CUSTOMER RELATIONSHIP MANAGEMENT

TREVOR TOY AUTO MECHANICS

Trevor Toy Auto Mechanics is an automobile repair shop in Phoenix, Arizona. Over the past few years, Trevor has seen his business grow from a two-lane car repair shop with only one other employee to a 15-lane car repair shop with 11 employees.

Trevor wants to improve service and add a level of personalization to his customers. However, Trevor has no idea who his best customers are, the work that is being performed, or which mechanics is responsible for the repairs. Trevor is asking for your help. He has provided you with a spreadsheet file, **TREVOR.xls**, that contains a list of all the repairs his shop has completed over the past year including each client's name along with a unique identifier. The spreadsheet file contains the fields provided in the table below.

Column	Name	Description
A	CUSTOMER #	A unique number assigned to each customer.
B	CUSTOMER NAME	The name of the customer.
C	MECHANIC #	A unique number assigned to the mechanic who completed the work.
D	CAR TYPE	The type of car on which the work was completed.
E	WORK COMPLETED	What type of repair was performed on the car.
F	NUM HOURS	How long in hours it took to complete the work.
G	COST OF PARTS	The cost of the parts associated with completing the repair.
H	TOTAL CHARGE	The amount charged to the customer for the repair.

Electronic Commerce Projects

RESEARCH IN COMPUTER STATISTICS AND RESOURCES

For both personal and professional reasons, you'll find it necessary to stay up with technology and technology changes throughout your life. Right now, knowing about technology—the latest trends, new discoveries, present needs, without communication capabilities, and the like—can help you support technology infrastructure recommendations for a company in one of your own papers. The same kind of information can help you determine which personal technologies you need to buy and use.

As you progress through your career, you'll make numerous business presentations and recommendations, most of which will contain some sort of discussion of the latest uses of technology from an organizational point of view. Instead, if you plan to move up the corporate ladder to the CEO (CFO, CFO, CDO, etc.), a knowledge of the organizational uses of technology is essential. Consult to several Web sites that offer computer statistics and resources and answer the following questions for each.

- What categories of personal technologies are covered?
- What categories of organizational uses of technology are covered?
- To what extent is time-based (e.g., year-by-year) numerical data provided?
- Who supports the site? Is the site for-profit or non-profit?
- Are the various types of research reports free or do you have to pay a fee?
- How helpful is the site from a personal point of view?
- How helpful is the site from an organizational point of view?

Electronic commerce projects require your students to learn through Web exploration. Group projects require your students to use technology to solve a problem or take advantage of an opportunity.

Problem	Type of Decision Support
You and another marketing executive on a different continent want to develop a new pricing structure for products. You want to predict when customers are about to take their business elsewhere. You want to fill out a short tax form. You want to determine the fastest route for package delivery to 23 different addresses in a city. You want to decide where to spend advertising dollars (TV, radio, newspaper, direct mail, e-mail). You want to keep track of competitors' prices for comparable goods and services.	
4. WHAT SHOULD THE MUSIC STORE OWNER DO? A music store owner wants to have enough of the hottest CDs in stock to that people who come in to buy a particular CD won't be disappointed—and the store won't lose the profit. CDs that are not sold within a certain length of time go onto the sale table where they may have to be sold at cost, if they sell at all.	The owner wants to design a decision support system to predict how many copies she should purchase and what information she will need. List some of the considerations that would go into such a system. Here are a couple to start you off: (1) the population of the target market; (2) sales for particular types of music in similar markets.

New to this edition is the restructuring of the electronic commerce projects, which previously appeared at the end of each chapter. These projects now each have a singular focus and can be applied to many different chapters and modules. They are now located at the end of the text after *Extended Learning Module M*. Each chapter starts by identifying which electronic projects are most appropriate to use. The Instructor's Manuals for the modules identify the most appropriate ones as well. As a quick reference, please refer to the table below.

