Business Driven Technology

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McGraw-Hill
Irwin

Boston Burr Ridge, IL Dubuque, IA Madison, WI New York
San Francisco St. Louis Bangkok Bogotá Caracas Kuala Lumpur
Lisbon London Madrid Mexico City Milan Montreal New Delhi
Santiago Seoul Singapore Sydney Taipei Toronto

BUSINESS DRIVEN TECHNOLOGY

This book is printed on acid-free paper.

3 4 5 6 7 8 9 0 VNH/VNH 0 9 8 7 6 5

ISBN: 0-07-298301-9

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Cover image: © *Haslin/Corbis Sygma*
Interior design: *Amanda Kavanagh*
Typeface: *10/12 Utopia*
Compositor: *ElectraGraphics, Inc.*
Printer: *Von Hoffmann Corporation*

Library of Congress Cataloging-in-Publication Data

Haag, Stephen.
Business driven technology / Stephen Haag, Paige Baltzan, Amy Phillips.—1st ed.
p. cm.
Includes bibliographical references and index.
ISBN 0-07-298301-9 (alk. paper)
1. Information technology—Management. 2. Management information systems. 3. Information resources management. 4. Industrial management—Technological innovations. I. Baltzan, Paige. II. Phillips, Amy. III. Title.
HD30.2.H32 2006
658.4'038—dc22

2004057923

www.mhhe.com

PREFACE

Unlike any other MIS text, *Business Driven Technology* discusses various business initiatives first and how technology supports those initiatives second. The premise for this unique approach is that business initiatives should drive technology choices. Every discussion first addresses the business needs and then addresses the technology that supports those needs. *Business Driven Technology* offers the flexibility to customize courses according to your needs and the needs of your students by covering only essential concepts and topics in the five core units, while providing additional in-depth coverage in the business and technology plug-ins.

Business Driven Technology contains 20 chapters (organized into 5 units), 10 business plug-ins, and 7 technology plug-ins offering you the ultimate flexibility in tailoring content to the exact needs of your MIS or IT course. The unique construction of this text allows you to cover essential concepts and topics in the five core units while providing you with the ability to customize a course and explore certain topics in greater detail with the business and technology plug-ins.

Plug-ins are fully developed modules of text that include student learning outcomes, case studies, business vignettes, and end-of-chapter material such as key terms, individual and group questions and projects, and case study exercises.

We realize that instructors today require the ability to cover a blended mix of topics in their courses. While some instructors like to focus on networks and infrastructure throughout their course, others choose to focus on ethics and security. *Business Driven Technology* was developed to easily adapt to your needs. Each chapter and plug-in is independent so you can:

- Cover any or all of the *chapters* as they suit your purpose
- Cover any or all of the *business plug-ins* as they suit your purpose
- Cover any or all of the *technology plug-ins* as they suit your purpose
- Cover the plug-ins in any order you wish

This text is organized around the traditional sequence of topics and concepts in information technology; however, the presentation of this material is nontraditional. That is to say, the text is divided into four major sections: (1) Units, (2) Chapters, (3) Business plug-ins, and (4) Technology plug-ins. This represents a substantial departure from existing traditional texts; the goal of which is to provide both students and faculty with only the most essential concepts and topical coverage in the text, while allowing faculty to customize a course by choosing from among a set of plug-ins that explore topics in more detail. All of the topics that form the core of the discipline are covered, including CRM, SCM, Porter's Five-Forces model, value-chain analysis, competitive advantage, information security, and ethics.

Business-Driven Technology includes four major components:

- 5 Core Units
- 20 Chapters
- 10 Business Plug-ins
- 7 Technology Plug-ins.

UNITS

1. **Achieving Business Success through Information Technology**
   - Chapter 1: Business Driven Technology Overview
   - Chapter 2: Identifying Competitive Advantages
   - Chapter 3: Strategic Initiatives for Implementing Competitive Advantages
   - Chapter 4: Measuring the Success of Strategic Initiatives
   - Chapter 5: Organizational Structures That Support Strategic Initiatives
2. **Managing Information for Business Initiatives**
   - Chapter 6: Valuing Organizational Information
   - Chapter 7: Storing Organizational Information—Databases
   - Chapter 8: Viewing and Protecting Organizational Information
3. **Enhancing Business Decisions**
   - Chapter 9: Enabling the Organization—Decision Making
   - Chapter 10: Extending the Organization—Supply Chain Management
   - Chapter 11: Building a Customer-centric Organization—Customer Relationship Management
   - Chapter 12: Integrating the Organization from End to End—Enterprise Resource Planning
4. **Creating Collaborative Partnerships in Business**
   - Chapter 13: Creating Collaborative Partnerships through E-Business
   - Chapter 14: Enhancing Collaborative Partnerships
   - Chapter 15: Outsourcing Collaborative Partnerships
   - Chapter 16: Integrating Collaborative Partnerships
5. **Transforming Organizations**
   - Chapter 17: Fostering an Innovative Organization
   - Chapter 18: Creating a Wireless Organization
   - Chapter 19: Building Software to Support an Agile Organization
   - Chapter 20: Developing a 21st Century Organization

BUSINESS PLUG-INS

- B1 Information Security
- B2 Ethics
- B3 Supply Chain Management
- B4 Customer Relationship Management
- B5 Enterprise Resource Planning
- B6 Strategic Outsourcing
- B7 E-Business Models
- B8 Emerging Trends and Technologies
- B9 Systems Development
- B10 Project Management

TECHNOLOGY PLUG-INS

- T1 Hardware and Software
- T2 Networks and Telecommunications
- T3 Decision-Analysis Tools in Excel
- T4 Designing Database Applications
- T5 Touring Access
- T6 Object-Oriented Technologies
- T7 Valuing Technology

