



INFORMATION SYSTEMS MANAGEMENT IN PRACTICE

SEVENTH EDITION

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Seventh
Edition

INFORMATION SYSTEMS MANAGEMENT IN PRACTICE

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|| INFORMATION
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IN PRACTICE

This book is dedicated to our parents
Dick and Peggy Canning
and
Ralph and Virginia Sprague
for all their inspiration, guidance, and support.

Preface

This book deals with the management of information technology (IT) as it is being practiced in organizations today. Successfully managing IT has become crucial for several reasons:

- IT is now a strategic asset that is being used to mold competitive strategies and change organizational processes.
- The situations in which organizations are applying IT have increased in complexity, including more interorganizational environments.
- The capabilities of IT and the complexities of using the technologies are also growing at an accelerating rate.
- As IT and its uses become more complex, developing strategies and systems to deliver the technology has become more difficult.

The net result is a growing need for guidance on the issues, strategies, and tactics for managing the use of IT. To partially satisfy this need, universities and colleges have developed courses that focus on the management of IT. Textual material for these courses has been sparse for two particularly troublesome reasons.

First, IT is changing so rapidly that textbook authors, practitioners, researchers, and academics have a difficult time staying current. For example, two major developments stand out. One has been the fast uptake of business uses of the World Wide Web. This dramatic shift appears to be a precursor of a current revolution—wireless handheld computing—which is beginning to change how we all work, live, and play. Thus, while information systems (IS) departments are busily creating an Internet-based platform for their enterprises, they must also be experimenting with another computing platform: small wireless devices.

The second major development is the changes in the business world itself. Terrorism, corporate malfeasance, cybercrime, regional conflicts, and outsourcing are changing how profit and nonprofit enterprises conduct business. As a result, the work of IS organizations and the roles CIOs need to fill are changing as well. Keeping abreast of these business-world changes, and the responses businesses are making to them, is also difficult.

Another reason for the paucity of IT textual material for these courses is that the principles and strategies of effective management are evolving out of the experiences of practicing managers. Merely collecting reports from current literature fails to provide the interaction needed to decipher principles from the lessons learned in practice. Current developments and experiences need interpretation and coalescence to provide the guidance that new and practicing managers need to further develop their knowledge and managerial skills.

CONTRIBUTION OF THIS BOOK

We believe this book makes a major contribution to addressing both of these challenges. One resource for this book is work we have performed for several organizations—Gartner EXP, the Sourcing Interests Group, and the Hawaii International Conference on System Sciences (HICSS), in particular. Our work for these organizations does not merely report current developments and practices; it includes thoughtful interpretation to provide guidance, principles, and strategies for IS executives.

Our objective in this book is to capture the material of most current importance to IS executives and to organize it around a framework that provides guidance for IS organizations. A key element of our writing continues to be examples of actual work in companies. This book includes over 90 case examples.

USE OF THIS BOOK BY PRACTICING MANAGERS AND CONSULTANTS

In the management of IT, this book is useful to several levels of managers:

- To senior business executives who want an overview of the issues and strategies in managing IT, with examples of what other enterprises are doing
- To CIOs who must implement IT as a strategic resource to help their enterprises attain their overall goals and objectives
- To IS managers who are responsible for major technical areas, such as system development, technology planning, and architecture
- To managers of functional units who (1) want to better understand the issues and processes of providing IT support for their areas of responsibility, (2) want to promote the use of IT in their organization, or (3) are now responsible for overseeing the management of IT in their function

We believe that managers of all types will find this book valuable. By focusing on issues and strategies while explaining technical concepts, this book provides an overview of IS management for business executives and managers. By combining the experiences of successful executives this book provides a real-world perspective for all IS managers.

Consultants to executives and managers will also find this book a useful reference for staying up-to-date on important issues in the field.

USE OF THIS BOOK AS A TEXT

Future IS managers who are graduate or undergraduate students will find that this book presents a view of what “the real world” has in store. As a text, it is intended for students who have had at least one IS course.