	CHAPTER								
	1	2	3	4	5	6	7	8	9
1. Best in Computer Statistics and Resources			X	X	X	X	X		
2. Consumer Information		X	X	X					
3. Interviewing and Negotiating Tips	X								X
4. Meta Data		X		X		X	X		
5. Bureau of Labor and Statistics		X	X	X					
6. Demographics		X	X	X					
7. Free and Rentable Storage Space					X				X
8. Gathering Competitive Intelligence		X			X				
9. Ethical Computing Guidelines	X							X	
10. Exploring Google Earth			X	X	X			X	
11. Financial Aid Resources	X		X						X
12. Finding Hosting Services					X	X	X		
13. Global Statistics and Resources	X	X	X		X				X
14. Gold, Silver, Interest Rates, and Money		X		X	X				
15. Privacy Laws and Legislation								X	
16. Protecting Your Computer	X							X	
17. Learning About Investing				X	X				
18. Locating Internships									
19. Small Business Administration		X			X				
20. Stock Quotes				X					
21. Researching Storefront Software					X	X			
22. Searching for Shareware and Freeware						X	X	X	
23. Searching Job Databases	X								X
24. Searching for MBA Programs									X

After *Extended Learning Module M* in the text, you'll find 22 Group Projects. These require your students to use technology to solve a problem or take advantage of an opportunity. A quick warning to instructors: Some of these take an entire weekend to solve. Be careful not to assign too many at one time. These projects can be applied to many different chapters and modules. As a quick reference, please refer to the table below.

	CHAPTER/MODULE										
	1	2	3	4	5	6	7	8	9	D	C/I
1. Assessing the Value of Information	X			X				X		X	X
2. Analyzing the Value of Information	X							X		X	
3. Executive Information System Reporting		X		X		X				X	
4. Building Value Chains			X		X					X	X
5. Using Relational Technology to Track Projects			X							X	X
6. Building a Decision Support System				X						X	
7. Advertising with Banner Ads				X	X			X		X	X
8. Assessing the Value of Outsourcing Information Technology				X		X		X		X	
9. Demonstrating How to Build Web Sites											
10. Making the Case with Presentation Software	X										
11. Building a Web Database System			X		X			X			X
12. Creating a Decision Support System				X		X		X		X	
13. Developing an Enterprise Resource Planning System		X		X			X	X		X	
14. Assessing a Wireless Future					X			X		X	
15. Evaluating the Next Generation		X				X				X	
16. Analyzing Strategic and Competitive Advantage	X			X						X	
17. Building a Decision Support System				X				X		X	
18. Creating a Financial Analysis				X				X		X	
19. Building a Scheduling Decision Support System		X		X						X	
20. Creating a Database Management System			X								X
21. Evaluating the Security of Information								X		X	
22. Assessing the Value of Supply Chain Management	X			X			X			X	

Supplements:

- Online Learning Center
- Instructor's Manual
- Test Bank
- PowerPoint Presentations
- Student CD
- MISource CD
- Classroom Performance System
- Videos
- MBA MIS Cases

The Support Package

We realize that no text is complete without a well-rounded and value-added support package. Our support package is designed to ease your teaching burden by providing you with a Web site full of valuable information, a test bank with more than 2,000 questions and easy-to-use test generating software, an Instructor's Manual that walks you through each chapter and module and provides value-added teaching notes and suggestions, and PowerPoint presentations.

ONLINE LEARNING CENTER AT WWW.MHHE.COM/HAAG

As in previous editions, the Web site for the Seventh Edition contains a wealth of valuable information and supplements for both the instructor and the student.

INSTRUCTOR'S MANUAL

The Instructor's Manual is provided to you in an effort to help you prepare for your class presentations. In its new format, you will find a separate box for each PowerPoint slide. In that box, you will find an overview of the slide and a list of key points to cover. This presentation enables you to prepare your class presentation by working solely with the Instructor's Manual because you also see the PowerPoint slide presentations. We've also provided embedded links within each Instructor's Manual document to the various in-text pedagogical elements.

- **The Global and Industry Perspectives boxes**—how to introduce them, key points to address, possible discussion questions to ask, etc.

At the beginning of each Instructor's Manual document you'll find other useful information including the appropriate author to contact if you have questions or comments, a list of the Group Projects that you can cover, and a list of any associated data files.

We've provided the Instructor's Manual files in Word format and placed them on the text's Web site.

TEST BANK

For each chapter and module, there are approximately 125 multiple-choice, true/false, and fill-in-the-blank questions aimed at challenging the minds of your students. McGraw-Hill's EZ Test is a flexible and easy-to-use electronic testing program. The program allows instructors to create tests from book-specific items. It accommodates a wide range of question types and instructors may add their own questions. Multiple versions of the test can be created and any test can be exported for use with course management systems such as WebCT, BlackBoard, or PageOut. EZ Test Online is a new service and gives you a place to easily administer your EZ Test-created exams and quizzes online. The program is available for Windows and Macintosh environments.