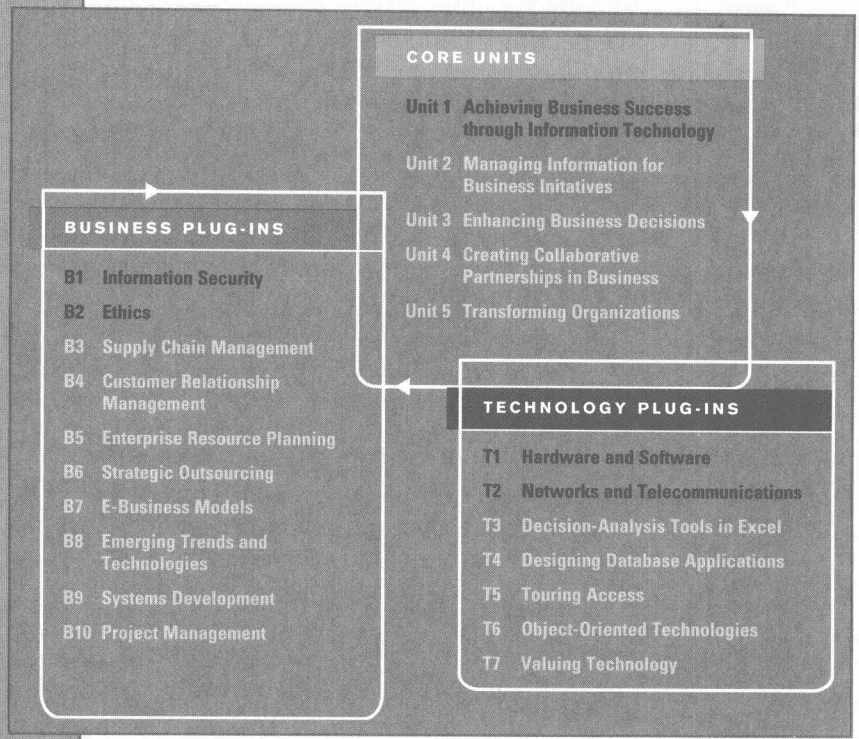
Format, Features, and Highlights

Business Driven Technology is state-of-the-art in its discussions, presents concepts in an easy-to-understand format, and allows students to be active participants in learning. The dynamic nature of information technology requires all students, more specifically business students, to be aware of both current and emerging technologies. Students are facing complex subjects and need a clear, concise explanation to be able to understand and use the concepts throughout their careers. By engaging students with numerous case studies, exercises, projects, and questions that enforce concepts, *Business Driven Technology* creates a unique learning experience for both faculty and students.

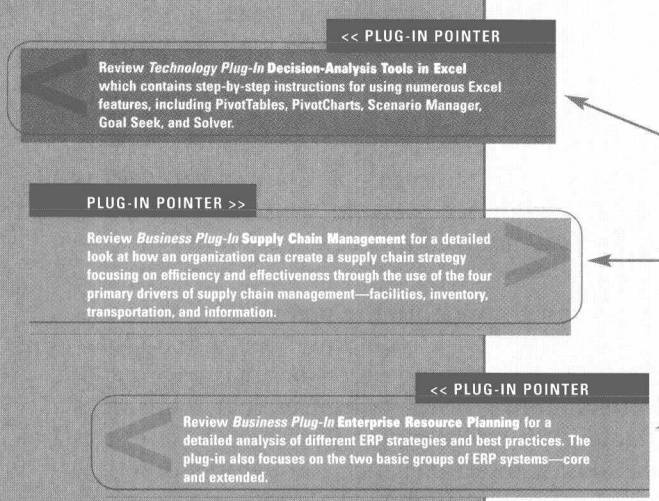
- **Logical Layout.** Students and faculty will find the text well organized with the topics flowing logically from one unit to the next and from one chapter to the next. The definition of each term is provided before it is covered in the chapter and an extensive glossary is included at the back of the text. Each core unit offers a comprehensive opening case study, introduction, learning outcomes, unit summary, closing case studies, key terms, making business decision questions, and making collaborative business decision questions. The plug-ins follow the same pedagogical elements with the exception of the exclusion of opening case and closing case studies in the technology plug-ins. Plug-in pointers at the end of the chapters indicate that the discussion at that point may be usefully augmented by specific plug-ins.
- **Thorough Explanations.** Complete coverage is provided for each topic that is introduced. Explanations are written so that students can understand the ideas presented and relate them to other concepts presented in the core units and plug-ins.
- **Solid Theoretical Base.** The text relies on current theory and practice of information systems as they relate to the business environment. Current academic and professional journals cited throughout the text are found in the Notes at the end of the book—a roadmap for additional, pertinent readings that can be the basis for learning beyond the scope of the unit, chapter, or plug-in.
- **Material to Encourage Discussion.** All units contain a diverse selection of case studies and individual and group problem-solving activities as they relate to the use of information technology in business. Two comprehensive cases at the end of each unit reflect the concepts from the chapters. These cases encourage students to consider what concepts have been presented and then apply those concepts to a situation they might find in an organization. Different people in an organization can view the same facts from different points of view and the cases will force students to consider some of those views.
- **Flexibility in Teaching and Learning.** While most textbooks that are "text only" leave faculty on their own when it comes to choosing cases, *Business Driven Technology* goes much further. Several options are provided to faculty with case selections from a variety of sources including *CIO, Harvard Business Journal, Wired, Forbes, Business 2.0,* and *Time,* to name just a few. Therefore, faculty can use the text alone, the text and a complete selection of cases, or anything in between.
- **Integrative Themes.** Several integrative themes recur throughout the text which adds integration to the material. Among these themes are value added techniques and methodologies, ethics and social responsibility, globalization, and gaining a competitive advantage. Such topics are essential to gaining a full understanding of the strategies that a business must recognize, formulate, and in turn implement. In addition to addressing these in the chapter material, many illustrations are provided for their relevance to business practice. These include brief examples in the text as well as more detail presented in the corresponding plug-in(s) (business or technical).

Visual Content Map

Visual Content Map. Located at the beginning of each unit and serving as a logical outline, the visual content map illustrates the relationship between each unit and its associated plug-ins.