At the graduate level, it has been used since its first edition in 1986 for the second course, beyond the required IS course. It is especially well suited for the final course in a graduate curriculum on IS management. In addition, as MBA students have become more computer literate, the book has been increasingly used as the text in the MBA IS core course. In both uses, the book gives students conceptual and practical guidelines for dealing with the management of today’s IS function.

At the undergraduate level, the book can serve as the text for a course dealing specifically with the management of IT or in the capstone course that summarizes the practice of IS for students about to begin their careers. Most undergraduate majors in IT take entry-level positions in the IS organization and then proceed into management. In the short term, they work with IS managers who are facing the problems and using the principles dealt with in this book.

Although this book has not been aimed at students majoring in other areas, non-IS majors are taking IS courses in increasing numbers to better understand how to work with systems professionals. All the chapters are pertinent to them because the theory is illustrated by real-life case studies, which are easily understood by students in all business disciplines.

At the end of each chapter are three types of questions and exercises to reinforce the material in the text.

- *Review questions* are based directly on the material in the chapter, allowing the reader to assess comprehension of the chapter's key principles, topics, and ideas.
- *Discussion questions* are based on a few topics in the chapter for which there is a legitimate basis for a difference of opinion. These questions focus discussion on these issues when the book is used in a seminar or classroom setting.
- *Exercises* provide an opportunity for the reader to put some of the concepts and ideas into practice on a small scale. In particular, one exercise in each chapter requires a student, or a team of students, to visit a local company and discover how the ideas in the chapter are being implemented in that company.

THE INSTRUCTOR'S GUIDE

We accompany this seventh edition with an Instructor's Guide, originally prepared by Jerry McBride of Marist College in Poughkeepsie, New York. Again, Jerry supplies the all-important critical questions in the guide. The purposes of the guide are (1) to help instructors prepare a strategy and outline for conducting an advanced systems course using this text and (2) to provide support materials and techniques to enhance the course.

We believe there are six approaches for using this text. The six course modes are:

1. A lecture-based course
2. A seminar-based course
3. A directed study course
4. An independent study course
5. An action research course
6. An Internet-based course

In the Instructor's Guide, Jerry suggests some interesting resources to use in these approaches. For example, he explains how he has used a computer-based simulation game to help his students understand the consequences of their actions as they try to introduce technology innovation into an organization.

The Instructor's Guide includes:

- Outlines for the six course approaches
- An expanded outline of each chapter
- Answers to the review questions in each chapter
- Study notes for the Part Discussion Cases
- A listing of case studies appropriate for each chapter
- An Image Library of all the figures in the text
- Suggestions on how to conduct site visit exercises
- Several sample syllabi
- An approach to using simulation software
- Critical questions for each chapter and how to create them
- A PowerPoint presentation for each chapter by Michael Matthew. (See Web site description below.)
- Test Item File in Microsoft Word. (See Web site description below.)

These critical questions deserve a short explanation. Like the discussion questions in the text, critical questions are designed to stimulate critical thinking and discussion among students. In the Instructor's Guide, we present critical questions for each chapter, as well as an explanation of how Jerry has helped his students create them, thereby stimulating their critical thinking.

A course in IS management can be exciting—to teach and to take. We have provided the Instructor's Guide to make this one of those exciting courses.

WEB SITE: WWW.PRENHALL.COM/MCNUURLIN

The Web site for this text, provided by Prentice Hall, houses the Instructor's Guide, the Test Item File in Word, TestGen and TestGen in WebCT/BlackBoard-ready files, and the Image Library in a secure area for faculty download only. PowerPoint slides are available in the student area of the Web site. In addition, other items relevant to this text can be found at www.cal.net/~mcnurlin.

FORMAT AND CONTENTS

This book is divided into five major parts, each dealing with a major portion of the field of IT. Chapter 1 precedes Part I because it serves as the framework around which the rest of the book is built. It traces the growing importance of IS management and presents a conceptual model to show the key areas, how they fit together, and the principal issues for executives in each area. It also presents a very interesting longitudinal case example of how these ideas have been implemented in a company over the lifetime of this book—since 1986. In a nutshell, it presents a 19-year historical view of the evolution of IS management.

