管理信息系统 管理数字化公司 Fleventh Edition

Management Information Systems Managing The Digital Firm

肯尼思·C. 劳顿 (Kenneth C. Laudon) 简·P. 劳顿 (Jane P. Laudon)





清华MBA核心课程英文版教材

管理信息系统 管理数字化公

Eleventh Edition

Management Information Systems Managing The Digital Firm

(美) 肯尼思・C. 劳顿 (Kenneth C. Laudon) 筒・P. 劳顿 (Jane P. Laudon)

第11版

清华大学出版社 北 京 北京市版权局著作权合同登记号 图字: 01-2011-4199

Original edition, entitled MANAGEMENT INFORMATION SYSTEMS: MANAGING THE DIGITAL FIRM, 11th edition, 013609368X by KENNETH C. LAUDON and JANE P. LAUDON, published by Pearson Education, Inc., publishing as Prentice Hall, copyright © 2010.

All Rights Reserved. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or by any information storage retrieval system, without permission from Pearson Education, Inc.

China edition published by **PEARSON EDUCATION ASIA LTD.**, and **TSINGHUA UNIVERSITY PRESS** Copyright © 2011.

This edition is manufactured in the People's Republic of China, and is authorized for sale only in the People's Republic of China excluding Hong Kong, Macao and Taiwan.

For sale and distribution in the People's Republic of China exclusively (except Taiwan, Hong Kong SAR and Macao SAR). 仅限于中华人民共和国境内(不包括中国香港、澳门特别行政区和中国台

湾地区)销售发行。
本书封面贴有 Pearson Education(培生教育出版集团)激光防伪标签,无标签者不得销售。

版权所有,侵权必究。侵权举报电话: 010-62782989 13701121933

图书在版编目(CIP)数据

管理信息系统:管理数字化公司.第11版 = Management Information Systems: Managing the Digital Firm. 11th edition:英文/(美)劳顿(Laudon, K. C.),(美)劳顿(Laudon, J. P.)著.--北京:清华大学出版社,2011.8

(清华 MBA 核心课程英文版教材)

ISBN 978-7-302-26304-3

I. ①管… II. ①劳… ②劳… III. ①管理信息系统 - 研究生 - 教材 - 英文 IV. ①C931.6 中国版本图书馆 CIP 数据核字(2011)第 142760 号

责任编辑: 江 娅 责任印制: 王秀菊

出版发行: 清华大学出版社

地 址:北京清华大学学研大厦 A 座

http://www.tup.com.cn

邮 编: 100084

社 总 机: 010-62770175

邮 购: 010-62786544

投稿与读者服务: 010-62776969, c-service@ tup. tsinghua. edu. cn 质量反馈: 010-62772015, zhiliang@ tup. tsinghua. edu. cn

印装者: 清华大学印刷厂

经 销:全国新华书店

开 本: 203×260

印 张: 41.25

版 次: 2011 年 8 月第 1 版

印 次: 2011 年 8 月第 1 次印刷

印 数:1~5000

定 价: 63.00元

为了适应经济全球化的发展趋势,满足国内广大读者了解、学习和借鉴国外先进管理经验以及掌握经济理论前沿动态的需要,清华大学出版社与国外著名出版公司合作影印出版一系列英文版经济管理方面的图书。我们所选择的图书,基本上是已再版多次、在国外深受欢迎,并被广泛采用的优秀教材,绝大部分是该领域中较具权威性的经典之作。

由于原作者所处国家的政治、经济和文化背景等与我国不同,对书中所持观点,敬请广大读者在阅读过程中注意加以分析和鉴别。

我们期望这套影印书的出版对我国经济科学的发展能有所帮助,对我国经济管理专业的教学能有所促进。

欢迎广大读者给我们提出宝贵的意见和建议,也欢迎有关的专业人士向我们推荐您所接触到的国外优秀图书。

清华大学出版社 2011.7

总序

世纪之交,中国与世界的发展呈现最显著的两大趋势——以网络为代表的信息技术的突飞猛进,以及经济全球化的激烈挑战。无论是无远弗界的因特网,还是日益密切的政治、经济、文化等方面的国际合作,都标示着 21 世纪的中国是一个更加开放的中国,也面临着一个更加开放的世界。