Plug-In Pointers



Plug-in Pointers. Within the end-of chapter material, these plug-in pointers provide suggestions of complimentary plug-ins that supplement chapter content. For example, Chapter 15 discusses Outsourcing Collaborative Partnerships. For more detail relating to issues surrounding outsourcing, the authors suggest jumping to B6 Strategic Outsourcing. Plug-in Pointers are only suggestions. Feel free to supplement core content with whatever plug-in best fits your teaching needs.

Learning Outcomes and Introduction

Introduction. Located after the Unit Opening Case, the introduction familiarizes students with the overall tone of the chapters. Thematic concepts are also broadly defined.

Learning Outcomes. These outcomes focus on what students should learn and be able to answer upon completion of the chapter or plug-in.

INTRODUCTION

Decision making and problem solving in today's electronic world encompass large-scale, opportunity-oriented, strategically focused solutions. The traditional "cookbook" approach to decisions simply will not work in the e-business world. Decision-making and problem-solving abilities are now the most sought-after traits in up-and-coming executives, according to a recent survey of 1,000 executives by Caliper Associates, as reported in *The Wall Street Journal*. To put it mildly, decision makers and problem solvers have limitless career potential.[8]

E-business is the conducting of business on the Internet, not only buying and selling, but also serving customers and collaborating with business partners. (Unit 4 discusses e-business in detail.) With the fast growth of information technology and the accelerated use of the Internet, e-business is quickly becoming standard. This unit focuses on technology to help make decisions, solve problems, and find new innovative opportunities. The unit highlights how to bring people together with the best IT processes and tools in complete, flexible solutions that can seize business opportunities (see Figure 3.1). The chapters in Unit 3 are:

- **Chapter Nine**—Enabling the Organization—Decision Making
- **Chapter Ten**—Extending the Organization—Supply Chain Management
- **Chapter Eleven**—Building a Customer-centric Organization—Customer Relationship Management
- **Chapter Twelve**—Integrating the Organization from End to End—Enterprise Resource Planning

LEARNING OUTCOMES

14.1. Identify the different ways in which companies collaborate using technology.
14.2. Define the different categories of collaboration technologies.
14.3. List, describe, and provide an example of a content management system.
14.4. Evaluate the advantages of using a workflow system.
14.5. Differentiate between a groupware system and a peer-to-peer system.
14.6. Define the fundamental concepts of a knowledge management system.
14.7. Explain the current tools and trends used in a collaborative working environment.

Unit Opening Case and Opening Case Study Questions

Unit Opening Case. To enhance student interest, each unit begins with an opening case study that highlights an organization that has been time-tested and value proven in the business world. This feature serves to fortify concepts with relevant examples of outstanding companies. Discussion of the case is threaded throughout the chapters in each unit.

Opening Case Study Questions. Located at the end of each chapter, poignant questions connect the Unit Opening Case Study with important chapter concepts.

UNIT THREE OPENING CASE

Harley-Davidson Motorcycles

Revving Up Sales at Harley-Davidson

Harley-Davidson produces 290,000 motorcycles and generates over $4 billion in net revenues yearly. There is a mystique associated with a Harley-Davidson motorcycle. No other motorcycle in the world has the look, feel, and sound of a Harley-Davidson and many people consider it a two-wheeled piece of art. The company actually finds itself in the position that demand for its motorcycles outweighs its supply. Some models have up to a two-year wait list. Harley-Davidson has won a number of awards including:

- Rated second in *ComputerWorld*'s Top 100 Best Places to Work in IT in 2003.
- Rated 51st in *Fortune*'s 100 Best Companies to Work For in 2003.
- Rated first in *Fortune*'s 5 Most Admired Companies in the motor vehicles industry.
- Rated first in the Top 10 Sincerest Corporations by the *Harris Interactive Report.*
- Rated second in the Top 10 Overall Corporations by the *Harris Interactive Report.*

Harley-Davidson's Focus on Technology

Harley-Davidson's commitment to technology is paying off and in 2003 it decreased production costs and inventories by $40 million as a direct result of using technology to increase production capacity. The company's technology budget of $50 million is more than 2 percent of its revenue, which is far above the manufacturing industry average. More than 50 percent of this budget is devoted to developing new technology strategies

OPENING CASE STUDY QUESTIONS

1. Determine how Google could use a data warehouse to improve its business operations.
2. Explain why Google would need to scrub and cleanse the information in its data warehouse.
3. Identify a data mart that Google's marketing and sales department might use to track and analyze its AdWords revenue.
4. Describe the fundamentals of a disaster recovery plan along with a recommendation for a plan for Google.
5. Describe why availability and scalability are critical to Google's business operations.

Projects and Case Studies

Case Studies. This text is packed with 55 case studies illustrating how a variety of prominent organizations and business have successfully implemented many of this text's concepts. All cases are timely and promote critical thinking. Company profiles are especially appealing and relevant to your students, helping to stir classroom discussion and interest. For a full list of cases explored in *Business Driven Technology,* turn to the inside back cover.

APPLY YOUR KNOWLEDGE

Project 1:
The Importance of Information Technology

Managers need to be involved in information technology—any computer-based tool that people use to work with information and support the information and information-processing needs of an organization—for the following (primary) reasons:

- The sheer magnitude of the dollars spent on IT must be managed to ensure business value.
- Research has consistently shown that when managers are involved in IT, IT enables a number of business initiatives, such as gaining a competitive advantage, streamlining business processes, and even transforming entire organizations.
- Research has consistently shown that when managers are not involved in IT, systems fail, revenue is lost, and even entire companies can fail all as a result of poorly managed IT.[1]

Project Focus:

One of the biggest challenges your organization will face is, "How do we get general business managers involved in IT?" Research has shown that involvement is highly correlated with personal experience with IT and IT education, including university classes and IT executive seminars. Once general business managers understand IT through experience and education, they are more likely to be involved in IT, and more likely to lead their organizations in achieving business success through IT.

Applying Your Knowledge. At the end of this text, there is a set of 20 projects aimed at reinforcing the business initiatives explored in this text. These projects help to develop the application and problem-solving skills of your students through challenging and creative business-driven scenarios.

