

教育部高等教育司推荐
国外优秀信息科学与技术系列教学用书

管理信息系统

—— 网络化企业的组织与技术

(第六版 影印版)

MANAGEMENT INFORMATION SYSTEMS

Organization and Technology in the Networked Enterprise

(Sixth Edition)

■ Kenneth C. Laudon
Jane P. Laudon



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By Kenneth C. Laudon & Jane P. Laudon

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前 言

20 世纪末,以计算机和通信技术为代表的信息科学和技术,对世界的经济、军事、科技、教育、文化、卫生等方面的发展产生了深刻的影响,由此而兴起的信息产业已经成为世界经济支柱。进入 21 世纪,各国为了加快本国的信息产业,加大了资金投入和政策扶持。

为了加快我国信息产业的进程,在我国《国民经济和社会发展第十个五年计划纲要》中,明确提出“以信息化带动工业化,发挥后发优势,实现社会生产力的跨越式发展。”信息产业的国际竞争将日趋激烈。在我国加入 WTO 后,我国信息产业将面临国外竞争对手的严峻挑战。竞争成败最终将取决于信息科学和技术人才的多少与优劣。

在 20 世纪末,我国信息产业虽然得到迅猛发展,但与国际先进国家相比,差距还很大。为了赶上并超过国际先进水平,我国必须加快信息技术人才的培养,特别要培养一大批具有国际竞争能力的高水平的信息技术人才,促进我国信息产业和国家信息化水平的全面提高。为此,教育部高等教育司根据教育部吕福源副部长的意见,在长期重视推动高等学校信息科学和技术的教学的基础上,将实施超前发展战略,采取一些重要举措,加快推动高等学校的信息科学和技术等相关专业的教学工作。在大力宣传、推荐我国专家编著的面向 21 世纪和“九五”重点的信息科学和技术课程教材的基础上,在有条件的高等学校的某些信息科学和技术课程中推动使用国外优秀教材的影印版进行英语或双语教学,以缩短我国在计算机教学上与国际先进水平的差距,同时也有助于强化我国大学生的英语水平。

为了达到上述目的,在分析一些出版社已影印相关教材,一些学校已试用影印教材进行教学的基础上,教育部高等教育司组织并委托高等教育出版社开展国外优秀信息科学和技术优秀教材及其教学辅助材料的引进研究与影印出版的试点工作。为推动用影印版教材进行教学创造条件。

本次引进的系列教材的影印出版工作,是在对我国高校的信息科学和技术专业的课程与美国高校的对比分析的基础上展开的;所影印出版的教材均由我国主要高校的信息科学和技术专家组成的专家组,从国外近两年出版的大量最新教材中精心筛选评审

通过的内容新、有影响的优秀教材；影印教材的定价原则上应与我国大学教材价格相当。

教育部高等教育司将此影印系列教材推荐给高等学校，希望有关教师选用，使用后有什么意见和建议请及时反馈。也希望有条件的出版社，根据影印教材的要求，积极参加此项工作，以便引进更多、更新、更好的外国教材和教学辅助材料。

同时，感谢国外有关出版公司对此项引进工作的配合，欢迎更多的国外公司关心并参与此项工作。

教育部高等教育司

二〇〇一年四月

For
Erica and Elisabeth

About the Authors

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

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

Ken Laudon has testified as an expert before the United States Congress. He has been a researcher and consultant to the Office of Technology Assessment (United States Congress) and to the Office of the President, several executive branch agencies, and Congressional Committees. Professor Laudon also acts as an in-house educator for several consulting firms and as a consultant on systems planning and strategy to several Fortune 500 firms. Ken works with the Concours Group to provide advice to firms developing enterprise systems.