教育,特别是管理教育总是扮演着学习与合作的先行者的角色。改革开放以来,尤其是 20 世纪 90 年代之后,为了探寻中国国情与国际上一切优秀的管理教育思想、方法和手段的完美结合,为了更好地培养高层次的"面向国际市场竞争、具备国际经营头脑"的管理者,我国的教育机构与美国、欧洲、澳洲以及亚洲一些国家和地区的大量的著名管理学院和顶尖跨国企业建立了长期密切的合作关系。以清华大学经济管理学院为例,2000 年,学院顾问委员会成立,并于 10 月举行了第一次会议,2001 年 4 月又举行了第二次会议。这个顾问委员会包括了世界上最大的一些跨国公司和中国几家顶尖企业的最高领导人,其阵容之大、层次之高,超过了世界上任何一所商学院。在这样高层次、多样化、重实效的管理教育国际合作中,教师和学生与国外的交流机会大幅度增加,越来越深刻地融入到全球性的教育、文化和思想观念的时代变革中,我们的管理教育工作者和经济管理学习者,更加真切地体验到这个世界正发生着深刻的变化,也更主动地探寻和把握着世界经济发展和跨国企业运作的脉搏。

我国管理教育的发展,闭关锁国、闭门造车是绝对不行的,必须同国际接轨,按照国际一流的水准来要求自己。正如朱镕基同志在清华大学经济管理学院成立十周年时所发的贺信中指出的那样:"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。清华大学经济管理学院就要敢于借鉴、引进世界上一切优秀的经济管理学院的教学内容、方法和手段,结合中国的国情,办成世界第一流的经管学院。"作为达到世界一流的一个重要基础,朱镕基同志多次建议清华的 MBA 教育要加强英语教学。我体会,这不仅因为英语是当今世界交往中重要的语言工具,是连接中国与世界的重要桥梁和媒介,而且更是中国经济管理人才参与国际竞争,加强国际合作,实现中国企业的国际战略的基石。推动和实行英文教学并不是目的,真正的目的在于培养学生——这些未来的企业家——能够具备同国际竞争对手、合作伙伴沟通和对抗的能力。按照这一要求,清华大学经济管理学院正在不断推动英语教学的步伐,使得英语不仅是一门需要学习的核心课程,而且渗透到各门专业课程的学习当中。

课堂讲授之外,课前课后的大量英文原版著作、案例的阅读对于提高学生的英文水平也是非常关键的。这不仅是积累相当的专业词汇的重要手段,而且是对学习

者思维方式的有效训练。

我们知道,就阅读而言,学习和借鉴国外先进的管理经验和掌握经济理论动态,或是阅读翻译作品,或是阅读原著。前者属于间接阅读,后者属于直接阅读。直接阅读取决于读者的外文阅读能力,有较高外语水平的读者当然喜欢直接阅读原著,这样不仅可以避免因译者的疏忽或水平所限而造成的纰漏,同时也可以尽享原作者思想的真实表达。而对于那些有一定外语基础,但又不能完全独立阅读国外原著的读者来说,外文的阅读能力是需要加强培养和训练的,尤其是专业外语的阅读能力更是如此。如果一个人永远不接触专业外版图书,他在获得国外学术信息方面就永远会比别人差半年甚至一年的时间,他就会在无形中减弱自己的竞争能力。因此,我们认为,有一定外语基础的读者,都应该尝试一下阅读外文原版,只要努力并坚持,就一定能过了这道关,到那时就能体验到直接阅读的妙处了。

在掌握大量术语的同时,我们更看重读者在阅读英文原版著作时对于西方管理者或研究者的思维方式的学习和体会。我认为,原汁原味的世界级大师富有特色的表达方式背后,反映了思维习惯,反映了思想精髓,反映了文化特征,也反映了战略偏好。知己知彼,对于跨文化的管理思想、方法的学习,一定要熟悉这些思想、方法所孕育、成长的文化土壤,这样,有朝一日才能真正"具备国际战略头脑"。

以往,普通读者购买和阅读英文原版还有一个书价的障碍。一本外版书少则几十美元,多则上百美元,一般读者只能望书兴叹。随着全球经济合作步伐的加快,目前在出版行业有了一种新的合作出版的方式,即外文影印版,其价格几乎与国内同类图书持平。这样一来,读者可以不必再为书价发愁。清华大学出版社这些年在这方面一直以独特的优势领先于同行。早在1997年,清华大学出版社敢为人先,在国内最早推出一批优秀商学英文版教材,规模宏大,在企业界和管理教育界引起不小的轰动,更使国内莘莘学子受益良多。