Project 1: The Importance of Information Technology
Project 2: Strategic and Competitive Advantage
Project 3: Assessing the Value of Information
Project 4: Network Security
Project 5: Qualitative Analysis
Project 6: Small Business Analysis
Project 7: Mining Information
Project 8: Data Warehouse and CRM Challenge
Project 9: Analyzing a Supply Chain
Project 10: Outsourcing Information Technology
Project 11: E-Business
Project 12: Emerging Trends and Technology
Project 13: Open Source on a Large Scale
Project 14: Aligning IT with Business Goals
Project 15: Transforming Campaign Finance
Project 16: Relational Data Structure
Project 17: Building a Relational Database
Project 18: Buy or Lease
Project 19: Gathering Business Requirements
Project 20: Project Management

Chapter Three Case: Consolidating Touchpoints for Saab

Saab Cars USA imports more than 37,000 Saab sedans, convertibles, and wagons annually and distributes the cars to 220 U.S. dealerships. Saab competes in the premium automotive market and its primary challenge is to compete with rivals who attract customers through aggressive marketing campaigns, reduced prices, and inexpensive financing. Saab decided that the answer to beating its competition was not to spend capital on additional advertising, but to invest in Siebel Automotive, a customer relationship management system.

Until recently, the company communicated with its customers through three primary channels: (1) dealer network, (2) customer assistance center, (3) lead management center. Traditionally, each channel maintained its own customer database and this splintered approach to managing customer information caused numerous problems for the company. For example, a prospective customer might receive a direct mail piece from Saab one week, then an e-mail with an unrelated offer from a third-party marketing vendor the next week. The local dealer might not know of either activity, and therefore might deliver an ineffective pitch when the customer visited the showroom that weekend. Al Fontova, direct marketing manager with Saab Cars USA, stated that he had over 3 million customer records and 55 files at three different vendors. Analyzing this information in aggregate was complicated, inefficient, and costly.

Saab required a solution that would provide a consolidated customer view from all three touchpoints. In 2002, Saab implemented the Siebel CRM solution, which provides Saab's call center employees with a 360-degree view of each customer, including prior service-related questions and all the marketing communications they have received. Known internally as "TouchPoint," the Siebel application provides Saab's dealers with a powerful Web-based solution for coordinating sales and marketing activities. These tracking capabilities enable Saab to measure the sales results of specific leads, recommend more efficient selling techniques, and target its leads more precisely in the future. Using Siebel Automotive, Saab received the following benefits:

- Direct marketing costs decreased by 5 percent.
- Lead follow-up increased from 38 percent to 50 percent.
- Customer satisfaction increased from 69 percent to 75 percent.
- Saab gained a single view of its customers across multiple channels.[12]

Questions

1. Explain how implementing a CRM system enabled Saab to gain a competitive advantage.
2. Estimate the potential impact to Saab's business if it had not implemented a CRM system.
3. What additional benefits could Saab receive from implementing a supply chain management system?

Making Decisions

Making Business Decisions. Small scenario-driven projects that help students focus *individually* on decision making as they relate to the topical elements in the chapters and plug-ins.

MAKING BUSINESS DECISIONS

1. **Improving Information Quality**
   HangUps Corporation designs and distributes closet organization structures. The company operates five different systems including order entry, sales, inventory management, shipping, and billing. The company has severe information quality issues including missing, inaccurate, redundant, and incomplete information. The company wants to implement a data warehouse containing information from the five different systems to help maintain a single customer view, drive business decisions, and perform multidimensional analysis. Identify how the organization can improve its information quality when it begins designing and building its data warehouse.

2. **Mining the Data Warehouse**
   Janet Smith is a senior buyer for a large wholesaler that sells different types of arts and crafts to greeting card stores such as Hallmark. Janet's latest marketing strategy is to send all of her customers a new line of hand-made picture frames from Russia. All of Janet's information supports her decision for the new line. Her analysis predicts that the frames should sell an average of 10 to 15 per store, per day. Janet is excited about the new line and is positive it will be a success.

   One month later Janet learns that the frames are selling 50 percent below expectations and averaging between 5 to 8 frames sold daily in each store. Janet decides to access the company's data warehouse information to determine why sales are below expectations. Identify several different dimensions of information that Janet will want to analyze to help her decide what is causing the problems with the picture frame sales.

3. **Determining Information Quality Issues**
   Real People is a magazine geared toward working individuals that provides articles and advice on everything from car maintenance to family planning. *Real People* is currently expe-

MAKING COLLABORATIVE DECISIONS

1. **Finding Innovation**
   Along with disruptive technologies there are also disruptive strategies. The following are a few examples of companies that use disruptive strategies to gain competitive advantages:
   - **Circuit City, Best Buy**—Disrupted the consumer electronics departments of full-service and discount department stores, which has sent them up-market into higher-margin goods.
   - **Ford**—Henry Ford's Model T was so inexpensive that he enabled a much larger population of people, who historically could not afford cars, to own one.
   - **JetBlue**—Whereas Southwest Airlines initially followed a strategy of new-market disruption, JetBlue's approach is low-end disruption. Its long-range viability depends on the major airlines' motivation to run away from the attack, as integrated steel mills and full-service department stores did.
   - **McDonald's**—The fast food industry has been a hybrid disruptor, making it so inexpensive and convenient to eat out that they created a massive wave of growth in the "eating out" industry. Their earliest victims were mom-and-pop diners.
   - **Plastic manufacturers**—Plastics as a category have disrupted wood and steel, in that the "quality" of plastic parts often was inferior to those of wood and steel. However, plastics' low cost and ease of shaping have replaced wood and steel in many areas. For example, look at how little plastics were used in automobiles 30 years ago versus extensive use today.[54]

   There are numerous other examples of corporations that have used disruptive strategies to create competitive advantages. In a team, prepare a presentation highlighting three additional companies that used disruptive strategies to gain a competitive advantage.

2. **Approving a Project**
   You are working in the IT development team for Gear International, a privately held sports and recreational equipment manufacturer. To date, you have spent the majority of your

Making Collaborative Decisions. Similar to "Making Business Decisions," but students are encouraged to *work in groups* to solve the problems presented (units only).

