

◆ 国际通用MBA教材 ◆

加拿大毅伟管理学院
清华大学经管学院

共同策划、推荐

世界经济
管理文库

*M*aster of
*B*usiness
*A*dministration

信 息 时 代 的 管 理 信 息 系 统

斯蒂芬·哈格 梅芙·卡明斯 詹姆斯·道金斯 / 著

Management Information Systems for the Information Age

Stephen Haag Maeve Cummings James Dawkins

英文版



机械工业出版社



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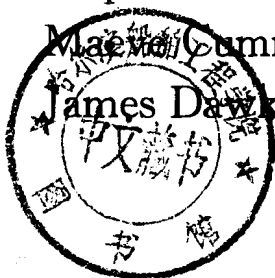
信息时代的管理信息系统

(英文版)

Management Information Systems for the Information Age

斯蒂芬·哈格
梅芙·卡明斯 / 著
詹姆斯·道金斯

Stephen Haag
Maevia Cummings
James Dawkins



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序 言 1

此次首批专为中国影印的系列教材直接配合中国工商管理硕士课程的各门必修课程，而且是由加拿大西安大略大学毅伟管理学院的任课教授们专门参与选择的。

毅伟管理学院是加拿大西安大略大学（UWO）所属的一所专业学院，而西安大略大学是加拿大历史最悠久的大学之一。毅伟管理学院的本校在安大略省伦敦市，同时在多伦多的密西沙加设有分校，而且最近在香港也建立了分校。

历史地看，毅伟管理学院一直是管理学开发领域的领导者，现将部分成就列后，标示毅伟管理学院日新月异的发展：

- 1922年，创立了加拿大第一个培养本科生的商学系。
- 1932年，开始出版杂志《毅伟商学季刊》。该杂志发行到25个国家，发行量多达10 000册，深受学术界和管理界读者的喜爱。
- 1948年，在加拿大首次设立行政管理培训计划以及工商管理硕士课程。
- 1961年，首创了加拿大的第一个商学博士课程。
- 1974年，被联邦政府正式指定为加拿大第一个（现在已发展到8个）国际商业研究中心（CIBS，即美国CIBERS的前身），联邦外交部对该中心持续提供财政支援。
- 1975年，毅伟管理学院成立了自己的出版社。该部门目前拥有2 000个加拿大的案例，并成为哈佛案例的加拿大资料交换所。1998年，毅伟管理学院的案例已分销至20多个国家的100多所学院和100多家企业。毅伟管理学院是全世界管理学案例研究的第二大制作者，每年向校外读者分销案例教材超过100万册。
- 1978年开始实施第一项国际学生交换计划，目前该交换计划已增至20余项。
- 1984年毅伟管理学院在加拿大联邦政府的支持下，在伦敦市组建国家管理学研究与开发中心的过程中发挥了主导作用。
- 1984年，是毅伟管理学院和清华大学连续合作开始的第一年，合作内容包括：交换访问学者、教材编写与出版以及各种培训活动。
- 1992年，毅伟管理学院被选为主导性的国际商学刊物，即《国际商学研究杂志》在1993年至1997年间的编辑总部。
- 1993年，《加拿大商学》杂志根据由各大聘用公司首席执行官、人力资源管理人员和求职顾问等人士组成的所有评选组得出的全方位评比结果，将毅伟管理学院列为加拿大培养工商管理硕士的最佳学院，并且这一结论被逐年的评比一再肯定。1994年《亚洲企业》杂志又将毅伟管理学院列于亚洲公认的25所世界最佳商学院的行列中。
- 1997年，《国际管理学杂志》将毅伟管理学院评为国际战略管理学文献的主要贡献者，并领先于哈佛大学与西北大学凯洛格商学院。《商业周刊》将毅伟管理学院列为全世界最佳国际商学院之一，和欧洲管理学院（INSEAD）及伦敦商学院（LBS）并列，而且《美国新闻与世界报导》将毅伟管理学院选为全世界在行政管理培训

IV

计划方面最佳的 15 所商业学院之一。

至 1998 年，毅伟管理学院拥有 65 名全职教授，他们每年负责教授 600 名普通课程的和行政管理人员培训课程的工商管理硕士生、300 名本科生、40 名博士生，以及范围广泛的非学位课程。

负责挑选这批 MBA 通用教材的教师们均具有著名商学院（如：哈佛、沃顿、密西根、麻省理工学院和毅伟管理学院等）的博士学位，每位教授都对大批现有教材进行了仔细筛选，确保为中国市场提供最佳教材。相信您会对他们的选择表示满意。

加拿大西安大略大学毅伟管理学院

PREFACE 1

The texts in this initial series of books were selected to directly correspond to each of the required courses in China's MBA programs. The books were selected for reprinting by faculty members at the Ivey Business School, The University of Western Ontario, Canada.