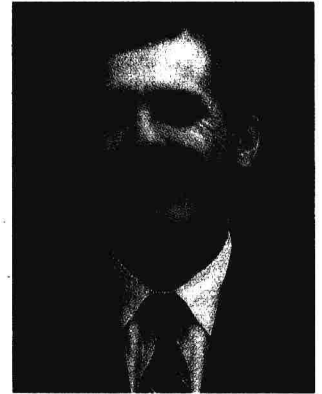
Ken Laudon's hobby is sailing.

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

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

The Laudons have two daughters, Erica and Elisabeth.

Management Information Systems: Organization and Technology in the Networked Enterprise reflects a deep understanding of MIS research and teaching as well as practical experience designing and building real world systems.





Preface

Management Information Systems: Organization and Technology in the Networked Enterprise (Sixth Edition) is based on the premise that it is difficult, if not impossible, to manage a modern organization without at least some knowledge of information systems—what they are, how they affect the organization and its employees, and how they can make businesses more competitive and efficient. Information systems have become essential for creating competitive firms, managing global corporations, and providing useful products and services to customers. This book provides an introduction to management information systems that undergraduate and MBA students will find vital to their professional success.

The Information Revolution in Business and Management: The New Role of Information Systems

Globalization of trade, the emergence of information economies, and the growth of the Internet and other global communications networks have recast the role of information systems in business and management. The Internet is becoming the foundation for new business models, new business processes, and new ways of distributing knowledge. Companies can use the Internet and networking technology to conduct more of their work electronically, seamlessly linking factories, offices, and sales forces around the globe. Companies such as Coca-Cola, Dell Computer, and Safeway UK are extending these networks to suppliers, customers, and other groups outside the organization so they can react instantly to customer demands and market shifts. When Coca-Cola corporate managers use information systems to examine their daily operations, they will be able to find out exactly which bottling plant and which channel were used to sell Coca-Cola in a 500 milliliter bottle in any supermarket throughout the world. This digital integration within the firm and without, from the warehouse to the executive suite, is starting to become a reality. Accordingly, we have changed the subtitle of this text to *Organization and Technology in the Networked Enterprise*.

New to the Sixth Edition

The Internet has created a universal platform for buying and selling goods. Its technology also provides powerful capabilities for driving important business processes inside the company and for linking such processes electronically to those of other organizations. This edition more fully explores the electronic business uses of the Internet for the management of the firm as well as the Internet's growing role in electronic commerce. It includes detailed treatment of enterprise resource planning (ERP) systems and related technology for creating extended enterprises that electronically link the firm to suppliers and other industry partners. The text provides a complete set of tools for integrating the Internet and multimedia technology into the MIS course. The following features and content reflect this new direction:

Detailed Coverage of Enterprise Resource Planning (ERP) and Extended Enterprises

We introduce enterprise resource planning (ERP) in Chapter 1 and provide descriptions, discussions, and case studies of ERP systems throughout the text. We have added an entirely new chapter (Chapter 18) with detailed treatment of the management, organization, and technology issues surrounding the implementation of ERP systems and the use of these systems, the Internet, and other technologies to link with other organizations in industry-wide networks and global supply chains.

New Tools for Interactive Learning

A **Tools for Interactive Learning** section concluding each chapter shows students how they can extend their knowledge of each chapter with projects and exercises on the Laudon Web site and the optional CD-ROM multimedia edition.

Students and instructors can see at a glance exactly how the Web can be used to enhance student learning for each chapter. Students can also see immediately how the chapter can be used in conjunction with the optional CD-ROM.

Tools for Interactive Learning

Internet

The Internet Connection for this chapter will take you to a Web site where you can view an interactive demonstration of an intranet. You can complete an exercise to evaluate how companies can use intranets to reduce agency costs and make the management process more efficient. You can also use the Interactive Study Guide to test your knowledge of the topics in this chapter and get instant feedback when you need more practice.



CD-ROM

If you purchase and use the Multimedia Edition CD-ROM with this chapter, you will find an interactive exercise which asks you to apply the correct model of organizational decision making to solve a set of problems. You can also find an audio overview of the major themes of this chapter and bullet text summarizing the key points of the chapter.

