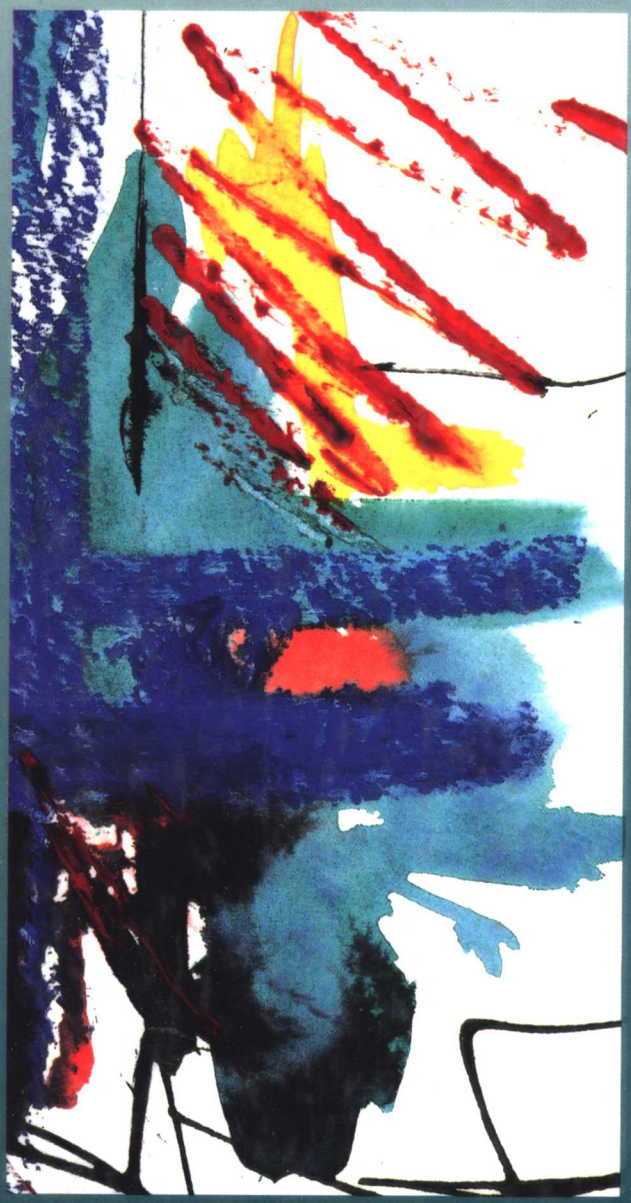
PRINCIPLES OF INFORMATION SYSTEMS

A Managerial Approach



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PREFACE

It was inevitable—and you are fortunate. When compared to other academic business disciplines, the field of information systems (IS) is relatively new. The increasingly important role played by information systems in modern business organizations has made the IS discipline itself, and the publication of a book such as this, a necessity. For any academic discipline, there are certain fundamental concepts that every interested student must know. Here, in this book, you will find the fundamental IS concepts for business students. You are fortunate in that you can take advantage of the experience of those who have gone before you without, hopefully, repeating the same costly mistakes.

In many significant respects, information system technology has led the way; in advance of academic guidelines directing how this technology should best be employed. Perhaps it is the dynamic nature of the discipline that this shall remain so. The driving force of this technology has captured the attention of most authors of introductory information systems textbooks. These texts have historically concentrated on discussing the components of an information system (primarily the technological components) and, perhaps to some degree, how information systems are developed. Yet they have all too often neglected *why* and *how* information systems should be used to meet organizational goals. The result: general business graduates who were thrust into a work environment where information systems are critical to their success, yet they are unprepared to successfully interact with them. An understanding of information system technology alone does not enable one to successfully apply it in information systems activities.

Your instructor, however, has adopted an approach whereby the fundamental principles of information systems are brought together and presented in a way as to be directly accessible, and not buried within historical detail or technical jargon—or even postponed to some other advanced course you might never take.

Changing Business and the Changing IS Discipline

The single most significant influence on business organizations over the past decade has been the rapid transformation in the way information systems are structured, utilized, and, in turn, affect the entire organization.

Information systems are critical to the success of every business. (Just how critical they are will become clear as you read this text.) However, in the past, advances in IS technology and applications have moved faster than the business curriculum. Books and courses dealing with important IS concepts have fallen too late in the curriculum. Introductory texts have tended to be more focused on the descriptive (what have business managers been doing) and less focused on the prescriptive (what *should* business managers be doing).

We've learned much from the experiences of business organizations over the recent past, and this book represents a fresh approach to the introductory IS course. Enough lessons have been learned that we can safely say there are some overriding guidelines for successful interaction with information systems to which all business managers should adhere.

