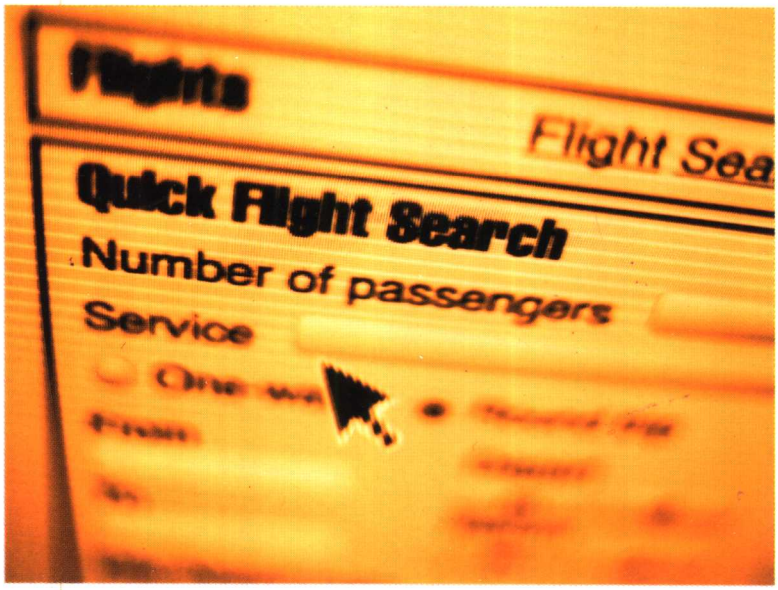
Mc Graw Hill Education

管理学经典入门教材 （英文改编版）

信息技术与管理（第2版）

Ronald L. Thompson William L. Cats-Baril 著



Information Technology and Management

北京大学出版社
PEKING UNIVERSITY PRESS

Mc Graw Hill

管理学经典入门教材 （英文改编版）

信息技术与管理

(第2版)

C931.6
Y5

Ronald L. Thompson William L. Cats-Baril 著

Information Technology and Management

北方工业大学图书馆
00732475

北京大学出版社
PEKING UNIVERSITY PRESS

北京市版权局著作权合同登记图字：01-2005-0284 号

图书在版编目(CIP)数据

信息技术与管理(第 2 版)/汤普森(Thompson，R. L.)等著.—影印本.—北京：北京大学出版社，2005.1

(管理学经典入门教材)

ISBN 7-301-08128-6

Ⅰ.信… Ⅱ.汤… Ⅲ.信息技术与管理-教材-英文 Ⅳ.C931.6

中国版本图书馆 CIP 数据核字(2004)第 109735 号

Ronald Thompson, William Cats-Baril

Information Technology and Management, 2nd edition

ISBN: 0-07-118029-X

Copyright © 2005 by the McGraw-Hill Companies, Inc.

Original language published by The McGraw-Hill Companies, Inc. All rights reserved. No part of this publication may be reproduced or distributed by any means, or stored in a database or retrieval system, without the prior written permission of the publisher.

Authorized English language reprint edition jointly published by McGraw-Hill Education (Asia) Co. and Peking University Press. This edition is authorized for sale in the People's Republic of China only, excluding Hong Kong, Macao SARs and Taiwan. Unauthorized export of this edition is a violation of the Copyright Act. Violation of this Law is subject to Civil and Criminal Penalties.

本书英文影印版由北京大学出版社和美国麦格劳-希尔教育出版(亚洲)公司合作出版。此版本仅限在中华人民共和国境内(不包括中国香港、澳门特别行政区及中国台湾地区)销售。未经许可之出口，视为违反著作权法，将受法律之制裁。

未经出版者预先书面许可，不得以任何方式复制或抄袭本书的任何部分。

本书封面贴有 McGraw-Hill 公司防伪标签，无标签者不得销售。

书　　名：信息技术与管理(第 2 版)