The Richard Ivey School of Business is a professional School within The University of Western Ontario (UWO), one of Canada's oldest universities. Although Ivey is based in London, Ontario, it also has campuses in Mississauga (Toronto), Ontario and most recently, in Hong Kong.

Historically the School has been a leader in management development. A partial list of achievements follows.

- In 1922, the first undergraduate business department in Canada was established.
- In 1932, the school began to publish its own journal. Known as *Ivey Business Quarterly*, it reaches out to both academic and management audiences and enjoys a circulation of 10 000 in 25 countries.
- In 1948, Canada's first executive development program and first MBA program were established.
- In 1961, Canada's first Ph. D. program in business was introduced.
- In 1974, official designation was received by the Federal Government as Canada's first Centre for International Business Studies (CIBS).
- In 1975, Ivey opened its own case and publications office. This office now holds an inventory of 2 000 cases. In 1998, Ivey cases were being distributed to over 100 teaching institutions and 100 corporations in over 20 countries. Ivey is the second largest producer of management case studies in the world (and the largest producer of Asian cases), with over 1 000 000 copies studied each year by people outside the university.
- In 1978, commencement of its first international student exchange program took place. Over twenty such exchange programs are now in place.
- In 1984, the School took a leading role in establishing the National Centre for Management Research and Development in London with support from the Canadian Federal Government.
- 1984 also marked the beginning of a continuing linkage with Tsinghua University, one

which has involved visiting scholars, materials development and publication, and various training initiatives.

- In 1992, Ivey was selected to be the editorial home for the 1993-1997 period for the *Journal of International Business Studies*, the leading international business journal.
- In 1993, *Canadian Business* magazine's survey rated Ivey as the top MBA School in Canada, according to all groups: CEOs, human resources executives, and placement consultants. This ranking has been re - confirmed every year. In 1994, *Asia, Inc.* rated Ivey among the World's Top 25 Business Schools for Asians.
- In 1997, the *Journal of International Management* named Ivey the world's leading contributor in the previous decade to the international strategic management literature, ahead of Harvard & Kellogg. *Business Week* magazine ranked Ivey as one of the top international business schools in the world, alongside INSEAD and LBS; and *US News* and *World Report* selected Ivey as one of the top 15 business school in the world for executive development programs.

As of 1998, the School had 65 full - time faculty who annually taught 600 regular and executive MBA, 300 undergraduate, and 40 Ph. D. students, plus executives in a wide range of non - degree programs.

The faculty members who selected each book for reprinting all have Ph. D. s from major business schools such as Harvard, Wharton, Michigan, M. I. T. , and Ivey. Each professor carefully reviewed the various books available to ensure the best possible choices of material for the China market. We are confident you will be pleased with their selection.

Richard Ivey School of Business
The University of Western Ontario

序 言 2

中国的改革开放事业催生了中国的现代管理教育，社会主义市场经济体制的确立，为中国的管理教育开辟了广阔的发展空间，使中国的管理教育，尤其是工商管理硕士（Master of Business Administration, MBA）的教育进入了一个全新的发展阶段。1991年，国务院学位办刚刚批准在部分高校中试办MBA教育时，只有九所院校得到授权，当年只招收了86名学生；到1994年，授权院校增加到26所，招生规模扩大为1230名；而在不久前结束的1998年招生工作中，已有56所院校得到了授权，这些院校共招收了4000名MBA学生。这一事实生动地说明了MBA教育在我国正方兴未艾。根据美国的经验，MBA学位占每年硕士学位授予人数的四分之一，中国目前这一比例只占到百分之五，因此，从发展的前景看，MBA教育在中国前程远大。

然而，也应看到，中国的MBA教育还刚刚起步，在培养人的各个环节：师资、课程与教材方面还很落后，难以适应经济发展的需要，与发达国家的情况相比差距是十分巨大的。加强国际合作与交流，大胆地借鉴、引进世界上一切优秀的MBA教育方面的教学内容、方法和手段，特别是系统地引进国外优秀的MBA教材，在此基础上坚持贯彻“以我为主，博采众长，融合提炼，自成一家”的指导方针，是逐步提高师资水平、更新专业知识、不断改进课程结构与内容、努力改革教学方法、引进案例教学、从而大大缩小中国与发达国家的差距、迅速提高中国MBA教育水平的重要步骤。