Focus on Electronic Commerce and Electronic Business

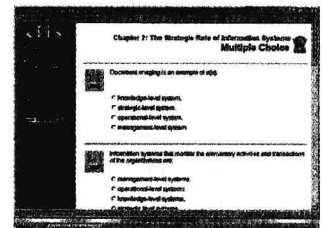
The Internet, electronic commerce, and electronic business are introduced in Chapter 1 and integrated throughout the text and the entire learning package. A full chapter, entitled The Internet: Electronic Commerce and Electronic Business (Chapter 10), describes the underlying technology, capabilities, and benefits of the Internet, with expanded treatment of electronic commerce, Internet business models, and the use of intranets for the internal management of the firm.

Internet, Electronic Commerce, and Electronic Business Integrated into Every Chapter

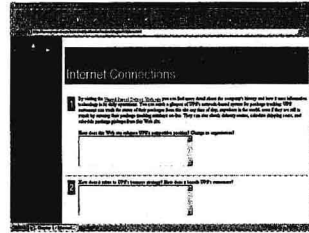
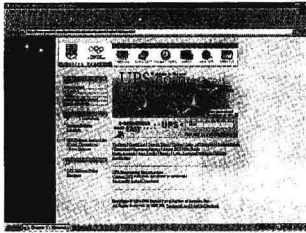
Every chapter contains a Window On box, case study, or in-text discussion of electronic commerce, electronic business, or the use of the Internet in changing a particular aspect of information systems.

Enhanced Laudon & Laudon Web Site for Management Problem Solving and Interactive Learning

The Laudon & Laudon Web site has been enhanced to provide a wide array of capabilities for interactive learning and management problem solving that have been carefully prepared for use with the text. They include:



Student responses to questions are automatically graded and can be e-mailed to the instructor.



Interactive Study Guide and Internet Connections for Each Chapter

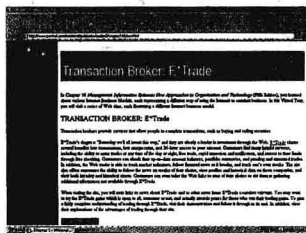
For each chapter of the text, the Web site features an Interactive Study Guide and Internet Connection exercise.

- The on-line Interactive Study Guide helps students review and test

Students are presented with a problem to develop a budget for annual shipping costs. To obtain the information required by the solution, they can input data on-line and use the interactive software at this Web site to perform the required calculations or analysis.

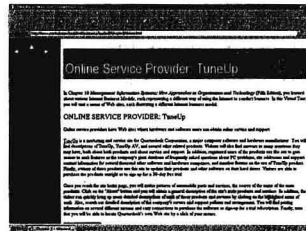
their mastery of chapter concepts with a series of multiple-choice, true-false, and essay questions.

- Internet Connections noted by marginal icons in the chapter direct students to exercises and projects on the Laudon Web site related to organizations and concepts in that chapter. Included are Web-based exercises and interactive Electronic Commerce exercises that apply chapter concepts to using the Web for management problem solving.



A Virtual Tour of Electronic Commerce Sites

Students can take a tour of electronic commerce sites on the Web, where they can explore the various Internet business models and electronic commerce capabilities discussed in the text. Students can use what they have learned on the tour to complete a comprehensive electronic commerce project.



Additional Case Studies

The Web site contains additional case studies with hyperlinks to the Web sites of the organizations they discuss.

Technology Updates

The Web site provides technology updates to keep instructors and students abreast of leading-edge technology changes.

Students visit a series of Web sites illustrating different business uses of the Internet and then apply what they have learned to designing an Internet business strategy for a new company.

International Web Sites

Links to Web sites of non-U.S. countries are provided for users interested in more international material.

Unique Features of This Text

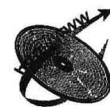
Management Information Systems: Organization and Technology in the Networked Enterprise (Sixth Edition) has many unique features designed to create an active, dynamic learning environment.