著作责任者：Ronald L. Thompson　William L. Cats-Baril　著

责 任 编 辑：张慧卉

标 准 书 号：ISBN 7-301-08128-6/F·0973

出 版 发 行：北京大学出版社

地　　址：北京市海淀区中关村北京大学校内　100871

网　　址：http://cbs.pku.edu.cn　电子信箱：em@pup.pku.edu.cn

电　　话：邮购部 62752015　发行部 62750672　编辑部 62752926

排　版　者：北京浩德博文信息科技有限公司

印　刷　者：北京中科印刷有限公司

经　销　者：新华书店

850 毫米×1168 毫米　16 开本　32.5 印张　644 千字

2005 年 1 月第 1 版　2005 年 1 月第 1 次印刷

定　　价：45.00 元

出版者序言

在当前经济全球化的背景下，中国经济的发展需要大量具备扎实理论功底、了解国际规则、能够适应国际竞争需要的优秀的经济管理人才，所以，大力开展双语教学，适当引进和借鉴国外优秀的原版教材，是加快中国经济管理教育步伐，使之走向国际化的一条捷径。为此，北京大学出版社与国外著名出版公司麦格劳-希尔教育出版公司和汤姆森学习出版集团合作推出了《经济与金融经典入门教材》和《管理学经典入门教材》两套系列丛书，这两套丛书的大部分均同时包含英文版和翻译版，主要针对本科层次，目前首先推出英文版（英文影印版/英文改编版）。丛书的筛选完全是本着“出新、出好、出精”的原则，均经过北京大学及国内其他著名高校相关学者的精心挑选，分别汇集了国外经济与金融和管理学领域的经典教材，称得上是一套优中选精的丛书。

鉴于外版教材大多篇幅过长，且其中某些内容不适合我国的教学实际需要，因而我们对部分所选图书进行了必要的删节，成为英文改编版。在选书和删节的过程中，我们得到了许多老师的大力支持和帮助，在此，我们对他们表示衷心的感谢：

北京大学光华管理学院：张一弛、张志学、杨云红、雷明、武常岐、张红霞、陆正飞、黄慧馨

中国人民大学：李先国、杨波、胡波

中国农业大学管理学院：陆娟

中山大学岭南学院：贾佳

天津财经大学财政系：张进昌

哈尔滨工业大学工商管理学院：张莉、李国鑫

这两套丛书是对国外原版教材的直接或删节后影印，由于各个国家政治、经济、文化背景的不同，对于书中所持观点还请广大读者在阅读过程中注意加以分析和鉴别。另外，我们在对原版图书进行删节、重新编排页码的同时，为了便于读者核对使用索引，仍保留了原书的页码，因此读者在阅读过程中可能会发现有跳页现象，而且由于删节，某些文中提到的页码或内容有可能无法找到，对于由此给读者带来的诸多不便，我们深表歉意，恳请您的谅解。

我们期望本套教材的出版可以对我国经济管理学科的教学，尤其是经济管理专业本科的教学有所裨益，能够对我国经济管理学科的发展有所贡献。

一套丛书的推出和不断完善离不开大家的支持和帮助，我们也欢迎所有关心中国经济管理学科教育和发展的专家和学者及广大读者，给我们提出宝贵的意见和建议，诚挚地希望您能向我们推荐您所接触到的国外优秀的经济管理类图书。

北京大学出版社

经济与管理图书事业部

2005 年 1 月

关于本书

适用对象

本书适合经济管理类本科生用作信息技术与管理课程的教材。

内容简介

汤普森和卡慈-巴里尔所著的《信息技术与管理(第2版)》一书不仅介绍了信息技术,还描述了商业流程以及促其高效的信息系统。本书涵盖了信息技术、信息系统组成和信息系统发展等传统话题。然而,它并不局限于传统范围,同时还展现了商业运作以及信息系统是如何使得商业运作更为高效。在保留了信息技术和组织回应这个主题的基础上,它把重点放在信息系统是如何影响组织的竞争力上。

作者简介

罗纳德·汤普森(Ronald L. Thompson)是维克森林大学贝布考克管理研究院的副教授。他在西安大略大学艾维商学院获得博士学位后,曾先后在加拿大的佛蒙特大学和卡尔加里大学任教。罗纳德在许多学术期刊上发表过文章,还担任过《管理信息系统季刊》的副主编。他教过大批的学生,曾获得最佳教学奖。他和妻子珍(Jen)喜爱户外运动,如骑脚踏车、打高尔夫等。

威廉·卡慈-巴里尔(William L. Cats-Baril)是佛蒙特大学商学院管理信息系统的副教授。他在威斯康星-麦迪逊大学获得博士学位。他在欧洲商业管理学院和伦敦经济学院等著名大学拥有名誉职位。就信息科技和决策相关领域的广泛话题,威廉发表了三十多篇论文和书籍篇章。他的学生从大学新生到高级经理都有,遍及世界各地。因杰出的教学,他获得过多项奖励。另外,他还具有国际咨询的经历。他曾是墨西哥国际队水球队员,喜欢滑雪、骑车、旅行和潜水。