为了配合清华大学经济管理学院推动英文授课的急需,也为了向全国更多的 MBA 试点院校和更多的经济管理学院的教师和学生提供学习上的支持,清华大学出版社再次隆重推出与世界著名出版集团合作的英文原版影印商学教科书,也使广大工商界人士、经济管理类学生享用到最新最好质优价廉的国际教材。

祝愿我国的管理教育事业在社会各界的大力支持和关心下不断发展、日进日新;祝愿我国的经济建设在不断涌现的大批高层次的面向国际市场竞争、具备国际经营头脑的管理者的 勉力经营下早日中兴。

赴 绝 岁 教授 清华大学经济管理学院

简明目录

第1	篇	组织	∖、管理与网络化企业 ⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯	• 31
	第1	章	信息系统与当代全球商业	· 32
	第2	章	全球电子商务:企业中的信息系统	· 70
(*)	第3	章	信息系统、组织与战略	104
	第4	章	信息系统中的伦理和社会议题	148
第2	篇	信息	技术基础设施	187
	第5	章	信息技术基础设施与新兴技术	188
	第6	章	商务智能基础:数据库与信息管理	234
	第7	章	电信、互联网和无线科技	274
	第8	章	信息系统安全	320
第3	篇	数字	化时代主要的系统应用	363
	第9	章	卓越经营与客户亲善:企业应用软件	364
	第10)章	电子商务:数字化市场,数字化产品	400
	第1	1章	管理知识与协作	438
	第12	2章	提高决策水平	474
第4	篇	系统	构建与管理 ·····	505
	第13	3章	构建信息系统	506
	第14	4章	项目管理	546
	第15	5章	管理全球系统	578
	附录			609
	术语	表 .		627
	图片	索引	[·····	641
	索引			643

Brief Contents

Part One Organizations, Management, and the Networked

Enterprise 31

Chapter 1 Information Systems in Global Business Today 32

Chapter 2 Global E-Business: How Businesses Use Information Systems 70

Chapter 3 Information Systems, Organizations, and Strategy 104
Chapter 4 Ethical and Social Issues in Information Systems 148

Part Two Information Technology Infrastructure 187

Chapter 5 IT Infrastructure and Emerging Technologies 188

Chapter 6 Foundations of Business Intelligence: Databases and Information

Management 234

Chapter 7 Telecommunications, the Internet, and Wireless Technology 274

Chapter 8 Securing Information Systems 320

Part Three Key System Applications for the Digital Age 363

Chapter 9 Achieving Operational Excellence and Customer Intimacy: Enterprise

Applications 364

Chapter 10 E-Commerce: Digital Markets, Digital Goods 400

Chapter 11 Managing Knowledge and Collaboration 438

Chapter 12 Enhancing Decision Making 474

Part Four Building and Managing Systems 505

Chapter 13 Building Information Systems 506

Chapter 14 Managing Projects 546

Chapter 15 Managing Global Systems 578

References 609

Glossary 627

Photo and Screen Shot Credits 641

Indexes 643

Complete Contents

Part One Organizations, Management, and the Networked Enterprise 31

Chapter 1 Information Systems in Global Business Today 32

- ◆Opening Case: NBA Teams Make a Slam Dunk With Information Technology 33
- 1.1 The Role of Information Systems in Business Today 35
 How Information Systems Are Transforming Business 35 What's New In Management Information Systems? 36 Globalization Challenges and Opportunities: A Flattened World 38 The Emerging Digital Firm 39
- ◆Interactive Session: Management Virtual Meetings: Smart Management 40
 Strategic Business Objectives of Information Systems 42
- 1.2 Perspectives on Information Systems 45What is an Information System? 46 Dimensions of Information Systems 48
- ◆Interactive Session: Technology UPS Competes Globally with Information Technology 53

It Isn't Just Technology: A Business Perspective on Information Systems 54 • Complementary Assets: Organizational Capital and the Right Business Model 56