为此，清华大学经济管理学院与加拿大西安大略大学毅伟管理学院（Richard Ivey School of Business, The University of Western Ontario）合作，联合推出一套能反映当代水平、体现国际规范、可供中国借鉴的MBA核心课程的教材。清华大学的经管学院成立于1984年，是国务院学位办首批授权举办MBA教育的九所院校之一，1997~1998学年度招收MBA学生400多名，现拥有全国最大规模的MBA教育项目；毅伟管理学院成立于1948年，是加拿大最好的商学院，拥有很高的国际声誉，在MBA的培养方面具有丰富的经验和很强的力量，它所培养的12000名毕业生中有六分之一成为其所在机构的董事会主席、副主席，总裁、副总裁，首席执行官或经理。

两院推出的这套MBA教材共十八种，大致可分为四部分。第一部分是反映管理主要内容的《管理学》（Richard L. Daft）、《战略管理》（Arthur A. Thompson, Jr. and A. J. Strickland III）、《市场营销学基础：全球管理》（William D. Perreault, Jr. and Jerome McCarthy）、《人力资源管理》（Lawrence S. Kleiman）、《国际管理》（Paul W. Beamish, Allen Morrison and Philip M. Rosenzweig）、《经理人员的沟通》（Norman B. Sigband and Arthur H. Bell）与《管理沟通：原理与实践》（Michael E. Hattersley and Linda McJannet）；第二部分是反映企业资产负债管理、投融资与财务活动和企业会计理论与实践的《公司财务原理》（Richard A. Brealey and Stewart C. Myers）、《投资学精要》（Zvi Bodie, Alex Kane and Alan J. Marcus）、《财务会计》（Clyde P. Stickney and Roman L. Weil）与《管理会计》（Ronald W. Hilton）；第三部分是反映企业管理技术方面的《管理科学导论》（David R. Anderson, Dennis J. Sweeney

and Thomas A. Williams)、《信息时代的管理信息系统》(Stephen Haag, Maeve Cummings and James P. Dawkins)、《商务与经济统计》(David R. Anderson, Dennis J. Sweeney and Thomas A. Williams)与《生产与运作管理》(Richard B. Chase, Nicholas J. Aquilano and F. Robert Jacobs);最后一部分是反映管理基础内容的《经济学原理》(N. Gregory Mankiw)、《商业伦理学》(David J. Fritzsche)和《商法与监管环境》(Ronald A. Anderson, David P. Twomey, Ivan Fox and Marianne Moody Jennings)。

在这套 MBA 教材的挑选中,在版权允许的范围内,既照顾了课程的结构,又考虑了 MBA 的特点。反映最新成果、理论结合实际、突出案例分析、作者知名度高是挑选中注意把握的基本原则。毅伟管理学院还特意组织了 17 名教授专为这套教材编配了案例集。这套教材可以做教师的教学参考书,教师可以运用书中的原理与国情相结合,逐渐发展出有中国特色的 MBA 教材;它也可以做 MBA 学生的教科书,帮助学生掌握市场经济的原理与规律,以便分析、解决中国的实际问题。另外,所有具有英文阅读能力的企业界与经济界人士、对经济管理有兴趣的高校学生,都可以把它作为系统学习经济管理知识、了解市场经济的规范的学习材料,以便更好地理解经济管理问题,增长分析、处理经济管理问题的才干。

朱镕基总理在 1994 年写给清华大学经济管理学院建院十周年的贺信中曾明确指出:“建设有中国特色的社会主义,需要一大批掌握市场经济的一般规律、熟悉其运行规则、而又了解中国企业实情的经济管理人才。”他在 1996 年提出“管理科学、兴国之道”,希望在中国“掀起一股学习管理、加强管理、发展管理科学、加强管理培训的热潮”。我们联合推出这套书,就是希望能在普及市场经济的一般规律与运行规则的知识、促进管理教育在中国的发展、提高中国企业的管理水平方面做一点实际的工作。

清华大学经济管理学院

1998 年 6 月 16 日

DEDICATIONS

For my Mom and Dad. For always standing beside me; for picking me up when I was down; for loving me unconditionally.