主要特色

- 更多地把焦点放在信息系统和科技上:尽管组织回应仍是本文的中心议题,但根据评论家的反馈意见,该主题被置于信息系统是如何影响组织竞争力这个背景下进行考察。
- 提高了网络和通讯的覆盖面:关注技术是如何促进组织以达到其目标的。所有关键技术的概念都配有案例介绍。
- 强调了数据库处理和管理:帮助学生在本课程起始更好地理解数据库工具。
- 历史和现代背景下的 Napster:一个开放性的案例研究,它围绕一些议题对决策框架进行思考和应用。最后一章按照文中介绍的顺序,分析了 Napster 案例和这种商业模式的相关问题。
- 实习任务:布置课堂调查任务以使理论知识更好地应用于实践。

此为试读,需要完整PDF请访问: www.ertongbook.com

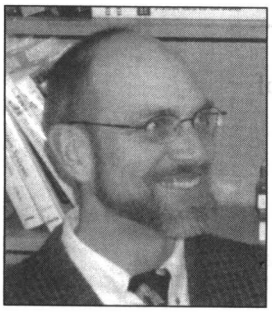
简要目录

第一章　信息技术与管理入门
模块一　信息技术的基础
第二章　软件和硬件
第三章　内容管理
第四章　通讯和网络
第五章　因特网和电子商务
模块二　信息系统的组织使用
第六章　信息系统和组织竞争力
第七章　信息系统和组织回应
第八章　信息系统和组织决策
第九章　信息系统在组织中的应用
模块三　管理信息系统资源
第十章　商业流程管理和企业系统
第十一章　信息系统发展
第十二章　外部信息系统资源
第十三章　信息资源管理
第十四章　信息科技:关于未来的话题
词汇表
索引

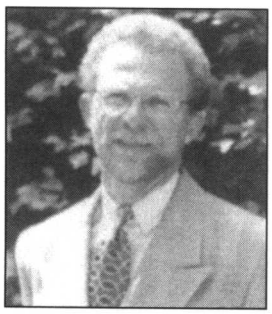
教辅产品

- 教师指导光盘及相关教辅材料(由麦格劳-希尔教育出版公司教师服务中心提供)。

About the Authors



Ronald L. Thompson is Associate Professor of Management in Wake Forest University's Babcock Graduate School of Management. He holds a Ph.D. from the Ivey School of Business Administration at the University of Western Ontario (London, Canada) and was formerly on the faculties of the University of Vermont and the University of Calgary. Ron has published in a variety of academic journals and has served as an associate editor for *MIS Quarterly*. He also has taught a wide range of students and has won awards for teaching excellence. Ron and his wife Jen enjoy numerous outdoor activities, including biking, golf, and trying to keep up with their two dogs when hiking.



William L. Cats-Baril is Associate Professor of Management Information Systems in the School of Business Administration at the University of Vermont. He holds a Ph.D. from the University of Wisconsin–Madison. He has held a variety of visiting appointments including stays at INSEAD and the London School of Economics. Willy has published more than 30 articles and book chapters on a variety of topics in information technology and decision making. He has taught a variety of audiences around the world ranging from first-year undergraduate students to senior executives and has received various awards for teaching excellence. He has an international consulting practice. A former waterpolo player for the Mexican national team, Willy now enjoys skiing, bicycling, trekking, and scuba diving.

Preface

In our quest to improve the first edition of this textbook, we continued to focus on the same goals:

1. Provide a meaningful introduction to organizations and to current philosophies on how to manage organizations.
2. Provide a clear understanding of the role of information technology (I/T) in managing organizations, both now and in the future.
3. Facilitate the learning of concepts, frameworks, and approaches that are technology independent and that will last long after a specific technology is obsolete.
4. Present material that is interesting, informative, and useful for the intended audience.

This second edition of *Information Technology and Management* reinforces our approach to the study of information systems. As it was with the first edition, this second edition is not just an introduction to information technology; rather, it is an introduction to business processes and the information systems (I/S) that can make these processes more efficient and effective. The argument throughout the book is that first you decide *what needs to be done,* and then you decide *what (if any) information technology is appropriate* to satisfy that need.