- Contemporary Approaches to Information Systems 58
 Technical Approach 58 Behavioral Approach 59 Approach of This Text: Sociotechnical Systems 60
- Hands-on MIS Projects 61
 Management Decision Problems 61 Improving Decision Making: Using Databases to Analyze Sales Trends 62 Achieving Operational Excellence: Using Internet Software to Budget for Shipping Costs 63

Learning Track Module: How Much Does IT Matter?; Information Systems and Your Career 63

Review Summary 64 • Key Terms 65 • Review Questions 65 • Discussion Questions 66 • Video Cases 66 • Collaboration and Teamwork: Creating a Web Site for Team Collaboration 64

◆Case Study: Is Second Life Ready for Business? 67

Chapter 2

Global E-Business: How Businesses Use Information Systems 70

- ◆Opening Case: Hyperone: Solutions to Achieve Business Objectives 71
- 2.1 Business Processes and Information Systems 73
 Business Processes 73 How Information Technology Enhances Business
 Processes 74

- Types of Business Information Systems 75
 Transaction Processing Systems 75 Management Information Systems and Decision-Support Systems 77
- ◆Interactive Session: Technology Air Canada Takes Off With Maintenix 80 Executive Support Systems For Senior Management 81
- 2.3 Systems That Span the Enterprise 82 Enterprise Applications 82
- ◆Interactive Session: Management El-Alamein for Printing and Packaging Goes Digital 83

Intranets and Extranets 89 • Collaboration and Communication Systems: "Interaction" Jobs in a Global Economy 90 • E-Business, E-Commerce, and E-Government 92

- 2.4 The Information Systems Function in Business 93

 The Information Systems Department 93 Organizing the Information Systems Function 94
- 2.5 Hands-on MIS Projects 96

 Management Decision Problems 96 Improving Decision Making: Using a Spreadsheet to Select Suppliers 97 Achieving Operational Excellence:

Using Internet Software to Plan Efficient Transportation Routes 97 **Learning Track Modules:** Systems from a Functional Perspective; Challenges of Using Business Information Systems 98

Review Summary 99 • Key Terms 100 • Review Questions 100 • Discussion Questions 101 • Video Cases 101 • Collaboration and Teamwork: Identifying Management Decisions and Systems 101

◆Case Study: Modernization of NTUC Income 102

Chapter 3 Information Systems, Organizations, and Strategy 104

- ◆Opening Case: EBay Fine-tunes Its Strategy 105
- 3.1 Organizations and Information Systems 107What Is an Organization? 107 Features of Organizations 109
- 3.2 How Information Systems Impact Organizations and Business Firms 114

 Economic Impacts 115 Organizational and Behavioral Impacts 117 The
 Internet and Organizations 119 Implications for the Design and
 Understanding of Information Systems 119
- 3.3 Using Information Systems to Achieve Competitive Advantage 120 Porter's Competitive Forces Model 120
- ◆Interactive Session: Management Can Technology Save Soldiers' Lives in Iraq? 121

Information System Strategies for Dealing with Competitive Forces 124 • The Internet's Impact on Competitive Advantage 127

◆Interactive Session: Organizations Can Detroit Make the Cars Customers Want? 128

The Business Value Chain Model 130 • Synergies, Core Competencies, and Network-Based Strategies 132

3.4 Using Systems for Competitive Advantage: Management Issues 137
Sustaining Competitive Advantage 137 • Aligning IT with Business
Objectives 110 • Managing Strategic Transitions 139

Using Web Tools to Configure and Price an Automobile 141

3.5 Hands-on MIS Projects 139

Management Decision Problems 139 • Improving Decision Making: Using a Database to Clarify Business Strategy 140 • Improving Decision Making:

Learning Track Module: The Changing Business Environment for Information Technology 142

Review Summary 142 • Key Terms 143 • Review Questions 143 • Discussion Questions 144 • Video Case 144 • Collaboration and Teamwork: Identifying Opportunities for Strategic Information Systems 144