As a result of the continuous change in thinking within the IS discipline, certain principles have evolved that indicate there are definite ways in which business organizations can take advantage of improved technology and systems. Although certainly not pretending to be complete, nor intending to present these principles as original codifications of this author, this book offers a fundamental core of guiding IS principles for you to use as you face your career challenges ahead.

The Changing Role of the IS Professional

As businesses and the IS discipline have changed, so too has the role of the IS professional. Once thought of as a dedicated specialist, the IS professional of today is called upon to be an internal consultant to all functional areas, knowledgeable about their needs and competent in bringing the power of IS to bear throughout the business. The IS professional must exercise a broad, enterprise-wide perspective, encompassing the entire organization—and often even beyond. This text provides the starting point for you to build your expertise as just such a professional.

The scope of responsibilities of an IS professional today ranges not only throughout the organization, but throughout the entire interconnected network of suppliers, customers, competitors, and other entities; no matter where they may be physically located. This broadened scope now offers IS professionals a new challenge: the survival of the organization in a highly interconnected, highly competitive, international environment. In accepting that challenge, the IS professional can now play a pivotal role in shaping the business itself and ensuring its success. In order to survive, businesses today must strive for ultimate customer satisfaction and loyalty through ever-improving product and service quality. The IS professional assumes critical responsibility in shaping an organization's approach to quality performance, and therefore plays an important role in the ongoing survival of the organization.

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About the Book

This book stresses a single all-encompassing concept: The right information, if it is delivered to the right person, in the right fashion, and at the right time, can improve and ensure organizational effectiveness and efficiency.

This concept is carried out through three major themes. First, information systems can play a vital role in problem-solving at all levels of the organization. Second, the scope of IS problem identification can and should be expanded to include all activities, especially those at the highest strategic level of the organization. Third, integrated information systems promise vastly superior organizational efficiencies.

In addition to those core IS principles that every business student should master, regardless of their specific chosen field of concentration, this book offers a survey of the entire IS discipline. It is hoped that by providing insight into the various areas in which advanced specialized IS courses are offered, you will gain a fuller appreciation of the discipline.

About the Course

Whether or not you decide to go on to become an IS professional, the principles presented in this book, and stressed throughout the course by your instructor, are those you should take with you as you consider any specialized area of business study. IS permeates all functional areas of the firm, and its value is truly significant.

This book is intended for the first information systems concepts course required of all business majors. As such, it presumes very little knowledge or experience of business organizations. Because it deals with many far-reaching aspects of business organizations, however, this presumption may cause you some difficulty. Your instructor will be asking you to deal with business issues with which you may not yet have personal experience. You will be challenged to go beyond a mere knowledge of computer technology and skills, and to grapple with those issues and ideas relating to the far greater role of information systems within business organizations. These issues go much farther than those you may have encountered in your previous experience with computers—in fact, they go to concepts at the very heart of business organization performance. Often the problems these issues address are vague and unstructured, with no clear-cut or easy answer. Sometimes the issues are complex, involving multiple factors or objectives. Moreover, occasionally the issues are clouded by organizational politics and power. You are encouraged, however, to stretch your thinking so as to absorb these concepts. These challenges are not unlike those faced daily by the IS professional.

If you strive to understand the concepts presented in this course, you will be well suited for the modern business world. More importantly, you will be on the right track to being able to take full advantage of the powerful ideas behind information systems.

Not least of all, this course is intended to expose you to various aspects of the IS field. We hope that some of the excitement IS professionals share for this field will rub off on you. The challenges and opportunities available to future IS professionals are broad and diverse. Moreover, they are exciting—affecting, as they so often do, major business systems of the organization, and the overall organization itself.

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BRIEF TABLE OF CONTENTS

PART I
AN OVERVIEW 1

An Introduction to Information Systems 2 CHAPTER 1
Information Systems in Organizations 30 CHAPTER 2

PART II
INFORMATION TECHNOLOGY CONCEPTS 61

Hardware: Input, Processing, and Output Devices 62 CHAPTER 3
Software: Programming, Operating Systems, and Applications 96 CHAPTER 4
Organizing Data and Information: Files and Databases 136 CHAPTER 5
Telecommunications: Media and Devices 172 CHAPTER 6
Telecommunications: Networks and Applications 204 CHAPTER 7

PART III
BUSINESS INFORMATION SYSTEMS 235

Transaction Processing Systems 236 CHAPTER 8
Management Information Systems 278 CHAPTER 9
Decision Support Systems 314 CHAPTER 10
Artificial Intelligence and Expert Systems 348 CHAPTER 11