End-of-Unit Elements

CLOSING CASE TWO

eBay's Cosmos Business Intelligence System

"In Cosmos, we have built a platform with the flexibility and scalability to grow and meet our needs for the foreseeable future. The global scale of our trading community and the competitive pressures we face have made this new analytic system a necessity. Cosmos has opened our eyes and allowed through our site. The ar vided us with a compe manager, eBay.

eBay Overview

eBay, founded in 1995, i vices. eBay's business i

- 22 million registe
- 500 million items
- Over $6 billion in
- 2 million unique v

MAKING COLLABORATIVE DECISIONS

1. **Information Timeliness**
   Information timeliness is a major consideration for all organizations. Organizations need to decide the frequency of backups and the frequency of updates to a data warehouse. In a team, describe the timeliness requirements for backups and updates to a data warehouse for
   - Weather tracking systems
   - Car dealership inventories
   - Vehicle tire sales
   - Interest rates
   - Restaurant invent
   - Grocery store inv

2. **Entities and Attr**
   Martex Inc. is a mar clude running, tenni rently supplies four and Maximum Work In a group, identify th

KEY TERMS

Agile methodology, 200
Analysis phase, 197
Business requirement, 197
Design phase, 197
Development phase, 197
Disruptive technology, 185
Electronic tagging, 209
Extreme programming (XP) methodology, 199
Feature creep, 201
Implementation phase, 197
IT infrastructure, 206
Maintenance phase, 197
Mobile commerce, 209
Planning phase, 196
Project management, 202
Project management software, 202
Prototype, 199
Radio frequency identifica (RFID), 209

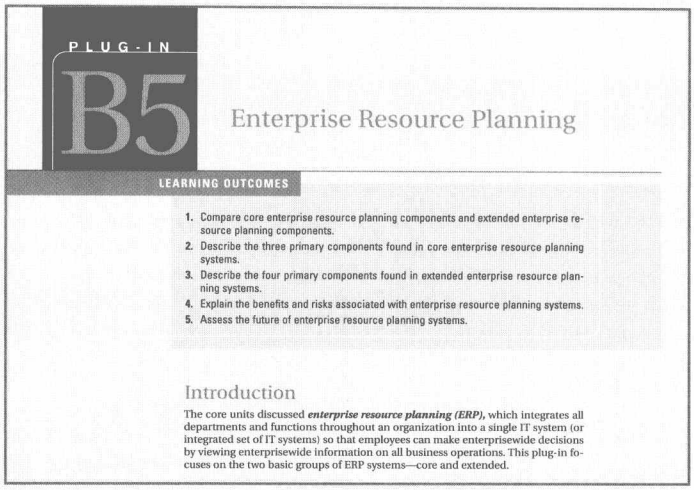
Each unit contains complete pedagogical support in the form of:

- **Unit Summary.** Revisiting the unit highlights in summary format.
- **Key Terms.** With page numbers referencing where they are discussed in the text.
- **Two Closing Case Studies.** Reinforcing importance concepts with prominent examples from businesses and organizations. Discussion Questions follow each case study.
- **Making Business Decisions.** Small scenario-driven projects that help students focus individually on decision making as they relate to the topical elements in the chapters.
- **Making Collaborative Decisions.** Similar to "Making Business Decisions," but students are encouraged to work in groups to solve the problems presented.

About the Plug-Ins

The plug-ins are designed to allow faculty to customize their course and cover selected topics in more detail. Students will read core material related to all of the plug-ins in the 5 units.

As an example, students will learn about various facets of customer relationship management (CRM) most notably in Chapters 1, 2, and 3. However, customer relationship management has its own business plug-in. The CRM business plug-in gives both faculty and students the ability to cover CRM in more detail if desired. Likewise, students will receive an introduction to O-O technologies in Unit 5. The O-O technology plug-in allows coverage of O-O topics such as polymorphism, inheritance, and encapsulation in more detail.



PLUG-IN

B5

Enterprise Resource Planning

LEARNING OUTCOMES

1. Compare core enterprise resource planning components and extended enterprise resource planning components.
2. Describe the three primary components found in core enterprise resource planning systems.
3. Describe the four primary components found in extended enterprise resource planning systems.
4. Explain the benefits and risks associated with enterprise resource planning systems.
5. Assess the future of enterprise resource planning systems.

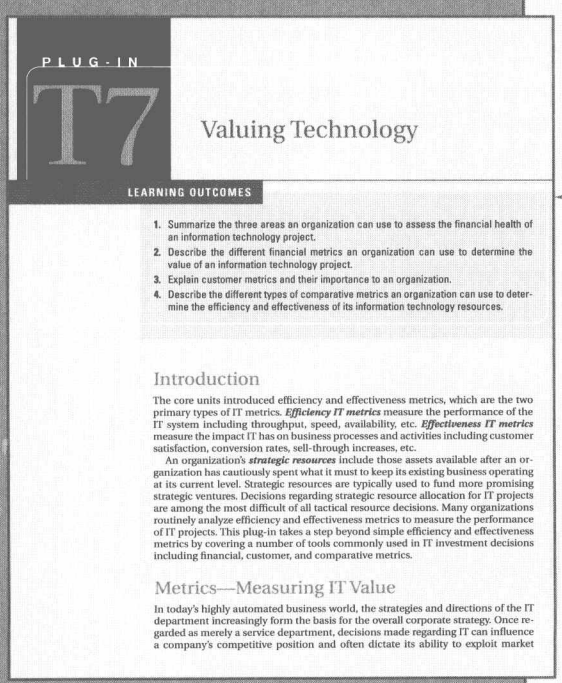
Introduction

The core units discussed ***enterprise resource planning (ERP),*** which integrates all departments and functions throughout an organization into a single IT system (or integrated set of IT systems) so that employees can make enterprisewide decisions by viewing enterprisewide information on all business operations. This plug-in focuses on the two basic groups of ERP systems—core and extended.

Management Focus. By focusing on the Business Plug-ins, your course will take on a managerial approach to MIS.