The Target Market

The market for this book is the introductory information systems course for business students. At four-year colleges and universities, this course is found at the undergraduate level in schools of business. It is a first course required of all business students and is designed to introduce information systems in a business context. The book is designed for a stand-alone course or a course that is matched to a computing skills course. This course also is found in MBA programs, where it often is required of incoming graduate students who do not have the equivalent undergraduate preparation. At two-year colleges, this course may be required of students planning to transfer to business programs at four-year schools. It also may be required of students concentrating in business computer information systems, in which case it is designed to provide a foundation for more specialized courses.

Distinguishing Features

Competing textbooks attempting to address the target market tend to fall into two general categories. First, there are books that are somewhat "light" in their treatment of underlying concepts and frameworks. Students are introduced to a broad range of I/T-related topics, but come away with little understanding of the managerial challenges that arise from I/T use, or how to address these challenges. A second group of textbooks is firmly rooted in the management information systems (MIS) tradition of the late 1970s and early 1980s. These books fail to adequately address the major issues in managing information technology resources that have emerged over the past few years.

This book covers the traditional topics of information technology, information system components, and information system development. It goes beyond this traditional coverage, however, in a variety of ways. For example, instead of just describing what an operating system is, we address relevant managerial issues relating to operating systems such as how to decide whether to upgrade when a new version of an operating system is released. In addition, a major emphasis of this book is to show *how businesses function* and *how information systems enable businesses to function more effectively.* To address the needs of readers who have limited business experience, we have added a chapter (Chapter 9) that describes business activities (such as marketing and accounting) and then explains how I/S are used to support these activities.

The student gains not only a technical understanding of information systems but also an understanding of how information systems are an integral part of managing an organization. Basically, we write about the need of *aligning information systems to the competitive and organizational realities of businesses* today. The book includes not only a discussion of the competitive and strategic uses of information systems, but does so with a very strong message that you should first understand the business (e.g., How do we provide value? What drives customer satisfaction?) and then worry about deploying appropriate information technology to achieve business objectives.

At the same time, we stress the need to be aware of technological innovations (such as continually expanding Internet applications) and how these innovations offer both *opportunities and risks* for individuals and organizations. For example, we show how the appropriate use of information technology has enabled companies to react more quickly to changes in their environments, consciously applying a "sense-and-respond" strategy.

One of our goals in revising this book was to offer useful information in an informative and interesting way, and we believe we have successfully accomplished that goal. First, the book is written *to* the reader, rather than *at* him or her. Second, we use the example of the music industry (a topic that is salient to the intended audience) throughout the book to introduce many of the relevant issues. Third, we frequently employ short, boxed features (such as "How does this work?" and "Why is this important?") to highlight and explain key concepts.

Content

The first chapter serves as an introduction to the key elements of the textbook. The music industry is highlighted, introducing topics such as the application of technologies (e.g., file compression using MP3, the use of file-sharing software such as Napster and Morpheus) and how use of these technologies caused stresses within the pre-recorded music industry. The music industry is used to illustrate topics such as the potential impact of information technology use on organizational strategy (showing the response of recording industry companies such as Sony), ethical issues, international issues, and so on.

Module I of the book focuses on providing a solid foundation in understanding how information technology works and, more importantly, what important I/T-related issues need to be addressed by managers. Chapter 2 focuses on software and hardware, addressing issues such as how to evaluate competing configurations (using metrics such as reliability, ease of use, and so on). Although we recognize that some students will have had introductory computer literacy courses, we expect that in many instances these courses may have omitted the managerial issues relating to hardware and software.

Chapter 3 discusses content and data management, and includes a technical note and practicum case assignment that discusses data modeling (using entity-relationship models) and the use of database management systems. We recognize that some instructors will not wish to cover the "hands-on" component of this topic in their course, so the technical note and practicum case can easily be omitted without losing any continuity in the topic coverage.

Chapter 4 addresses telecommunications and networking, again stressing how to evaluate alternative communication technologies. Metrics similar to those introduced in Chapter 2 (e.g., reliability, cost, availability) are brought forward and employed to help illustrate some of the key issues relating to managing communication technologies. The chapter discusses some key changes in the telecommunications industry and provides an overview of trends in both wireline (wired) and wireless technologies.

Chapter 5 serves as a bridge between Module I (Foundations of Information Technology) and Module II (Organizational Uses of Information Systems). The first part of the chapter discusses the technologies that underlie the Internet and Internet-related applications. The second part of the chapter introduces some specific

applications of Internet-related technologies to organizational use, within the context of electronic commerce.