◆Case Study: Soundbuzz's Music Strategy for Asia-Pacific 145

Chapter 4 Ethical and Social Issues in Information Systems 148

- ◆Opening Case: Ethical Issues Facing the Use of Technologies for the Aged Community 149
- 4.1 Understanding Ethical and Social Issues Related to Systems 151
 A Model for Thinking About Ethical, Social, and Political Issues 152 Five Moral Dimensions of the Information Age 152 Key Technology Trends That Raise Ethical Issues 153
- 4.2 Ethics in an Information Society 156
 Basic Concepts: Responsibility, Accountability, and Liability 157 Ethical Analysis 157 Candidate Ethical Principles 158 Professional Codes of Conduct 158 Some Real-World Ethical Dilemmas 159
- 4.3 The Moral Dimensions of Information Systems 159
 Information Rights: Privacy and Freedom in the Internet Age 159 ●
 Property Rights: Intellectual Property 166 Accountability, Liability, and
 Control 168 System Quality: Data Quality and System Errors 169 ●
 Quality of Life: Equity, Access, and Boundaries 170
- ◆Interactive Session: Management Green IT at Wipro 172
- ◆Interactive Session: Management Flexible Scheduling at Wal-Mart: Good or Bad for Employees? 176
- 4.4 Hands-on MIS Projects 179

Management Decision Problems 179 • Achieving Operational Excellence: Creating a Simple Blog 180 • Improving Decision Making: Using Internet Newsgroups for Online Market Research 180

Learning Track Modules: Developing a Corporate Code of Ethics for Information Systems; Creating a Web Page 182

Review Summary 181 • Key Terms 182 • Review Questions 182 • Discussion Questions 183 • Video Cases 183 • Collaboration and Teamwork: Developing a Corporate Ethics Code 183

◆ Case Study: Should Google Organize Your Medical Records? 184

Part Two Information Technology Infrastructure 187

Chapter 5

IT Infrastructure and Emerging Technologies 188

- ◆Opening Case: Cars.com's IT Infrastructure Drives Rapid Business Growth 189 **
- 5.1 IT Infrastructure 191

Defining IT Infrastructure 163 • Evolution of IT Infrastructure 192 • Technology Drivers of Infrastructure Evolution 196

5.2 Infrastructure Components 203

Computer Hardware Platforms 204 • Operating System Platforms 204 • Enterprise Software Applications 205 • Data Management and Storage 205

- Networking/Telecommunications Platforms 206 Internet Platforms 206
- Consulting and System Integration Services 206
- 5.3 Contemporary Hardware Platform Trends 207

The Emerging Mobile Digital Platform 207 • Grid Computing 207 • Cloud Computing and the Computing Utility 208 • Autonomic Computing 209

◆Interactive Session: Technology Computing Goes Green 210

Virtualization and Multicore Processors 211

- 5.4 Contemporary Software Platform Trends 212
 Software for the Web: Java and Ajax 213 Web Services and ServiceOriented Architecture 214• Mashups and Widgets 216 Software
 Outsourcing 217
- ◆Interactive Session: Organizations Salesforce.com: Software-as-a-Service Goes Mainstream 220
- 5.5 Management Issues 221

Dealing with Platform and Infrastructure Change 221 • Management and Governance 222 • Making Wise Infrastructure Investments 222

5.6 Hands-on MIS Projects 225

Management Decision Problems 225 • Improving Decision Making: Using a Spreadsheet to Evaluate Hardware and Software Options 225 • Improving Decision Making: Using Web Research to Budget for a Sales Conference 226

Learning Track Modules: How Computer Hardware and Software Work; Service Level Agreements; The Open Source Software Initiative 227

Review Summary 227 • Key Terms 228 • Review Questions 229 • Discussion Questions 229 • Video Cases 229 • Collaboration and Teamwork: Evaluating Server Operating Systems 229

◆Case Study: Amazon's New Store: Utility Computing 230

Chapter 6

Foundations of Business Intelligence: Databases and Information Management 234

- ◆Opening Case: Can HP Mine Success from an Enterprise Data Warehouse? 235
- 6.1 Organizing Data in a Traditional File Environment 237
 File Organization Concepts 237 Problems with the Traditional File Environment 238
- 6.2 The Database Approach to Data Management 240

Database Management Systems 240 • Capabilities of Database Management Systems 243 • Designing Databases 247

6.3 Using Databases to Improve Business Performance and Decision Making 250

Data Warehouses 250

◆Interactive Session: Organizations The Internal Revenue Service Uncovers Tax Fraud with a Data Warehouse 252

Business Intelligence, Multidimensional Data Analysis, and Data Mining 254 • Databases and the Web 258