PART IV
SYSTEMS DEVELOPMENT 383

Systems Development in Perspective 384 CHAPTER 12
Systems Investigation, Analysis, and Design 414 CHAPTER 13
Systems Acquisitions, Implementation, Maintenance, and Review 448 CHAPTER 14
Systems Development Tools and Techniques 478 CHAPTER 15

PART V
END-USER COMPUTING 511

End-User Computing Concepts 512 CHAPTER 16
End-User Computing Tools 544 CHAPTER 17

PART VI
MANAGEMENT OF BUSINESS INFORMATION SYSTEMS 581

Information Resource Management 582 CHAPTER 18
Social and Ethical Issues in Information Systems 618 CHAPTER 19

CONTENTS

PART 1
AN OVERVIEW 1

CHAPTER 1
An Introduction to Information Systems 2

INFORMATION CONCEPTS 4
- Data *vs.* Information 4
- The Characteristics of Good Information 5
- The Value of Information 5

WHAT IS A SYSTEM? 5
- System Components and Concepts 8
- Classifying Systems 9
  - Simple *vs.* Complex 9 / Open *vs.* Closed 9 / Stable *vs.* Dynamic 9
  - Adaptive *vs.* Nonadaptive 10 / Permanent *vs.* Temporary 10 /
  - Classifying Organizations by System Type 10
- System Performance and Standards 11
- System Variables and Parameters 11

MODELING A SYSTEM 12
- Narrative Models 13
- Physical Models 13
- Schematic Models 13
- Mathematical Models 13

WHAT IS AN INFORMATION SYSTEM? 14
- Input 14
- Processing 15
- Output 15
- Feedback 15
- Manual and Computerized Information Systems 16

WHAT IS A COMPUTER-BASED INFORMATION SYSTEM? 16
The Evolution of Computer-Based Information Systems 18
Transaction Processing Systems 18
Management Information Systems 19
Decision Support and Beyond 21
WHY STUDY INFORMATION SYSTEMS? 23
Computer and Information Systems Literacy 24
Benefits of Information Systems 24
Information Systems in the Functional Areas of Business 25
Information Systems in Industry 25
Information Systems Careers 25
SUMMARY 26
KEY TERMS 27
REFERENCE NOTES 28
REVIEW QUESTIONS 28
DISCUSSION QUESTIONS 28
PROBLEM-SOLVING EXERCISES 29

CHAPTER 2
Information Systems in Organizations 30

DECISION MAKING AND PROBLEM SOLVING 33
Decision Making as a Component of Problem Solving 33
Programmed *vs.* Nonprogrammed Decisions 35
The Degree of Risk 35
Optimization, Satisficing, and Heuristic Approaches 37
Problem-Solving Factors 37
Complexity 38 / Decision Objectives 38 / Competition 38
International Aspects 38 / Social and Political Actions 39
Technology 39 / Time Compression 40
ORGANIZATIONS AND INFORMATION SYSTEMS 40
Organization Structure 41
Traditional Organization Structure 41
Project Organization Structure 42
Team Organization Structure 43
Multidimensional Organization Structure 43
Organization Culture 43
Organizational Change 45
INFORMATION SYSTEMS IN PERSPECTIVE 47
Transaction Processing Systems 47
Management Information Systems 47
Decision Support Systems 48
A Comparison of MIS and DSS 49
The Amount of Information and Support 49
Expert Systems 49
Telecommunications Systems 52
USING INFORMATION SYSTEMS 53
Critical Success Factors 53
Productivity 55
Information Systems and Competitive Advantage 55

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MANAGING INFORMATION SYSTEMS 56
SUMMARY 57
KEY TERMS 58
REFERENCE NOTES 58
REVIEW QUESTIONS 58
DISCUSSION QUESTIONS 59
PROBLEM-SOLVING EXERCISES 59