In Module II the focus shifts from information technologies to the application of information systems. Chapters 6 and 7 emphasize "big picture" issues at the organizational level, while Chapters 8 and 9 move to the departmental and individual level. Chapter 6 examines the use of information systems within competitive frameworks (such as the value chain), showing how I/S can be used to address organizational opportunities and threats. Chapter 7 continues the discussion at the organizational level, adopting a complementary perspective. General systems theory is applied as a framework to help analyze how information systems may be used to help organizations be more responsive to rapid changes in their environment.

Part of the framework introduced in Chapter 7 is the role of decision making, and Chapter 8 addresses the use of information systems to help improve both individual and group decision making. Chapter 9 introduces the context of business functions and processes, and addresses the challenges of moving from a functional orientation to a process orientation. Chapter 9 also shows how information systems can be used to help improve organizational processes.

In Module II the emphasis is on deciding *what* information systems are appropriate for an organization. In Module III we move to a discussion of *how* to obtain and manage information systems and information technology resources. Chapter 10 addresses the issue of business process improvement (radical as well as incremental) and the role information systems can play in facilitating process improvement. The chapter also discusses enterprise systems (e.g., enterprise resource planning, customer relationship management) and introduces some of the managerial issues that are raised by moving to enterprise systems. Chapter 11 describes a framework for developing information systems and also includes a technical note on process modeling (using data flow diagrams).

Chapter 12 discusses the growing number of options for external sourcing of information systems and information technology resources. Topics such as outsourcing and the use of application service providers are addressed, once again within the context of identifying key managerial issues and providing suggestions for addressing them. Chapter 13 closes the module by focusing on managing information resources, such as the organization of the information services department, disaster recovery, and security.

The book closes with a look at both emerging and somewhat more futuristic topics. The first 13 chapters focus on the use and management of information technology resources within an organizational context. Chapter 14 discusses a variety of topics within the context of broader implications for society. Issues such as nationalism and intellectual property rights are introduced.

Pedagogical Features

This text contains a number of features that were designed specifically with students in mind. These features include the following.

A **chapter outline** begins each chapter and provides a quick overview of the contents of the chapter.

The **body of the chapter** is written with a blend of theory and application. Rather than listing all possible theories addressing a specific topic, one or two prevalent theories are provided and discussed at an appropriate level of detail. For more important or complex concepts, relevant examples are used.

Business Briefs are short articles and stories obtained from a variety of sources that illustrate the concepts discussed in the chapter. These are interspersed throughout the text, located near the corresponding course material.

Art and photographs have been carefully prepared and selected to support and enhance the text material. The photographs, figures, tables, charts, and other visual aids are designed specifically to facilitate understanding.

Competitive, ethical, and international examples are included throughout most of the chapters. These short examples illustrate the pervasiveness of information technology and highlight many managerial issues related to these important topics.

End-of-chapter aids include a brief chapter summary, a list of key concepts and terms, references for general reading, and useful websites.

Chapter assignments include brief review questions, more thought-provoking discussion questions, group assignments, application assignments (requiring the use of productivity tools), and one or more case assignments.

The **end-of-module case** involves two installments from the same company. Dakin

Farm is a real organization, and the installments describe real situations and decisions faced by the president. The case installments at the end of Modules II and III are longer and more complex than those offered at the end of the chapter. They provide an excellent opportunity to review and reinforce material presented within the chapters.

Practicums are included at the end of two chapters. The practicums are a combination of case and hands-on application that require the students to use I/T-based productivity tools to solve problems and provide recommendations. The practicums are designed to provide a meaningful link between I/T skills and enduring concepts from the text.

A **glossary of terms** for the entire text is included as an appendix. The glossary provides brief, working definitions of the key terms used throughout the text. Definitions and explanations of key terms also are provided in the margin where the terms are introduced.

Additional cases in the instructor's side of the book's website include additional short and longer, more complex cases. The short cases are particularly suited for take-home assignments or exams, and the longer ones may be used with more advanced students (perhaps senior undergraduates or MBA).

Instructional Support

Consistent with our belief that learning involves much more than the presentation of relevant concepts in a written format, we have prepared additional support materials. We recognize that not all instructors share our teaching preferences for using cases as a major vehicle to teach the course either because they don't like them or because they can't (e.g., very large class sections). Therefore, we have developed not only support materials for teaching with cases but a whole array of more traditional support materials as well. These materials are aimed at facilitating both the preparation and delivery of lectures in a variety of class environments.