Technology Integrated with Content

An interactive CD-ROM multimedia version of the text can be purchased as an optional item. In addition to the full text and bullet text summaries by chapter, the CD-ROM features interactive exercises, simulations, audio/video overviews explaining key concepts, on-line quizzes, hyperlinks to the



Students can reinforce and extend their knowledge of chapter concepts with interactive exercises on the CD-ROM.



exercises on the Laudon Web site, technology updates, and more. Students can use the CD-ROM as an interactive supplement or as an alternative to the traditional text.

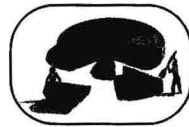
Integrated Framework for Describing and Analyzing Information Systems

An integrated framework portrays information systems as being composed of management, organization, and technology elements. This framework is used throughout the text to describe and analyze information systems and information system problems.

Real-World Examples

Real-world examples drawn from business and public organizations are used throughout to illustrate text concepts. More than 100 companies in the United States and 100 organizations in Canada, Europe, Australia, Asia, and Africa are discussed.

Each chapter contains three Window On boxes (Window on Management, Window on Organizations, Window on Technology) that present real-world examples illustrating the management, organization, and technology issues in the chapter. Each Window On box concludes with a section called *To Think About* containing questions for students to apply chapter concepts to management problem solving. The themes for each box are:



Window on Management

Management problems raised by systems and their solution; management strategies and plans; careers and experiences of managers using systems.



Window on Technology

Hardware, software, telecommunications, data storage, standards, and systems-building methodologies.



Window on Organizations

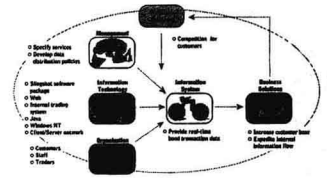
Activities of private and public organizations using information systems; experiences of people working with systems.

Management Wrap-Up Overviews of Key Issues

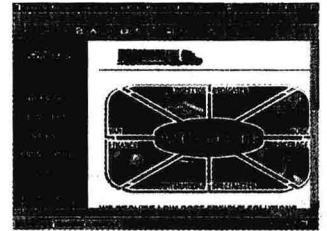
Management Wrap-Up sections at the end of each chapter summarize key issues using the authors' management, organization, and technology framework for analyzing information systems.

A Truly International Perspective

In addition to a full chapter on managing international information systems (Chapter 17), all chapters of the text are illustrated with real-world examples from one hundred corporations in Canada, Europe, Asia, Latin America, Africa, Australia, and the Middle East. Each chapter contains at least one Window On box, case study, or opening vignette drawn from a non-U.S. firm and often more. The text concludes with five major international case studies contributed by leading MIS experts in Canada, Europe, Singapore, and Australia—Len Fertuck, University of Toronto (Canada); Helmut Krcmar, Stephan Wilczek, and Gerhard Schwabe, University of



A special diagram accompanying each chapter-opening vignette graphically illustrates how management, organization, and technology elements work together to create an information system solution to the business challenges discussed in the vignette.



Each chapter opens with a vignette illustrating the themes of the chapter by showing how a real-world organization meets a business challenge using information systems.

Management Wrap-Up



Management

Information technology provides tools for managers to carry out both their traditional and newer roles, allowing them to monitor, plan, and forecast with more precision and speed than ever before and to respond more rapidly to the changing business environment. However, some managerial roles cannot be easily supported by information systems, and managers will need to overcome psychosocial biases and resistance to change to find meaningful ways to use the Internet and other technologies to transform the management process.



Organization

It's clear that there are new ways of organizing work, which are enabled in part by new technology. The central organizational issue is whether traditional organizations can change their internal structures—their business processes—to permit new ways of organizing and managing to emerge.



Technology

Each of the three schools of management can draw on information technology to enhance managerial effectiveness. Networks and communication and collaboration tools are especially useful for supporting managerial work in the "new" organization where more work is distributed among small groups and task forces and more responsibility is given to employees.