Part I deals with *leadership issues*, including the top IS jobs, strategic uses of IT, and approaches to systems planning. Part II treats the all-important issues in *managing*

the essential technologies, including distributed systems, telecommunications, information resources, and operations. Part III deals with *managing system development*; its evolution continues to present management with important, yet risky, challenges. Part IV explores *systems for supporting decision making, collaboration, and knowledge work*. Part V concludes the book and discusses the challenges ahead. At the end of Parts I through IV is a Part Discussion Case, which is meant to give students an open-ended case with real-life quandaries that require decisions. These cases are intended to elicit creative thinking and class discussion.

Throughout the book, our objectives have been to keep the material practical, to give examples, and to derive guidance for today's and tomorrow's IS executives based on the experiences of others. To that end, chapters are sprinkled with company examples. These are not so much case studies that require solutions or recommendations; rather, they are case examples of how companies have put some of the ideas in a chapter into practice.

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We wish to acknowledge the contribution of Richard G. Canning, Barbara's father. His insight and foresight originally made this book possible in 1986. In the early 1960s, he recognized the data processing executive's need for case studies, practical research findings, and thoughtful analysis. Through publishing and editing *EDP Analyzer* from 1963 until his retirement in 1986, Dick Canning devoted a major portion of his professional career to that purpose. His legacy continues in this book.

We also wish to thank the organizations that have allowed us to draw on work we performed for them—Gartner EXP, the Sourcing Interests Group, and HICSS in particular.

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Barbara Canning McNurlin

Ralph H. Sprague, Jr.

July 2004

|| INFORMATION
SYSTEMS
MANAGEMENT
IN PRACTICE

Brief Contents

Preface xxi

CHAPTER 1 The Importance of Information Systems Management 1

PART I LEADERSHIP ISSUES 47

CHAPTER 2 The Top IS Job 49

CHAPTER 3 Strategic Uses of Information Technology 99

CHAPTER 4 Information Systems Planning 134

Part I Discussion Case: What IT Strategy Would You Recommend Based on Royal Dutch/Shell Group's Scenarios? 169

PART II MANAGING THE ESSENTIAL TECHNOLOGIES 177

CHAPTER 5 Distributed Systems: The Overall Architecture 179

CHAPTER 6 Managing Telecommunications 227

CHAPTER 7 Managing Information Resources 263

CHAPTER 8 Managing Operations 298

Part II Discussion Case: Managing Information Security on a Shoestring Budget 350

PART III MANAGING SYSTEM DEVELOPMENT 369

CHAPTER 9 Technologies for Developing Systems 371

CHAPTER 10 Management Issues in System Development 402

Part III Discussion Case: A Dream Project Turns Nightmare:
How Flawless Software Never Got Implemented 445

PART IV SYSTEMS FOR SUPPORTING KNOWLEDGE-BASED WORK 461

CHAPTER 11 Supporting Decision Making 463

CHAPTER 12 Supporting Collaboration 498

CHAPTER 13 Supporting Knowledge Work 529

Part IV Discussion Case: How Should Lego Protect Its Trademark, Operating System, and Applications? 562

PART V THINKING AHEAD 565

CHAPTER 14 The Challenges Ahead 567

Glossary 609

Index 623

Contents

Preface xxi

CHAPTER 1 THE IMPORTANCE OF INFORMATION SYSTEMS MANAGEMENT 1

Introduction	1
<i>Themes of This Book</i>	2
<i>Management of IS</i>	3
A Little History	4
The Organizational Environment	5
<i>The External Business Environment</i>	5
<i>The Internal Organizational Environment</i>	7
<i>Goals of the New Work Environment</i>	10
The Technology Environment	12
<i>Hardware Trends</i>	12
<i>Software Trends</i>	12
<i>Data Trends</i>	13
<i>Communications Trends</i>	14
The Mission of IS Organizations	15
A Simple Model	16
A Better Model	17
<i>The Technologies</i>	17
<i>The Users</i>	18
<i>System Development and Delivery</i>	19
<i>IS Management</i>	19
Organization of This Book	20
<i>Case Example: MeadWestvaco Corporation</i>	21
Questions and Exercises	44
References	45