All instructor support materials can be found on the **Instructor CD-ROM** that accompanies the text. These materials, except for the testbank, also can be found on the book's website at www.mhhe.com/thompson. Instructors will need a password to access the site. The password should be provided by your local McGraw-Hill sales representative. In order to receive the testbank on-line, instructors need to register for PageOut. This is a free service that assists instructors in setting up their custom website for their course. Instructors can register for PageOut through their local McGraw-Hill sales representative.

Instructors Resource Manual contains an introduction with alternative course syllabi. The modular approach of the book is used to provide suggested topic coverage based on a variety of objectives and needs. The material for each chapter includes an outline, a suggested teaching approach, and answers to questions posed in the chapter. In addition, the manual contains additional short cases, with questions and solutions, which can be used for take-home assignments or examinations.

One additional feature of the Instructors Resource Manual is the inclusion of teaching notes for the cases. These notes provide suggestions on how to lead the case discussions, as well as some "inside" information for the instructor. Where relevant, the instructors' manual also includes "B" cases, which describe "what happened" and possibly lead up to another decision situation. These cases are suitable for copying and distributing to the students following a discussion of the "A" case in class.

A **test bank** of true/false, multiple-choice, and short-answer questions also is provided both in an electronic format and as a computerized testbank. The test generator software allows instructors to create multiple exams and add questions of their own if desired.

Video Case Installments are useful supplements to the Dakin Farm case installments that are included in the text. The video installments run approximately 10–15 minutes each and are designed to augment the cases by presenting short clips related to the case material. For example, the first video installment of the Dakin Farm case introduces the company and the CEO, through a personal interview and a tour of the company's main processing facilities. Students meet Sam Cutting, Jr. and learn how he decided to change the focus of the company business to specialty foods mail-order.

The videos were created concurrently with the written cases and are related *directly* to the case material. They bring the company and key players into the classroom and make the material much more salient for the students.

此为试读,需要完整PDF请访问: www.ertongbook.com

The **website** for the text is an integral part of the teaching package. Some of the features include

- A password-protected section for instructors containing solutions to cases and assignments that are not included in the Instructors Resource Manual.
- Downloadable PowerPoint presentations summarizing key points from the chapters.
- Downloadable data files for use in assignments and practicums.
- Frequently asked questions (FAQs) received from students and faculty, with our responses.
- New business briefs, with links to associated articles and/or sites.
- New cases and assignments (with solutions posted to the instructor section).
- Related resources, with links to relevant sites for on-line magazines, commercial sites, and so on.

We expect that the website for the course will continue to evolve as the needs and desires of faculty and students are communicated to us. **Author Support** is an area where we believe in practicing what we preach. If you have questions, comments, or suggestions as you consider adopting this package or as you use it in your teaching, we encourage you to contact us.

Acknowledgments

We would like to thank the following reviewers, whose constructive comments and suggestions helped shape the text in many ways:

Noushin Ashrafi, *University of Massachusetts–Boston*
Nabil Bedewi, *George Mason University*
Carolyn S. Budd, *James Madison University*
David R. Chanowski, *Friends University*
Jack Van Deventer, *Washington State University*
Roland Eichelberger, *Baylor University*
Andres Fortino, *George Mason University*
Richard Herschel, *University of North Carolina–Greensboro*
Jerald Hughes, *Baruch College–CUNY*
Dennis Kira, *Concordia University*
Betty A. Kleen, *Nicholls State University*
Paul Krause, *California State University*
Teresita S. Leyell, *Washburn University*
Susan K. Lippert, *George Washington University*
B. Dawn Medlin, *Appalachian State*
John Melrose, *University of Wisconsin–Eau Claire*
Alan Graham Peace, *Duquesne University*
Floyd D. Ploeger, *Southwest Texas State*
Carol Pollard, *University of Colorado–Boulder*
Richard E. Potter, *University of Illinois–Chicago*
Sasan Rahmatian, *California State University–Fresno*
Tony Richardson, *Massey University–Albany*
Stephanie Robbins, *University of North Carolina–Charlotte*
Roberta M. Roth, *University of Northern Iowa*
Siva R. Sankaran, *California State University–Northridge*
Conni Shwartz, *Purdue University*
Leiser O. Silva, *University of Alberta*
Gino Sorcinelli, *University of Massachusetts*
Jayne Stasser, *Miami University*
Mani R. Subramani, *University of Minnesota*
Michael W. Totaro, *University of Louisiana–Lafayette*
William P. Wagner, *Villanova University*
Rick Weible, *Marshall University*
Mike Whitman, *Kennesaw State University*
Thomas Wilder, *California State University–Chico*