6.4 Managing Data Resources 259
Establishing an Information Policy 259

◆Interactive Session: Management The Databases Behind MySpace 260

Ensuring Data Quality 261

6.5 Hands-on MIS Projects 263

Management Decision Problems 263 • Achieving Operational Excellence: Building a Relational Database for Inventory Management 264 • Improving Decision Making: Searching Online Databases for Overseas Business Resources 265

Learning Track Modules: Database Design, Normalization, and Entity-Relationship Diagramming; Introduction to SQL; Hierarchical and Network Data Models 265

Review Summary 266 • Key Terms 267 • Review Questions 268 • Discussion Questions 268 • Video Cases 268 • Collaboration and Teamwork: Identifying Entities and Attributes in an Online Database 268

◆Case Study: Trouble with the Terrorist Watch List Database 269

Chapter 7

Telecommunications, the Internet, and Wireless Technology 274

- ◆Opening Case: Virgin Megastores Keeps Spinning with Unified Communications 275
- 7.1 Telecommunications and Networking in Today's Business World 277

 Networking and Communication Trends 277 What Is a Computer
 Network? 277 Key Digital Networking Technologies 280
- 7.2 Communications Networks 282
 Signals: Digital vs. Analog 282 Types of Networks 283 Physical Transmission Media 285
- 7.3 The Global Internet 287
 Internet Addressing and Architecture 288
- ◆Interactive Session: Organizations Should Network Neutrality Continue? 291 Internet Services and Communication Tools 293
- ◆Interactive Session: Management Monitoring Employees on Networks: Unethical or Good Business? 296

The World Wide Web 298 • Intranets and Extranets 304

7.4 The Wireless Revolution 305

Cellular Systems 305 • Wireless Computer Networks and Internet Access 306 • RFID and Wireless Sensor Networks 310

7.5 Hands-on MIS Projects 312

Management Decision Problems 312 • Improving Decision Making: Using Spreadsheet Software to Evaluate Wireless Services 313 • Achieving Operational Excellence: Using Web Search Engines for Business Research 313

Learning Track Modules: Computing and Communications Services Provided by Commercial Communications Vendors; Broadband Network Services and Technologies; Cellular System Generations; Wireless Applications for CRM, SCM, and Healthcare; Web 2.0 313

Review Summary 314 • Key Terms 315 • Review Questions 316 • Discussion Questions 316 • Video Cases 316 • Collaboration and Teamwork: Evaluating Smartphones 316

◆Case Study: Google Versus Microsoft: Clash of the Technology Titans 317

Chapter 8

Securing Information Systems 320

- ◆Opening Case: Boston Celtics Score Big Points Against Spyware 321
- 8.1 System Vulnerability and Abuse 323 Why Systems Are Vulnerable 323
- ◆Interactive Session: Organizations The Worst Data Theft Ever? 325

 Malicious Software: Viruses, Worms, Trojan Horses, and Spyware 328 Hackers and Computer Crime 330 Internal Threats: Employees 334 Software Vulnerability 335
- 8.2 Business Value of Security and Control 335
 Legal and Regulatory Requirements for Electronic Records
 Management 336 Electronic Evidence and Computer Forensics 337
- 8.3 Establishing a Framework for Security and Control 338
 Information Systems Controls 338 Risk Assessment 339 Security Policy 340 Disaster Recovery Planning and Business Continuity Planning 342 The Role of Auditing 342
- 8.4 Technologies and Tools for Protecting Information Resources 343

 Access Control 343 Firewalls, Intrusion Detection Systems, and Antivirus Software 345 Securing Wireless Networks 347 Encryption and Public Key Infrastructure 347 Ensuring System Availability 349
- ◆Interactive Session: Technology Security at ICICI Bank 351

Ensuring Software Quality 353

8.5 Hands-on MIS Projects 353

Management Decision Problems 353 • Improving Decision Making: Using Spreadsheet Software to Perform a Security Risk Assessment 354 • Improving Decision Making: Evaluating Security Outsourcing Services 355

Learning Track Modules: The Booming Job Market in IT Security; The Sarbanes-Oxley Act; Computer Forensics; General and Application Controls for Information Systems; Software Vulnerability and Reliability; Management Challenges of Security and Control 355

Review Summary 356 • Key Terms 356 • Review Questions 357 • Discussion Questions 358 • Video Cases 358 • Collaboration and Teamwork: Evaluating Security Software Tools 358