PART I: LEADERSHIP ISSUES 47

CHAPTER 2 THE TOP IS JOB 49

Introduction	49
Where Is the IS Organization Headed?	50
<i>The Escalating Benefits of IT</i>	50
<i>Case Example: The SABRE System</i>	52

<i>Traditional Functions Are Being Nibbled Away</i>	53
<i>New Roles Are Emerging</i>	54
<i>Toward IS Lite</i>	58
<i>Case Example: LifeScan</i>	60
The CIO's Responsibilities	62
<i>CIO Roles in Three Eras</i>	62
<i>Leading: Creating a Vision by Understanding the Business</i>	65
<i>Case Example: BP</i>	69
<i>Case Example: Aetna Life and Casualty</i>	73
<i>Governing: Establishing an IS Governance Structure</i>	75
<i>Case Example: Duke Energy International</i>	78
<i>Investing: Shaping the IT Portfolio</i>	79
<i>Case Example: Wal-Mart Versus Kmart</i>	81
<i>Case Example: AXA Financial</i>	82
<i>Managing: Establishing Credibility and Fostering Change</i>	89
<i>Case Example: Rexam</i>	92
<i>The Office of the CIO?</i>	95
<i>Whither CIOs?</i>	95
Conclusion	96
Questions and Exercises	96
References	97

CHAPTER 3 STRATEGIC USES OF INFORMATION TECHNOLOGY 99

Introduction	100
<i>History of Strategic Uses of IT</i>	100
<i>Whither the Internet Revolution?</i>	101
<i>The Cheap Revolution</i>	103
<i>Episode Two: Profitability Strikes Back</i>	103
<i>Case Example: Grainger</i>	104
<i>Does IT Still Matter?</i>	105
Working Inward: Business-to-Employee	107
<i>Building an Intranet</i>	108
<i>Case Example: GE Power Systems</i>	109
<i>Fostering a Sense of Belonging</i>	110
<i>Case Example: Wire Nova Scotia</i>	111
Working Outward: Business-to-Customer	113
<i>Jumping to a New Experience Curve</i>	113
<i>Case Example: The Shipping Industry</i>	114
<i>Case Example: Cisco Systems and UPS Supply Chain Solutions</i>	116
<i>The Emergence of Electronic Tenders</i>	117
<i>Getting Closer to Customers</i>	117
<i>Case Example: Semco, S. A.</i>	119

<i>Being an Online Customer</i>	121
<i>Case Example: A Day in the Life of an E-lancer</i>	121
Working Across: Business-to-Business	123
<i>Coordinating with Cosuppliers</i>	123
<i>Case Example: General Mills and Land O' Lakes</i>	124
<i>Establishing Close and Tight Relationships</i>	124
<i>Case Example: Sara Lee Bakery Group</i>	126
<i>Becoming a Customer-Centric Value Chain</i>	128
<i>Case Example: Dell</i>	129
<i>Getting Back-End Systems in Shape</i>	130
Conclusion	131
Questions and Exercises	131
References	133

CHAPTER 4 INFORMATION SYSTEMS PLANNING 134

Introduction	134
<i>Why Planning Is So Difficult</i>	135
The Changing World of Planning	137
<i>Traditional Strategy Making</i>	137
<i>Today's Sense-and-Respond Approach</i>	139
<i>Case Example: Microsoft</i>	140
<i>Case Example: Skandia Future Centers</i>	141
<i>Case Example: Shell Oil</i>	143
Seven Planning Techniques	145
<i>Stages of Growth</i>	146
<i>Critical Success Factors</i>	147
<i>Competitive Forces Model</i>	148
<i>Framework Example: Five Forces Analysis of the Internet</i>	150
<i>Value Chain Analysis</i>	152
<i>Case Example: An Automobile Manufacturer</i>	154
<i>E-Business Value Matrix</i>	155
<i>Case Example: Cisco Systems</i>	157
<i>Linkage Analysis Planning</i>	158
<i>Case Example: Electric Power Research Institute</i>	160
<i>Scenario Planning</i>	162
<i>Case Example: Scenarios on the Future of IS Management</i>	163
Conclusion	166
Questions and Exercises	167
References	168