PART II

INFORMATION TECHNOLOGY CONCEPTS 61

CHAPTER 3
Hardware: Input, Processing, and Output Devices 62

COMPUTER SYSTEMS: INTEGRATING THE POWER OF TECHNOLOGY 64
Computer System Components 65
The Execution of an Instruction 66
CENTRAL PROCESSING AND PRIMARY STORAGE: POWER, SPEED, AND CAPACITY 67
CPU Characteristics: Speed *vs.* Price 68
Primary Storage: Capacity *vs.* Price 69
Wordlength and Bus Line Width 70
Reduced Instruction Set Computing 70
Parallel Processing 71
Optical Processing 72
Neural Networks 72
Distributed, Decentralized, and Centralized Processing 73
Special-Purpose Processing Devices 73
SECONDARY STORAGE 75
Magnetic Media: Tapes and Disks 76
Sequential Access Storage 76 / Direct Access Storage 77
Optical Disk Technology 77
CLASSIFYING COMPUTERS 78
Classifying Computers by Characteristics and Cost 78
Classifying Computers by Purpose 81
INPUT AND OUTPUT DEVICES: THE GATEWAY TO COMPUTER SYSTEMS 81
Data Entry and Input 82
Devices for Entry and Input 83
Terminals 83 / Smart and Intelligent Terminals 84 / Personal Computers Used for Data Entry 85 / Personal Computer Monitors 85
Output Devices 86
Classifying Printers 86 / Laser Printers 86
Special-Purpose Input and Output Devices 87
Magnetic Ink Character Recognition 90

SUMMARY 92
KEY TERMS 93
REFERENCE NOTES 94
REVIEW QUESTIONS 94
DISCUSSION QUESTIONS 94
PROBLEM-SOLVING EXERCISES 95

CHAPTER 4
Software: Programming, Operating Systems, and Applications 96

AN OVERVIEW OF SOFTWARE 98
The Evolution of Programming Languages 100
Machine Language: The First Generation 100
Assembly Language: The Second Generation 101 / High-Level Languages: The Third Generation 102
Fourth- and Fifth-Generation Languages 103
SYSTEMS SOFTWARE 104
Operating Systems 104
Common Computer Functions 105 / Hardware Independence 105
Language Translation and Utility Programs 106
Interpreters and Compilers 106 / Utility Programs 107
Mainframe Operating Systems 108
Batch Processing 108 / On-Line Processing 109 / Multiprocessing 109
Multiprogramming 111 / Virtual Storage 112
Operating Systems for Personal Computers 114
CP/M 114 / PC-DOS and MS-DOS 114 / OS/2 114 / Unix 114
Apple Computer Operating Systems 115
PROGRAMMING LANGUAGES 115
ANSI: Developing Program Language Standards 116
Types of High-Level Programming Languages 116
The BASIC Programming Language 118
The FORTRAN Programming Language 118
The COBOL Programming Language 120
The Pascal Programming Language 122
The Ada Programming Language 122
The RPG Programming Language 123
Fourth- and Fifth-Generation Languages 124
Database and Query Languages 124
Object-Oriented Programming 124
Natural Languages 125 / Natural Language Processors 126
Intelligent Languages 126
APPLICATION SOFTWARE 128
The Relationship Among People, Software, and Hardware 128
Software Issues and Trends 130
SUMMARY 131
KEY TERMS 133
REFERENCE NOTES 134

REVIEW QUESTIONS 134
DISCUSSION QUESTIONS 134
PROBLEM-SOLVING EXERCISES 135

CHAPTER 5
Organizing Data and Information: Files and Databases 136

DATA MANAGEMENT 139
The Hierarchy of Data 140
Data Entities, Attributes, and Keys 141
The Traditional Approach to Data Management 141
The Database Approach to Data Management 144
DATABASE MODELS 147
Hierarchical or Tree Models 147
Network Models 149
Relational Models 149
DATABASE MANAGEMENT SYSTEMS 152
Logical and Physical Access Paths and Records 153
Setting up a Database Management System Using Schemas 154
Using a Data Dictionary 156
Entity-Relationship Diagrams 158
Using a Data Manipulation Language 159
Structured Query Language 160
Database Packages for Mainframe and Personal Computer Systems 161
Distributed Databases 162
Database Characteristics 163
MANAGING DATABASES 164
The Database Administrator 165
Data Security and Privacy Protection 165
Training 165
Database Access and End-User Computing 166
SUMMARY 168
KEY TERMS 169
REFERENCE NOTES 170
REVIEW QUESTIONS 170
DISCUSSION QUESTIONS 170
PROBLEM-SOLVING EXERCISES 171

CHAPTER 6
Telecommunications: Media and Devices 172

COMMUNICATIONS CONCEPTS 175
AN OVERVIEW OF COMMUNICATIONS SYSTEMS 177

CHARACTERISTICS OF TELECOMMUNICATIONS 177
Types of Signals 178
Transmission Capacities 180
Transmission Modes 181
TYPES OF COMMUNICATIONS MEDIA 183
Physical Cables 183
Twisted-Wire Pairs Cable 183 / Coaxial Cable 184
Fiber Optic Cable 185
Microwave and Satellite Transmission 186
Other Transmission Options 187
Cellular Service 189 / WATS Service 189
Providers of Communications Services 189
Common Carriers 189 / Switched and Dedicated Lines 190
The Carterfone Decision 191
Integrated Services Digital Network 191
Private and Computer Branch Exchange 191
TELECOMMUNICATIONS DEVICES 192
Modems 193
Amplifiers and Repeaters 195
Multiplexers 195
Communications Processors and Servers 195
Fax Boards 199
Encryption Devices 200
TELECOMMUNICATIONS AND SYSTEMS INTEGRATION 200
SUMMARY 201
KEY TERMS 202
REFERENCE NOTES 202
REVIEW QUESTIONS 202
DISCUSSION QUESTIONS 203
PROBLEM-SOLVING EXERCISES 203