- **Stephen Haag**

To Slim who is my husband and guardian angel of gentle strength.

- **Maeve Cummings**

To Patti: my wife, my love, and my inspiration.

- **James Dawkins**

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- Assessing the Value of Information - use spreadsheet software to evaluate 600 real estate transactions and help Affordable Homes determine in which area to concentrate its future sales efforts. 455
- Executive Information System Reporting - use spreadsheet and presentation graphics software to demonstrate to Ben and Brady (of B&B Travel Consultants) the concept of "drilling down" in an executive information system. 456
- Building Management Information System Reports from a Database - use database management system and presentation graphics software to build a series of MIS reports that will alert High-Tech's management to problems or opportunities within its customer call and service center. 456
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- Building a Decision Support System - use spreadsheet software to build a decision support system that will help you determine which of 20 different stocks to include in your investment portfolio. 460
- Building an Expert System - from a list of countries and their attributes and characteristics, determine the most succinct set of rules needed by an expert system to choose the country you're describing. 462
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PREFACE

IT is the information age; truly a time when knowledge is power. More so than ever before, businesses all over the world are focusing on information as a key resource. That's why you constantly see such terms as *competitive intelligence, knowledge worker, competitive scanning,* and the *learning organization* in the popular business trade press. The information age, with its greater focus on information as a key resource, has changed the way we view the role of information technology (IT) and management information systems (MIS) in an organization.

In previous years, people approached IT primarily as a tool to increase efficiency, either by cutting costs, time, and/or energy spent. In the information age, however, the role of IT is much different - IT is an essential enabler of innovation and a tool for getting the right information into the hands of the right people at the right time. That's why you also see such terms as *business geography, data warehouse, data mart, knowledge database, individualized electronic advertising,* and *data mining* in the popular business trade press.

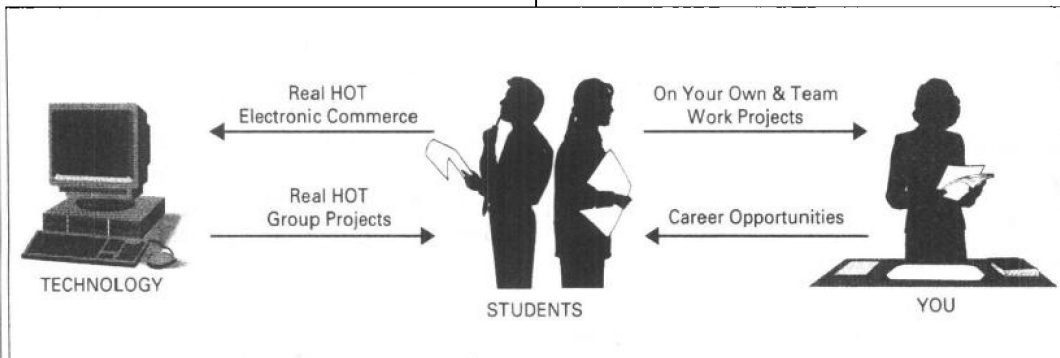
The role of MIS has changed as well. No longer is MIS left solely to IT specialists; today, knowledge workers actively participate in the MIS function by developing their own systems, by using query tools to build their own reports, and by taking advantage of telecom-

today. It truly is the information age; IT and MIS have surfaced as key competitive tools for all organizations. After all, the word "information" is the most important part of the terms *information* technology and management *information* systems.

As we set out to create this text, we focused on reaching two main goals: (1) creating an interactive learning environment in which teacher, student, and technology play equally important roles, and (2) facilitating your efforts in the classroom with a well-rounded support package. Our quest for these goals (and numerous others) was the driving force behind the construction of this text, its components and pedagogy, and the support package.

The Interactive Learning Environment

Regardless of the topic or body of material, the most effective learning tool is always an interactive environment in which both students and teachers actively participate. In MIS, we can expand that interactive environment even further and include technology itself as an important role player. To help you create the most successful and dynamic learning environment, we've provided several pedagogical components to foster the interactivity between (1) you and the students and (2) the students and technology.



munications technologies to usher in a whole new generation of telecommuters. MIS is no longer buried deep in the organizational chart. Indeed, many organizations have chief information officers who report directly to strategic management.