Much of the credit for this text goes to several individuals of the McGraw-Hill team. Our special thanks to Rick Williamson, the senior sponsoring editor, who believed in the project; Kelly Delso, the developmental editor, who kept us on track; Jim Labeots, the project manager, who managed the production details; Artemio Ortiz, the designer who gave the book its look; Paul Murphy, the marketing manager; Debra Sylvester, the production supervisor; and Jeremy Cheshareck, the photo research coordinator, along with many others who contributed their ideas and hard work to the project.

We would like to acknowledge the assistance of CEO Sam Cutting of Dakin Farm who gave of his time generously and who willingly opened his organization to us and allowed his company to become a live case example of many of the concepts and principles we wished to illustrate.

We also acknowledge the contribution of the many individuals and organizations who are the subjects of numerous cases and examples that help make this book come to life.

Final Note to Instructors

We believe that the second edition of *Information Technology and Management* fills a real need for many educational institutions, and we are excited to be an integral part of its production. We hope you find it useful and are very interested in receiving comments and suggestions from you.

RLT and WCB,
May 2002

Brief Contents

1 Introduction to Information Technology and Management 1

MODULE I

Foundations of Information Technology 29

2 Software and Hardware 31

3 Content Management 72

4 Telecommunications and Networking 120

5 The Internet and Electronic Commerce 160

MODULE II

Organizational Uses of Information Systems 199

6 Information Systems and Organizational Competition 201

7 Information Systems and Organizational Responsiveness 236

8 Information Systems and Organizational Decision Making 268

9 Organizational Use of Information Systems 302

MODULE III

Managing Information Systems Resources 339

10 Business Process Management and Enterprise Systems 341

11 Information Systems Development 366

12 External Information Systems Sourcing 414

13 Information Resource Management 438

14 Information Technology: Emerging and Future Issues 472

Glossary 495

Index 516

Contents

1 Introduction to Information Technology and Management 1

Introduction 2

Tech Talk: Information Technology 2

Information Technology Issues 3

Tech Talk: Capacity 4

Tech Talk: Information Technology Infrastructure 6

The Music Industry: 1999–2001 7

Tech Talk: Instant Messaging and Chat 9

Industry Stakeholders 9

Major Themes of the Book 12

Organizational Responsiveness 12

Competitive Strategy 13

Business Brief 1.1: Fidelity Sharpens Its Technological Edge 15

Global Perspective 16

Business Brief 1.2: AOL to Unveil China Venture 17

Ethical Issues 18

Business Brief 1.3: Big Bro Is Eyeing Your E-Mail 18

Impact on Careers 19

Tech Talk: HyperText Links 19

Tech Talk: System Interface 20

Framework for the Book 21

Summary 23

Case Assignment: Watch Your Speed 25

Reflections Case: The Rosetta Disk 26

MODULE I

Foundations of Information Technology 29

2 Software and Hardware 31

Introduction 32

Performance Criteria 34

Performance Trade-Offs 35

Tech Talk: Moore's Law 35

Software 38

Systems Software 39

Business Brief 2.1: Microsoft Uses Fee Code 42

Application Software 43

Hardware 47

Software Horror Stories 47

Business Brief 2.2: Buggy Software 48

Software Tips! 48

Input Devices: Accepting Data 48

Tech Talk: Computer Sizes 49

System Unit and Motherboard 51

Processor and Main Memory: Processing Data 54

Tech Talk: Measuring Data and Storage Capacity 55

Tech Talk: Measuring Internal Clock Speed 56

Tech Talk: Measuring the Speed of Executing Instructions 56

Business Brief 2.3: Chip Breakthrough 57

Computer Design 58

Secondary Storage: Storing Data 58
Tech Talk: Measuring Time 58
Output Devices: Presenting Data 61
Hardware Tips! 63
Hardware Horror Stories 64
Concluding Comments 64
Summary 65
Case Assignment I: Factory of the Future? 68
Case Assignment II: Pull the Plug on KaZaA? 69
Reflections Case: Virtual Immortality 70