**Part I Discussion Case: What IT Strategy Would You Recommend
Based on Royal Dutch/Shell Group's
Scenarios? 169**

PART II: MANAGING THE ESSENTIAL TECHNOLOGIES 177

CHAPTER 5 DISTRIBUTED SYSTEMS: THE OVERALL ARCHITECTURE 179

Introduction	180
<i>Four Attributes of Distributed Systems</i>	181
<i>When to Distribute Computing Responsibilities</i>	183
<i>Two Guiding Frameworks</i>	184
Seven Types of Distributed Systems	188
<i>Host-Based Hierarchy</i>	188
<i>Decentralized Stand-Alone Systems</i>	189
<i>Peer-to-Peer LAN-Based Systems</i>	190
<i>Hybrid Enterprisewide Systems</i>	190
<i>Case Example: Northwest Airlines</i>	192
<i>Client-Server Systems</i>	195
<i>Case Example: An Aerospace Company</i>	197
<i>Internet-Based Computing</i>	200
<i>Case Example: Chubb & Son Insurance Company</i>	201
<i>Case Example: The SABRE Group</i>	202
<i>Case Example: 3I</i>	203
<i>Web Services</i>	204
<i>Case Example: General Motors</i>	207
Defining the Overall IT Architecture	208
<i>An Enterprise Architecture Framework</i>	209
<i>Case Example: FMC Corporation</i>	212
<i>Case Example: The SABRE System</i>	214
<i>The Coming Architecture: Service-Oriented Architecture</i>	215
<i>Case Example: Credit Suisse</i>	216
The Importance of the IT Infrastructure	218
<i>The Structure of the IT Infrastructure</i>	218
<i>Three Views of Infrastructure</i>	221
<i>Case Example: City of Sunnyvale, California</i>	222
Conclusion	224
Questions and Exercises	224
References	225

CHAPTER 6 MANAGING TELECOMMUNICATIONS 227

Introduction	227
The Evolving Telecommunications Scene	228
<i>A New Telecommunications Infrastructure Is Being Built</i>	228
The Telecommunications Industry	
<i>Is Being Transformed</i>	229
<i>Case Example: ICG Communications</i>	231
<i>The Internet Is the Network of Choice</i>	233
<i>Case Example: XYZ Company</i>	234

<i>Case Example: National Semiconductor</i>	236
<i>Digital Convergence Has Become a Reality</i>	237
<i>Case Example: Toronto Pearson International Airport</i>	239
<i>The OSI Reference Model Underlies Today's Networks</i>	240
<i>The Rate of Change Is Accelerating</i>	243
<i>The Optical Era Will Provide Bandwidth Abundance</i>	244
<i>The Wireless Century Begins</i>	245
<i>Case Example: BMW</i>	248
<i>Case Example: Louisville Metro Sewer District</i>	251
<i>Case Example: American Greetings</i>	253
<i>Messaging Is a Killer App</i>	256
<i>Case Example: Keebler</i>	257
<i>Coming: An Internet of Things</i>	258
The Role of the IS Department	259
Conclusion	260
Questions and Exercises	260
References	261

CHAPTER 7 MANAGING INFORMATION RESOURCES 263

Introduction	263
Managing Data	265
<i>The Three-Level Database Model</i>	265
<i>Four Data Models</i>	265
<i>Getting Corporate Data into Shape</i>	268
<i>Case Example: Monsanto</i>	270
Managing Information	272
<i>Four Types of Information</i>	273
<i>Data Warehouses</i>	273
<i>Case Example: Owens & Minor</i>	277
<i>Document Management</i>	280
<i>Case Example: HICSS Personal Proceedings</i>	282
<i>Case Example: Tapiola Insurance Group</i>	283
<i>Case Example: Tennessee Valley Authority</i>	286
<i>Content Management</i>	287
<i>Case Example: Eastman Chemical Company</i>	290
<i>Case Example: Groove Networks</i>	293
Conclusion	295
Questions and Exercises	295
References	296

CHAPTER 8 MANAGING OPERATIONS 298

Introduction	299
What Are Operations?	300
<i>Why Talk About Operations?</i>	300
<i>Solving Operational Problems</i>	300
<i>Operational Measures</i>	300