Business Plug-ins include:

- B1 Information Security
- B2 Ethics
- B3 Supply Chain Management
- B4 Customer Relationship Management
- B5 Enterprise Resource Planning
- B6 Strategic Outsourcing
- B7 E-Business Models
- B8 Emerging Trends and Technologies
- B9 Systems Development
- B10 Project Management



PLUG-IN

T7

Valuing Technology

LEARNING OUTCOMES

1. Summarize the three areas an organization can use to assess the financial health of an information technology project.
2. Describe the different financial metrics an organization can use to determine the value of an information technology project.
3. Explain customer metrics and their importance to an organization.
4. Describe the different types of comparative metrics an organization can use to determine the efficiency and effectiveness of its information technology resources.

Introduction

The core units introduced efficiency and effectiveness metrics, which are the two primary types of IT metrics. ***Efficiency IT metrics*** measure the performance of the IT system including throughput, speed, availability, etc. ***Effectiveness IT metrics*** measure the impact IT has on business processes and activities including customer satisfaction, conversion rates, sell-through increases, etc.

An organization's ***strategic resources*** include those assets available after an organization has cautiously spent what it must to keep its existing business operating at its current level. Strategic resources are typically used to fund more promising strategic ventures. Decisions regarding strategic resource allocation for IT projects are among the most difficult of all tactical resource decisions. Many organizations routinely analyze efficiency and effectiveness metrics to measure the performance of IT projects. This plug-in takes a step beyond simple efficiency and effectiveness metrics by covering a number of tools commonly used in IT investment decisions including financial, customer, and comparative metrics.

Metrics—Measuring IT Value

In today's highly automated business world, the strategies and directions of the IT department increasingly form the basis for the overall corporate strategy. Once regarded as merely a service department, decisions made regarding IT can influence a company's competitive position and often dictate its ability to exploit market

Technical Focus. If hands-on, Technical skills are more important, include Technical Plug-ins in your MIS course.

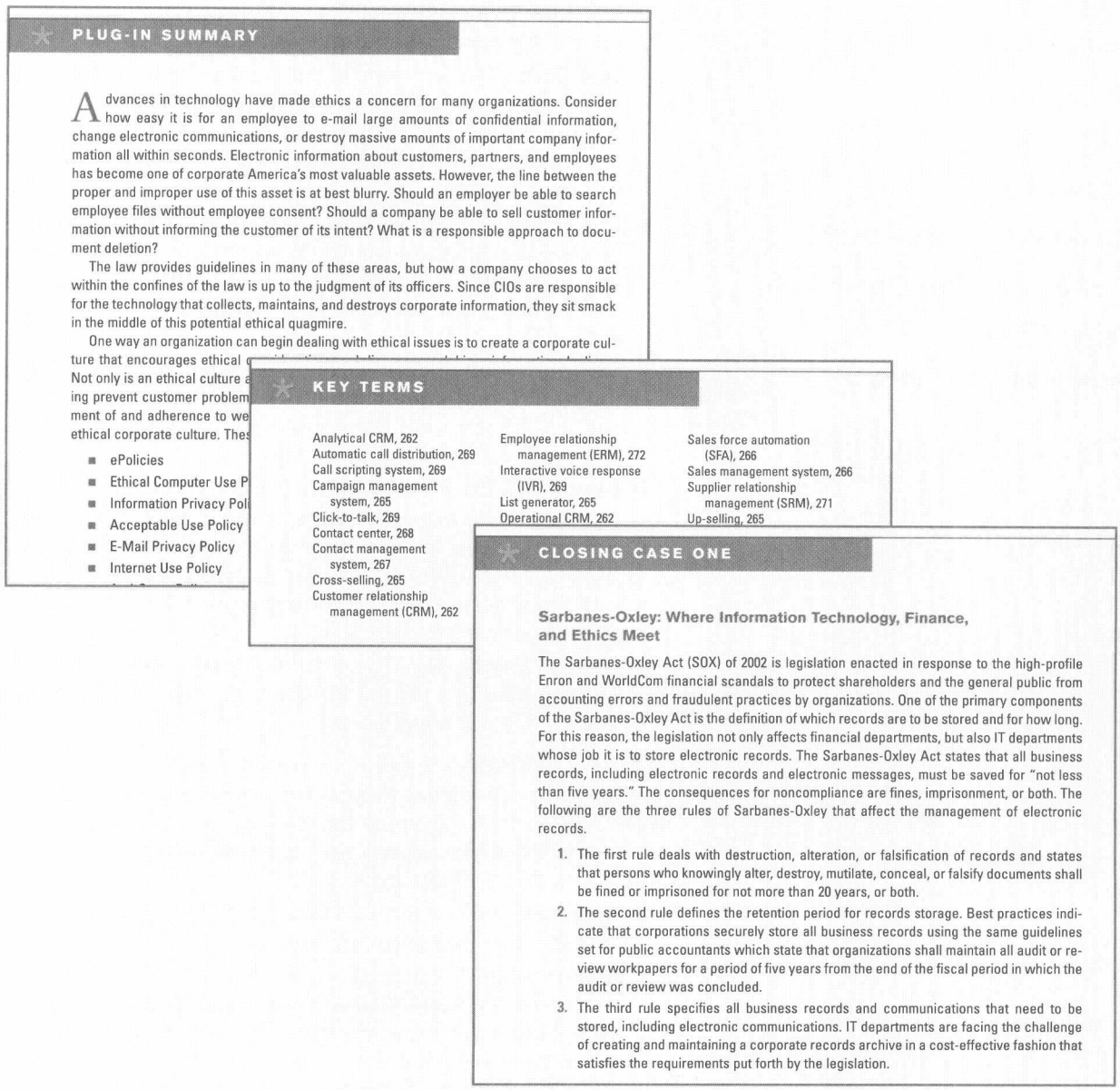
Technology Plug-ins include:

- T1 Hardware and Software
- T2 Networks and Telecommunications
- T3 Decision-Analysis Tools in Excel
- T4 Designing Database Applications
- T5 Touring Access
- T6 Object Oriented Technologies
- T7 Valuing Technology

End-of-Plug-in Elements

Each plug-in contains complete pedagogical support in the form of:

- **Plug-in Summary.** Revisiting the plug-in highlights in summary format.
- **Key Terms.** With page numbers referencing where they are discussed in the text.
- **Two Closing Case Studies.** Reinforcing important concepts with prominent examples from businesses and organizations. Discussion Questions follow each case study. (Business Plug-ins only.)
- **Making Business Decisions.** Small scenario-driven projects that help students focus individually on decision making as they relate to the topical elements in the chapters.