For Discussion

1. How would each of the three schools of management use information systems to make managers and organizations more effective?
2. Identify and describe a decision you had to make, such as selecting a college or a major. Use Simon's model of decision-making stages and suggest how an information system might have helped you make the decision.

Management Wrap-Up provides a quick overview of the key issues in each chapter, reinforcing the author's management, organization, and technology framework.

Hohenheim (Germany); Donald Marchand, Thomas Vollmann, and Kimberly Bechler, International Institute for Management Development (Switzerland); Boon Siong Neo and Christina Soh, Nanyang Technological University (Singapore); and Peter Weill and J. B. Barolsky, University of Melbourne, (Australia).

Attention to Small Businesses and Entrepreneurs

A diamond-shaped symbol identifies in-text discussions and specially designated chapter-opening vignettes, Window On boxes, and ending case studies that highlight the experiences and challenges of small businesses and entrepreneurs using information systems.



Pedagogy to Promote Active Learning and Management Problem Solving

Management Information Systems: Organization and Technology in the Networked Enterprise (Sixth Edition) contains many features that encourage students to learn actively and to engage in management problem solving.

Group Projects

At the end of each chapter is a group project that encourages students to develop teamwork and oral and written presentation skills. The group projects have been enhanced in this edition to make even better use of the Internet. For instance, students might be asked to work in small groups to evaluate the Web sites of two competing businesses or to develop a corporate ethics code on privacy that considers e-mail privacy and the monitoring of employees using networks.

Management Challenges Section

Each chapter begins with several challenges relating to the chapter topic that managers are likely to encounter. These challenges are multifaceted and sometimes pose dilemmas. They make excellent springboards for class discussion. Some of these Management Challenges are: finding the right Internet business model; overcoming the organizational obstacles to building a database environment; and agreeing on quality standards for information systems.

Case Studies

Each chapter concludes with a case study based on a real-world organization. These cases help students synthesize chapter concepts and apply this new knowledge to concrete problems and scenarios. Major part-ending case studies, international case studies, and electronic case studies at the Laudon & Laudon Web site provide additional opportunities for management problem solving.

Book Overview

Part One is concerned with the organizational foundations of systems and their emerging strategic role. It provides an extensive introduction to real-world systems, focusing on their relationship to organizations, management, and important ethical and social issues.

Part Two provides the technical foundation for understanding information systems, describing hardware, software, storage, and telecommunications technologies. Part Two concludes by describing how all of the information technologies work together through the Internet to support electronic commerce and electronic business.

Part Three focuses on the process of redesigning organizations using information systems, including reengineering of critical business processes. We see systems analysis and design as an exercise in organizational design, one that requires great sensitivity to the right tools and techniques, quality assurance, and change management.

Part Four describes the role of information systems in capturing and distributing organizational knowledge and in enhancing management decision making. It shows how knowledge management, work group collaboration, and individual and group decision making can be supported by the use of knowledge work, group collaboration, artificial intelligence, decision support, and executive support systems.

Part Five concludes the text by examining the special management challenges and opportunities created by the pervasiveness and power of contemporary information systems and the global connectivity of the Internet: ensuring security, control, developing global systems, and building enterprisewide systems and industrial networks. Throughout the text emphasis is placed on using information technology to redesign the organization's products, services, procedures, jobs, and management structures; numerous examples are drawn from multinational systems and global business environments.