We've written this text — **Management Information Systems for the Information Age** — specifically to address the changing role of information technology and management information systems in organizations

You · Students

On Your Own & Team Work Projects

Throughout each chapter, you'll find several projects designed to be completed by an individual student (On Your Own projects) and by groups of students (Team Work projects). Many of these projects can be completed in class, while others require some outside work. We have placed these individual and group projects within

the text so you can more easily integrate them into your presentation and so the students can more easily identify the chapter material that relates to each project. You'll also find teaching notes and tips for using these projects in the Instructor's Manual.

You · Students

Career Opportunities

Within the chapter text, we take the time to break away from traditional textbook prose and really speak to the students about their career opportunities and why the covered material is important. These Career Opportunities pieces will definitely help you answer this question for the students - "Why am I reading this material?"

Students · Technology

Real HOT Electronic Commerce

To help create the best interactive learning environment between the students and technology, we've developed two hands-on components; both of these require your students to use technology tools (e.g., software) or technology-related tools to solve a problem or take advantage of an opportunity. We have entitled these two components "Real HOT" which stands for "Real Hands On Technology". The first of these components is entitled Electronic Commerce - Business and You on the Internet.

This component (which appears at the end of each chapter) focuses on how individuals and businesses can and are using the Internet for electronic commerce. Specifically, we focus on the following electronic commerce concepts:

- Finding a Job through the Internet
- Building the Perfect Web Page
- Investing on the Internet
- Performing Online Database Searches
- Surfing for Success in a New Business
- Getting Medical Help on the Internet
- News, Weather, and Sports Information
- Finding Investment Opportunities on the Internet
- Ordering Products on the Internet
- Business Travel
- Finding the Right Graduate School

Our discussions include some great Web sites to visit and exercises that require students to do work on the Internet. In some instances, these exercises require students to find information or information resources, while others require students to gather material concerning how to do business on the Internet and issues relating to

electronic commerce on the Internet. Because we realize that some of your students may have had no previous exposure to the Internet and its basic operational aspects, we've developed Appendix B which is an introduction to the Internet.

Students · Technology

Real HOT Group Projects

The second component that fosters an interactive and hands-on environment for the students is that of Real HOT group projects. These group projects require students to roll up their sleeves and use technology or technology related tools to solve a problem or take advantage of an opportunity. We've included 14 Real HOT group projects at the end of the text (after Chapter 11 and before Appendix A). In the Instructor's Manual, we've provided some recommendations concerning which Real HOT group projects go with which chapters and grading criteria for evaluating the work of your students.

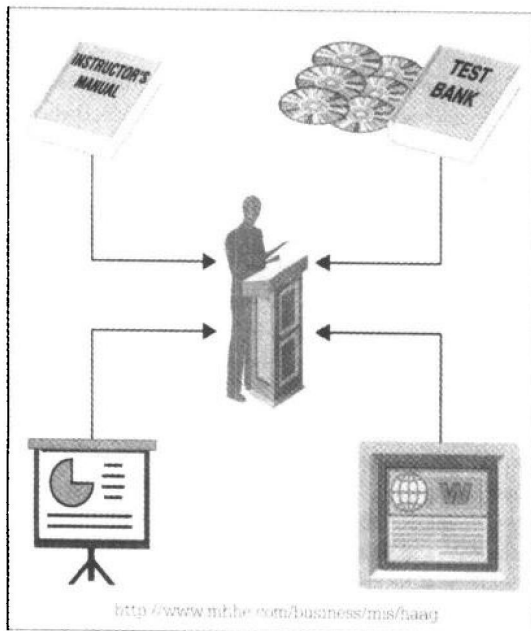
We should make a note here about the Real HOT group projects. These are by no means simple projects that can be completed in a short period of time. For example, we have two group projects that deal with assessing the value of information and using spreadsheet software to analyze information and make a decision. The first of these projects deals with evaluating 819 carrier transactions over the last 27 months for a home electronics manufacturer and determining the best carrier(s) for future distribution needs. The second of these projects deals with evaluating 600 real estate transactions and determining the best housing project in which to direct future sales efforts.

Both of these projects, which in scope are representative of all the Real HOT group projects, require significantly more effort than projects found in other MIS texts. As most of the Real HOT group projects require students to use existing electronic files, we will provide those files in a variety of ways including: (1) providing them to you for placement on a network and (2) on the Web so the students can download them.

The Support Package

As both authors and teachers, we realize that no textbook is complete without a well-rounded teaching support package. To facilitate your efforts in the classroom, we've provided four components in the support package for this textbook. In creating these, it was our sincere goal to support your unique efforts and teaching style.