3 Content Management 72
Introduction 73
NextCard, Inc. 73
Data Representation 73
File Access 75
Transaction Processing 78
Database Processing 80
Data Capture and Processing 82
Content as a Corporate Resource 83
Business Brief 3.1: Keeping Tabs on the Blood Bank 84
Database Organization—Relational Model 84
Maintaining Data in a Database 86
Retrieving Information from a Relational Database 87
Advanced Database Query Interfaces 88
Presenting Information from a Database 90
Business Brief 3.2: Giving the Web a Voice 91
Performance Criteria for Database Management Systems 92
Object-Oriented Database Model 93
Object-Relational Database Management Systems 94
Data Warehouses 94
Business Brief 3.3: BB&T 97
Data Mining 98
Business Brief 3.4: E.piphany? 102
Additional Data Management Issues 102
Distributed Databases 102
Data Security 103
Summary 104
Case Assignment: DoubleClick 106
Reflections Case: The Genome Project 108
Practicum Case Assignment: Greenland Commercial Rentals 109
Technical Note 1: Data Modeling and Entity-Relationship Diagrams 112
Creating a Data Model 117
Moving from a Data Model to a Database Design 117

4 Telecommunications and Networking 120
Introduction 121
Organizational Communication 122
Formal and Informal Communication 122
Communication Dyads 123
Business Brief 4.1: Phony Press Release Lands Hoaxer in Jail 124
Distortion in Organizational Communication 125
Types of Distortion 126
Information Overload 129
Business Brief 4.2: Slowed to a Dead Halt 130
Analog and Digital Data Representation 130
Telecommunications 131
The Changing Face of Telecommunications 133
Tech Talk: Data Channels 134
Protocols 136
ISDN 136
DSL 136
Tech Talk: Data Transfer Rates 137
Cable Modems 137
T-Carrier System 138
Frame Relay 139
Fast Ethernet 139
Wireless 139
Business Brief 4.3: China Builds Telecommunications Infrastructure 142
Networks 142
Components of a LAN 144
LAN Protocols 147
LAN Topologies 148

Intranets and Extranets 148
Network Horror Stories 152
Summary 153
Case Assignment: Guerrilla Wireless Networking for the Masses 155
Reflections Case: Ubiquitous Computing 157

5 The Internet and Electronic Commerce 160
Introduction 161
Evolution of the Internet 162
Internet Building Blocks 164
Internet Addressing 164
Electronic Mail, Newsgroups, List Services 165
Telnet and Ftp 166
World Wide Web 167
Company Example: NextCard 168
Additional Internet Technologies 170
Markup Languages 170
Dynamically Generated Web Pages 172
Web Portals 174
Search Engines 175
Intelligent Agents 175
Industry Example: Brokerage 176
Business Opportunities 179
Business-to-Consumer 179
Business-Based Markets 180
Business Brief 5.1: Plugged-in Fans Buy Hot Tickets in Web Presales 181
Consumer-Based Markets 181
Business-to-Business 182
Business Brief 5.2: Selling Backpacks on the Web Is Harder Than It Looks 183
The Mobile Internet 184
Internet Technologies and Business Operations 186
Internet Issues 186
Security 187
Privacy 189
Consumer Protection 189
Censorship 190
Business Brief 5.3: U.S. Firms Concerned about Global Legal Pact 191
Intellectual Property Rights 191
Interactive Activities 192
Summary 194
Case Assignment: Wireless Banking Strategy 196

MODULE II

Organizational Uses of Information Systems 199

6 Information Systems and Organizational Competition 201
Introduction 202
Components of an Information System 202
Purpose 202
Roles 203
Procedures 204
Content 205
Information Technology 206
Competition and Strategy 207
Business Brief 6.1: Mr. Cozzette Buys a Computer 210
Understanding Strategy 211
SWOT Analysis 212
The Value Chain 212
Business Brief 6.2: General Motors: From Bricks to Clicks 215
Porter's Five-Forces Model 216
Case Example: Marshall Industries 219
Management Objectives for Information Systems 221
Competitive Vulnerabilities 225
Positioning the I/T Organization 225
Managing Emerging Technologies 226
Summary 229
Case Assignment I: Demco Uses I/T to Help Customers 231
Case Assignment II: Pollution Solutions (A): One Person's Waste . . . 232

7 Information Systems and Organizational Responsiveness 236
Introduction 237
A Framework to Achieve Organizational Responsiveness 239

此为试读,需要完整PDF请访问: www.ertongbook.com