Chapter Outline

Each chapter contains the following:

- A detailed outline at the beginning to provide an overview
- An opening vignette describing a real-world organization to establish the theme and importance of the chapter
- A diagram analyzing the opening vignette in terms of the management, organization, and technology model used throughout the text
- A list of learning objectives
- Management Challenges related to the chapter theme
- Marginal glosses of key terms in the text
- An Internet Connection icon directing students to related material on the Internet
- A Management Wrap-Up tying together the key management, organization, and technology issues for the chapter, with questions for discussion
- A chapter summary keyed to the learning objectives
- A list of key terms that the student can use to review concepts
- Review questions for students to test their comprehension of chapter material
- A group project to develop teamwork and presentation skills
- A Tools for Interactive Learning section showing specifically how the chapter can be integrated with the Laudon Web site and optional CD-ROM edition of the text
- A chapter-ending case study that illustrates important themes

Instructor's Resource CD-ROM (013-040202-8)

Most of the support material described below is now conveniently provided for adopters on the Instructor's Resource CD-ROM. The CD includes the Instructor's Resource Manual, Test Item File, Windows PH Test Manager, Transparency Masters, PowerPoint Slides, and the helpful lecture tool "Image Library."

Image Library

The Image Library is a wonderful resource to help instructors create vibrant lecture presentations. Just about every figure and photo found in the text is provided and organized by chapter for your convenience. Lecture notes are supplied for each image and are housed within each chapter folder. Along with the lecture notes, a complete listing of the images and their copyright information are also provided. These images and lecture notes can be easily imported into Microsoft PowerPoint to create new presentations or to add to existing sets.

Instructor's Manual (013-040201-X)

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

Test Item File (013-040204-4)

The Test Item File is a comprehensive collection of true/false, multiple-choice, fill-in-the-blank, and essay questions, written by Dr. Lisa Miller of Central Oklahoma University. The questions are rated by difficulty level and the answers are referenced by section. An electronic version of the Test Item File is available as the **Windows PH Test Manager**, also found on the Instructor's Resource CD-ROM.

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

Over one-hundred electronic color slides created by Dr. Edward Fisher of Central Michigan University are available in Microsoft PowerPoint, Version 97. The slides illuminate and build on key concepts in the text. In addition, they contain hyperlinks to the Laudon Web site within each chapter. The PowerPoints can be downloaded from the Web site and are available on the Instructor's Resource CD-ROM within Image Library.

Color Transparencies (013-040207-9)

One-hundred full-color transparency acetates are available to adopters. These transparencies, taken from figures in the text, provide additional visual support to class lectures. The transparency masters are also available as Acrobat files on the Web site and on the Instructor's Resource CD-ROM.

Video (013-040208-7)

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

Web Site

The Laudon/Laudon text is once again supported by an excellent Web site at **<http://www.prenhall.com/laudon>** that truly reinforces and enhances text material with Electronic Commerce Projects, Internet Exercises, an Interactive Study Guide, and International Resources. The Web site also features a secure, password-protected faculty area, from which instructors can download the Instructor's Manual, PowerPoint Slides, and Transparency Masters. Please see its complete description found earlier in this preface.

Tutorial Software

For instructors looking for Application Software support to use with this text, Prentice Hall is pleased to offer CBT CD-ROMs for Microsoft Office 97 and, soon, for Office 2000. These

exciting tutorial CDs are fully certified up to the expert level of the Microsoft Office User Specialist (MOUS) Certification Program. They are not available as stand-alone items but can be packaged with the Laudon/Laudon text at an additional charge. Please contact your local Prentice Hall representative for more details.

Software Cases

A series of optional management software cases called *Solve it! Management Problem Solving with PC Software* has been developed to support the text. *Solve it!* consists of 10 spreadsheet cases, 10 database cases, and 6 Internet projects drawn from real-world businesses, plus a data disk with the files required by the cases. The cases are graduated in difficulty. The case book contains complete tutorial documentation showing how to use spreadsheet, database, and Web browser software to solve the problems. A new version of *Solve it!* with all-new cases is published every year. *Solve it!* must be adopted for an entire class. It can be purchased directly from the supplier, Azimuth Corporation, 124 Penfield Ave., Croton-on-Hudson, New York 10520 (telephone: 914-271-6321).

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—K.C.L.

—J.P.L.



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