POWERPOINT PRESENTATIONS

The PowerPoint presentations are ready for you to use in class. In preparing to use these, you simply work through the Instructor's Manual which includes thumbnails of each slide and important points to cover. Of course, we realize that you'll probably want to customize some of the presentations. So, we've made available to you most of the images and photos in the text. You can find these on the text's Web site at www.mhhe.com/haag.

Empowered Instruction

Classroom Performance System

Engage students and assess real-time lecture retention with this simple yet powerful wireless application. You can even deliver tests that instantly grade themselves.



PORTER'S THREE GENERIC STRATEGIES

- Porter identified 3 generic business strategies for beating the competition

- Overall cost leadership
- Differentiation
- Focus

Narrow market scope	Focus Strategy	
Broad market scope	Differentiation Strategy <small>Unique competency</small>	Overall Cost Leadership <small>Low-cost competency</small>

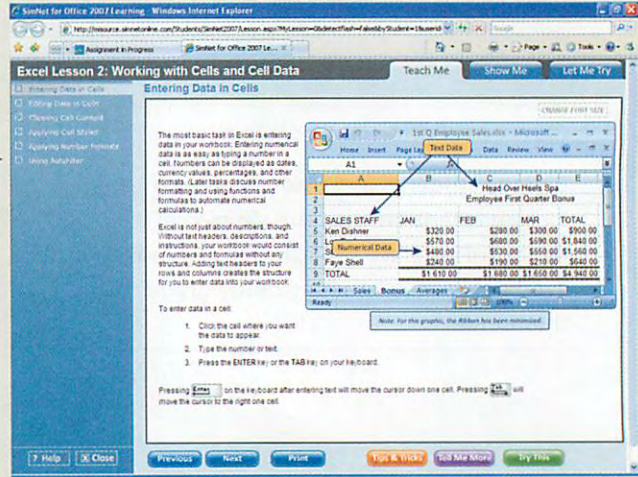
1-36

PowerPoint Presentation

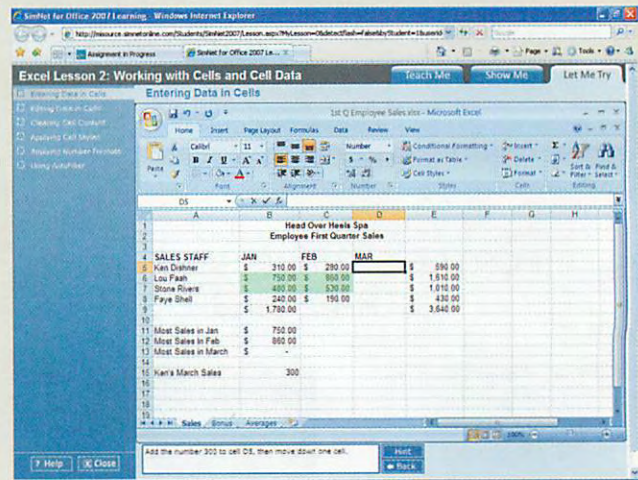
Robust, detailed, and designed to keep students engaged.



Software Skills & Computer Concepts
 MISource provides animated tutorials and simulated practice of the core skills in Microsoft Office 2007 Excel, Access, and PowerPoint.



Spend less time reviewing software skills and computer literacy.



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New videos will be downloadable from the instructor side of the OLC. Selections from our archive of videos from previous years will be delivered upon request.

MBA MIS CASES

Developed by Richard Perle of Loyola Marymount University, these 14 comprehensive cases allow you to add MBA-level analysis to your course. Visit our Web site to review a sample case.

ONLINE LEARNING CENTER

Visit www.mhhe.com/haag for additional instructor and student resources.

ONLINE COURSES

Content for the Seventh Edition is available in WebCT, Blackboard, and PageOut formats to accommodate virtually any online delivery platform.

EXTENDED LEARNING MODULE CD-ROM

This text is packaged with a student CD (0073308900) that contains eight *Extended Learning Modules* (D—Office 2003 version, F, G, I, J—Office 2003 version, K, L, and M). All your students have to do is go to the CD to read the full module.

USE OUR EZ TEST ONLINE TO HELP YOUR STUDENTS PREPARE TO SUCCEED WITH APPLE IPOD® IQUIZ.

Using our EZ Test Online you can make test and quiz content available for a student's Apple iPod®.

Students must purchase the iQuiz game application from Apple for 99¢ in order to use the iQuiz content. It works on the iPod fifth generation iPods and better.

Instructors only need EZ Test Online to produce iQuiz ready content. Instructors take their existing tests and quizzes and export them to a file that can then be made available to the student to take as a self-quiz on their iPods. It's as simple as that.

Acknowledgments

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