The support package for this textbook includes an Instructor's Manual, a test bank, a PowerPoint slide presentation, and our Web site. In the Instructor's Manual,



you'll find numerous teaching tips and suggestions for presenting each chapter. Many of these tips and suggestions focus on how to use the various pedagogical features, such as opening and closing case studies, Real HOT Electronic Commerce and Group Projects, and the On Your Own and Team Work projects. We've even included several pop quizzes for each chapter that are ready for you to copy and use. The test bank is a completely automated environment in which you'll find hundreds of questions (true/false, fill in the blank, multiple choice, and short answer) as well as facilities for generating exams and adding your own questions.

The PowerPoint slide presentation includes approximately 40 slides per chapter. Each of these slides has been carefully crafted so they don't contain too much material and so that your students can easily see them from a distance. Finally, our support package includes a Web site <http://www.mhhe.com/business/mis/haag> that both you and your students will find invaluable. In it, you'll find the following sections:

- *Frequently Asked Questions (FAQs)* - answers to questions that get e-mailed to us from faculty and students
- *Careers* - career pointers and tips as well as links to Web sites where students can query jobs and leave electronic resumes
- *New In the News* - summaries of articles that detail how organizations are successfully using information technology. These will include the source and links to company Web sites

- *The Weird, The Wild, The Whacky* - odd and interesting uses of information technology
- *Groupware* - current information on groupware technologies (for example, new product releases)
- *Databases and Data Warehouses* - lists of online databases, new object-oriented database technologies, and data warehouse technologies (data warehouse management systems, multidimensional analysis tools, and so on)
- *Emerging Technologies* - hot topics such as automatic speech recognition, virtual reality, and electronic cash
- *Systems Development* - discussions of new trends in systems development, such as CASE tools, user-oriented programming languages, and applications development tools
- *Electronic Commerce* - discussions of new advancements in electronic commerce, such as a review of the best HTML generators
- *Real HOT Group Project Files* - the files needed to complete the Real HOT group projects

These sections will obviously evolve over time, and we'll frequently add new material and expand our coverage as necessary.

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From Stephen Haag ...

Writing books could very well be the most exhilarating and frustrating experience in all of life. Over the past 13 years, I've written 9 books. And I would not trade those 13 years or 9 projects for anything in the world. But writing a book is never the effort of a single individual. This project, for example, has been supported by a cast of hundreds, quite literally. Without everyone at McGraw-Hill and Irwin and our reviewers this project would never have survived.

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From Maeve Cummings...

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From Jim Dawkins ...

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ABOUT THE AUTHORS

Stephen Haag is a professor of Management Information Systems in the University of Denver's Daniels College of Business. Stephen holds a B.B.A. and M.B.A. from West Texas State University and a Ph.D. from the University of Texas at Arlington. Stephen has published numerous articles appearing in such journals as *Communications of the ACM*, *The International Journal of Systems Science*, *Applied Economics*, and *Managerial and Decision Economics*.

Stephen is also the author of eight other books including *Interactions: Teaching English as a Second Language* (with his mother and father), *Case Studies in Information Technology* (with Jim Dawkins), and *Information Technology: Tomorrow's Advantage Today* (with Peter Keen). Stephen lives with his wife, Pam, and their two sons, Indiana and Bosphus, in Highlands Ranch, Colorado.



Maeve Cummings is a professor of Information Systems at Pittsburg State University. She received her undergraduate degree from Pittsburg State University and her Ph.D. in Information Systems in 1992 from the University of Texas at Arlington. She is on the editorial board of various journals including the *Journal of Global Information Management* and the *Midwest Quarterly*.

James P. Dawkins is a systems consultant for The Allegro Group in Englewood, Colorado and an Adjunct Professor of Management Information Systems at the University of Denver's Daniels College of Business. Jim has consulted with Fortune 500 firms in such areas as systems integration, process improvement, financial management, group facilitation training, quality management, and activity-based management. Before joining Allegro, Jim spent eight years in industry as an engineer, manager and consultant.

Jim holds a B.S. in Mechanical Engineering from Texas A&M University and an M.B.A. in Management Information Systems from the University of Denver. He is a co-author of *Case Studies in Information Technology*. Jim, along with his wife, Patti and their two children, Devin and Kristin, live in Aurora, Colorado.