CHAPTER 7
Telecommunications: Networks and Applications 204

COMMUNICATIONS SOFTWARE AND PROTOCOLS 206
Communications Software 207
Communications Protocols 208
Network Operating Systems 210
NETWORK CONCEPTS AND ALTERNATIVES 211
Network Topology 211
Ring Networks 211 / Bus Networks 211
Hierarchical Networks 211 / Star Networks 211
Hybrid Networks 213
Classification of Networks 213
Local-Area Networks 213 / Regional, Wide-Area, and International Networks 213 / Fault-Tolerant Networks 214
Value-Added Networks 215 / Packet Networks 216
Coordinating Data Communications 216

MANAGING COMMUNICATIONS AND NETWORK SYSTEMS 219
Network Considerations 219
Multinational Communications 221
Communications Laws and Regulations 221
Communications Personnel and Audits 221
TELECOMMUNICATIONS APPLICATIONS 223
Connecting Personal Computers to Mainframe Systems 223
Videotex and Electronic Mail 224
Telecommuting and Teleconferencing 224
Facsimile and Voice Storage and Forwarding 225
Public Network Services 226
Specialized and Regional Information Services 227
Electronic Data Interchange 227
International Networks and Telecommunications 230
Networks in Business 231
SUMMARY 231
KEY TERMS 232
REFERENCE NOTES 233
REVIEW QUESTIONS 233
DISCUSSION QUESTIONS 233
PROBLEM-SOLVING EXERCISES 233

PART III
BUSINESS INFORMATION SYSTEMS 235

CHAPTER 8
Transaction Processing Systems 236

AN OVERVIEW OF TRANSACTION PROCESSING SYSTEMS 238
Transaction Processing Systems in Perspective 239
Characteristics of a Transaction Processing System 240
Transaction Processing Activities 241
Methods of Transaction Processing 243
Objectives of a Transaction Processing System 245
Traditional Benefits of a Transaction Processing System 249
Transaction Processing for Competitive Advantage 249
TRANSACTION PROCESSING APPLICATIONS 250
Order Processing 250
Invoicing 253
Inventory Control 255
Accounts Receivable 257
Accounts Payable 259
Purchasing 260

Receiving 262
Shipping 262
Payroll 263
General Ledger 266
SPECIALIZED TRANSACTION PROCESSING SYSTEMS 266
The Airline Industry 266
Stock and Bond Management 267
Automatic Teller Systems 267
Commercial Loans 267
The Distribution Industry 268
Retail Operations 268
Manufacturing 269
The Health Care Industry 270
Power Management and Public Utilities 272
SUMMARY 274
KEY TERMS 276
REFERENCE NOTES 276
REVIEW QUESTIONS 276
DISCUSSION QUESTIONS 277
PROBLEM-SOLVING EXERCISES 277

CHAPTER 9
Management Information Systems 278

AN OVERVIEW OF MANAGEMENT INFORMATION SYSTEMS 280
Inputs to a Management Information System 282
Outputs of a Management Information System 284
Scheduled Reports 284 / Demand Reports 284
Exception Reports 284 / Developing Effective Reports 285
Characteristics of a Management Information System 285
Management Information Systems for Competitive Advantage 287
THE FUNCTIONAL ASPECTS OF MIS 287
A FINANCIAL MANAGEMENT INFORMATION SYSTEM 288
Financial Forecasting 291 / Profit/Loss and Cost Systems 292
Auditing 292 / Uses and Management of Funds 292
A MANUFACTURING MANAGEMENT INFORMATION SYSTEM 293
Inputs to the Manufacturing MIS 293
Manufacturing MIS Subsystems and Outputs 295
Design and Engineering 295 / Master Production Scheduling 295
Inventory Control Systems 296 / Just-in-Time Inventory and Manufacturing 297 / Computer-Assisted Manufacturing 297
Computer-Integrated Manufacturing 298
Flexible Manufacturing Systems 298
Quality Control and Testing 300

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