◆Case Study: A Rogue Trader at Societe Generale Roils the World Financial System 359

Part Three Key System Applications for the Digital Age 363

Chapter 9

Achieving Operational Excellence and Customer Intimacy: Enterprise Applications 364

- ◆Opening Case: Tasty Baking Company: An Enterprise System Transforms an Old Favorite 365
- 9.1 Enterprise Systems 367
 What Are Enterprise Systems? 367 Enterprise Software 368 Business Value of Enterprise Systems 369
- 9.2 Supply Chain Management Systems 370

 The Supply Chain 370 Information and Supply Chain Management 372 Supply Chain Management Software 374
- ◆Interactive Session: Technology Procter & Gamble Tries to Optimize Inventory 375

Global Supply Chains and the Internet 376 • Business Value of Supply Chain Management Systems 379

- 9.3 Customer Relationship Management Systems 380
 What Is Customer Relationship Management? 380 CRM Software 382
- ◆Interactive Session: Organizations Customer Relationship Management Helps Chase Card Services Manage Customer Calls 384

Operational and Analytical CRM 387 • Business Value of Customer Relationship Management Systems 388

- 9.4 Enterprise Applications: New Opportunities and Challenges 388

 Enterprise Application Challenges 388 Next Generation Enterprise Applications 389
- 9.5 Hands-on MIS Projects 391

Management Decision Problems 391 • Improving Decision Making: Using Database Software to Manage Customer Service Requests 392 • Achieving Operational Excellence: Evaluating Supply Chain Management Services 393

Learning Track Modules: SAP Business Process Map; Business Processes in Supply Chain Management and Supply Chain Metrics; Best Practice Business Processes in CRM Software 393

Review Summary 394 • Key Terms 395 • Review Questions 395 • Discussion Questions 395 • Video Cases 395 • Collaboration and Teamwork: Analyzing Enterprise Application Vendors 396

◆Case Study: Symantec's ERP Turmoil 397

Chapter 10

E-Commerce: Digital Markets, Digital Goods 400

◆Opening Case: Nexon Games: E-Commerce Goes Social 401

10.1 Electronic Commerce and the Internet 403

E-Commerce Today 403 • Why E-Commerce Is Different 404 • Key Concepts in E-Commerce: Digital Markets and Digital Goods in a Global Marketplace 408

◆Interactive Session: Organizations Turner Sports New Media Marries TV and the Internet 409

Internet Business Models 412

10.2 Electronic Commerce 416

Types of Electronic Commerce 416

 $\blacklozenge Interactive \ Session: \ Technology \ Can \ J\&R \ Electronics \ Grow \ with$

E-Commerce? 417

Achieving Customer Intimacy: Interactive Marketing, Personalization, and Self-Service 419• Business-to-Business E-Commerce: New Efficiencies and Relationships 422

10.3 M-Commerce 425

M-Commerce Services and Applications 426 • Accessing Information from the Wireless Web 427

Electronic Commerce Payment Systems 427
 Types of Electronic Payment Systems 427 • Digital Payment Systems for M-Commerce 428

10.5 Hands-on MIS 429

Management Decision Problems 429 • Improving Decision Making: Using Spreadsheet Software to Analyze a Dot-Com Business 429 • Achieving Operational Excellence: Evaluating E-Commerce Hosting Services 430

Learning Track Modules: E-Commerce Challenges: The Story of Online Groceries; Build an E-Commerce Business Plan; Hot New Careers in E-Commerce 430

Review Summary 431 • Key Terms 432 • Review Questions 432 • Discussion Questions 433 • Video Cases 433 • Collaboration and Teamwork: Performing a Competitive Analysis of E-Commerce Sites 433

◆Case Study: Facebook's Dilemma 434

Chapter 11

Managing Knowledge and Collaboration 438

◆Opening Case: P&G Moves from Paper to Pixels for Knowledge Management 439

11.1 The Knowledge Management Landscape 441
Important Dimensions of Knowledge 442 • The Knowledge Management
Value Chain 443 • Types of Knowledge Management Systems 446

11.2 Enterprise-Wide Knowledge Management Systems 447

Enterprise Content Management Systems 447 • Knowledge Network

Systems 448 • Collaboration Tools and Learning Management Systems 449

◆Interactive Session: Management Managing with Web 2.0 451

11.3 Knowledge Work Systems 452