PLUG-IN SUMMARY

Advances in technology have made ethics a concern for many organizations. Consider how easy it is for an employee to e-mail large amounts of confidential information, change electronic communications, or destroy massive amounts of important company information all within seconds. Electronic information about customers, partners, and employees has become one of corporate America's most valuable assets. However, the line between the proper and improper use of this asset is at best blurry. Should an employer be able to search employee files without employee consent? Should a company be able to sell customer information without informing the customer of its intent? What is a responsible approach to document deletion?

The law provides guidelines in many of these areas, but how a company chooses to act within the confines of the law is up to the judgment of its officers. Since CIOs are responsible for the technology that collects, maintains, and destroys corporate information, they sit smack in the middle of this potential ethical quagmire.

One way an organization can begin dealing with ethical issues is to create a corporate culture that encourages ethical
Not only is an ethical culture
ing prevent customer problem
ment of and adherence to we
ethical corporate culture. The

- ePolicies
- Ethical Computer Use P
- Information Privacy Pol
- Acceptable Use Policy
- E-Mail Privacy Policy
- Internet Use Policy

KEY TERMS

Analytical CRM, 262
Automatic call distribution, 269
Call scripting system, 269
Campaign management system, 265
Click-to-talk, 269
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Customer relationship management (CRM), 262
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Operational CRM, 262
Sales force automation (SFA), 266
Sales management system, 266
Supplier relationship management (SRM), 271
Up-selling, 265

CLOSING CASE ONE

Sarbanes-Oxley: Where Information Technology, Finance, and Ethics Meet

The Sarbanes-Oxley Act (SOX) of 2002 is legislation enacted in response to the high-profile Enron and WorldCom financial scandals to protect shareholders and the general public from accounting errors and fraudulent practices by organizations. One of the primary components of the Sarbanes-Oxley Act is the definition of which records are to be stored and for how long. For this reason, the legislation not only affects financial departments, but also IT departments whose job it is to store electronic records. The Sarbanes-Oxley Act states that all business records, including electronic records and electronic messages, must be saved for "not less than five years." The consequences for noncompliance are fines, imprisonment, or both. The following are the three rules of Sarbanes-Oxley that affect the management of electronic records.

1. The first rule deals with destruction, alteration, or falsification of records and states that persons who knowingly alter, destroy, mutilate, conceal, or falsify documents shall be fined or imprisoned for not more than 20 years, or both.
2. The second rule defines the retention period for records storage. Best practices indicate that corporations securely store all business records using the same guidelines set for public accountants which state that organizations shall maintain all audit or review workpapers for a period of five years from the end of the fiscal period in which the audit or review was concluded.
3. The third rule specifies all business records and communications that need to be stored, including electronic communications. IT departments are facing the challenge of creating and maintaining a corporate records archive in a cost-effective fashion that satisfies the requirements put forth by the legislation.

Supplements:

- Online Learning Center
- Instructor's Manual
- Test Bank
- PowerPoint Presentations
- Sample Syllabi
- Classroom Exercises
- Image Library
- MISource CD
- Classroom Performance System
- Problem Solving Video Vignettes
- MBA MIS Cases
- Application Cases for MIS

Support and Supplemental Material

A complete set of materials are available that will assist students and faculty in accomplishing course objectives.

INSTRUCTOR'S RESOURCE CD-ROM. Available to adopting faculty, the Instructor's Resource CD contains all of the supplements in one convenient place: Instructor's Manual, Test Bank, PPTs, Sample Syllabi, Classroom Exercises, and Image Library.

- **Instructor's Manual (IM).** The IM, written by the authors, includes suggestions for designing the course and presenting the material. Each chapter is supported by answers to end-of-chapter questions and problems, and suggestions concerning the discussion topics and cases.
- **Test Bank.** This computerized package allows instructors to custom design, save, and generate tests. The test program permits instructors to edit, add, or delete questions from the test banks; analyze test results; and organize a database of tests and student results.
- **PowerPoint Presentations.** A set of PowerPoint slides, created by the authors, accompanies each chapter that features bulleted items that provide a lecture outline, plus key figures and tables from the text, and detailed teaching notes on each slide.
- **Sample Syllabi.** Several syllabi have been developed according to different course lengths—quarters and semesters, as well as different course concentrations such as a business emphasis or a technology focus.
- **Classroom Exercises.** Choose from over 30 different detailed classroom exercises that engage and challenge students. For example, if you are teaching systems development start off the class with the "Skyscraper Activity" where the students build a prototype that takes them through each phase of the systems development life cycle.
- **Image Library.** Text figures and tables, as permission allows, are provided in a format by which they can be imported into PowerPoint for class lectures.

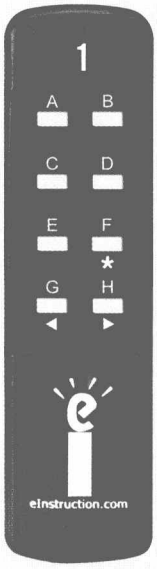
ONLINE LEARNING CENTER (www.mhhe.com/bdt)
The McGraw Hill Higher Education Web site for *Business Driven Technology* includes support for students and faculty. These support materials enhance the learning experience. A few of the features found on the Web site include:

- **Project Files.** The authors have provided files for all projects that need further support, such as data files.
- **Internet Links.** Throughout the text are Web site addresses where related material can be obtained from the World Wide Web. These Web locations provide valuable information that, when used with the text material, provides a complete, up-to-date coverage of information technology and business.

Empowered Instruction

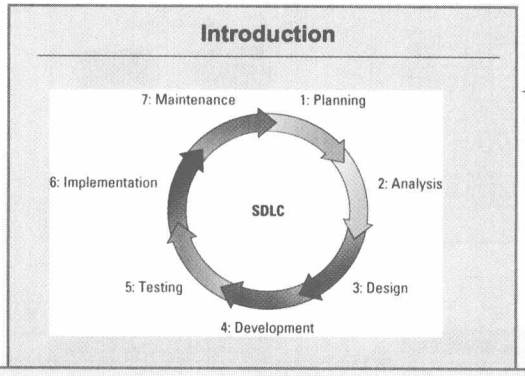
Classroom Performance System

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



MIS Case Videos

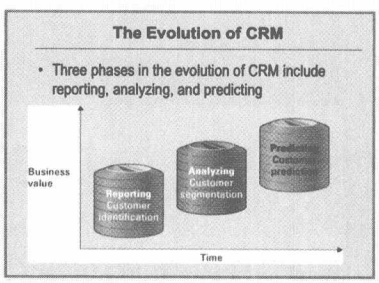
Choose from our library of original video cases to illustrate important concepts or generate class discussion.

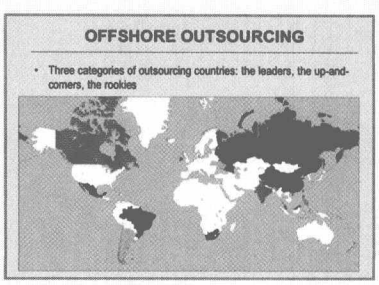


PowerPoint Presentations

Robust, detailed, and designed to keep students engaged. Detailed teaching notes are also included on every slide.

- Walk the students through the systems development life cycle:
  - ***Planning phase***—involves establishing a high-level plan of the intended project and determining project goals
  - ***Analysis phase***—involves analyzing end-user business requirements and refining project goals into defined functions and operations of the intended system
  - ***Design phase***—involves describing the desired features and operations of the system including screen layouts, business rules, process diagrams, pseudo code, and other documentation
  - ***Development phase***—involves taking all of the detailed design documents form the design phase and transforming them into the actual system
  - ***Testing phase***—involves bringing all the project pieces together into a special testing environment to test for errors, bugs, and interoperability, in order to verify that the system meets all the business requirements defined in the analysis phase
  - ***Implementation phase***—involves placing the system into production so users can begin to perform actual business operations with the system
  - ***Maintenance phase***—involves performing changes, corrections, additions, and upgrades to ensure the system continues to meet the business goals

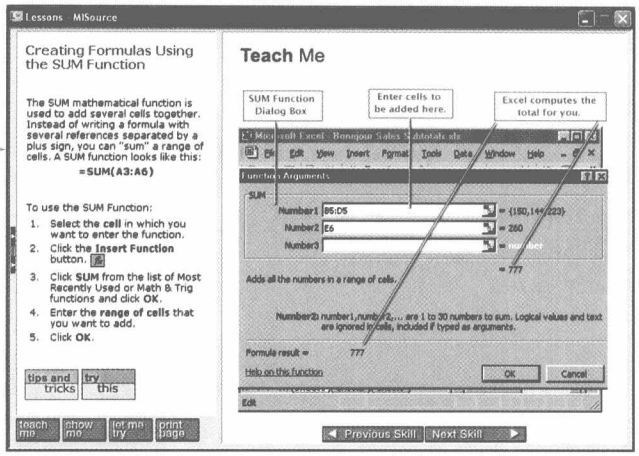




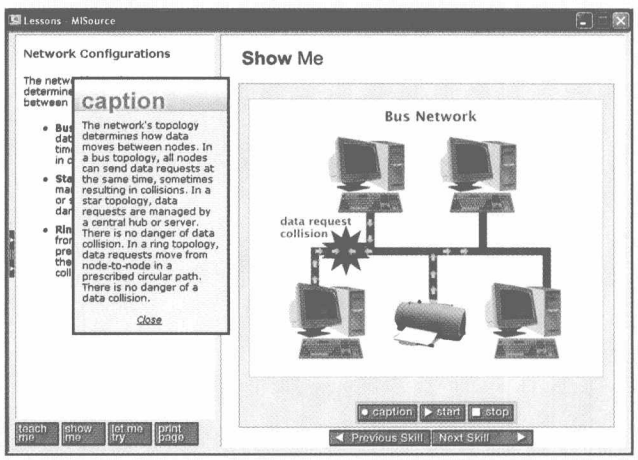
MISOURCE

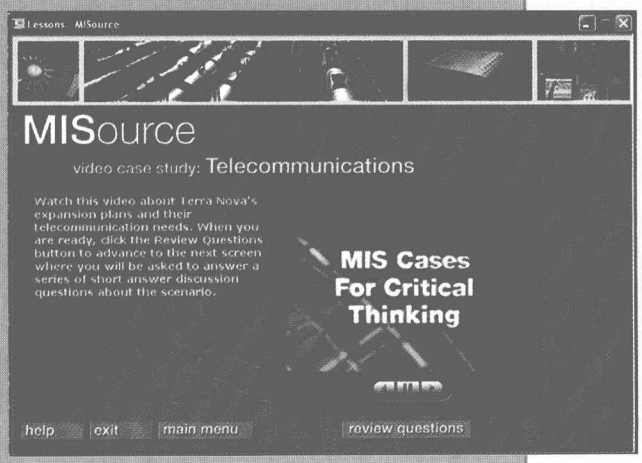
Software Skills & Computer Concepts

MISource provides animated tutorials and simulated practice of the core skills in Microsoft Excel, Access, and PowerPoint. MISource also animates 47 important computer concepts.



Spend less time reviewing software skills and computer literacy.





MIS Practice and Principles

MISource includes three video vignettes about the problems and opportunities facing a growing beverage company. Use the questions that follow each vignette as homework assignments or for discussion. Animated presentations of data mining, online transaction processing, and the systems development life cycle give students more perspective.