

Eighth Edition

CORE CONCEPTS OF ACCOUNTING INFORMATION SYSTEMS

INTERNATIONAL EDITION
RESTRICTED
Not for sale in North America



STEPHEN MOSCOVE
MARK SIMKIN
NANCY BAGRANOFF

Core Concepts of **ACCOUNTING INFORMATION SYSTEMS**

Eighth Edition

Stephen A. Moscové, Ph.D.

*Professor
Department of Accounting
University of New Haven*

Mark G. Simkin, Ph.D.

*Professor
Department of Accounting and
Information Systems
University of Nevada*

Nancy A. Bagranoff, DBA, CPA

*Professor
Department of Accountancy
Miami University*



JOHN WILEY & SONS, INC.

EXECUTIVE EDITOR	Jay O'Callaghan
MARKETING MANAGER	Keari Bedford
SENIOR PRODUCTION EDITOR	Patricia McFadden
SENIOR DESIGNER	Karin Kincheloe
PRODUCTION MANAGEMENT SERVICES	Hermitage Publishing Services

This book was set in Garamond Book by Hermitage Publishing Services and printed and bound by Hamilton Printing. The cover was printed by Lehigh Press.

This book is printed on acid-free paper. ∞

Copyright © 2003 John Wiley & Sons, Inc. All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as permitted under Sections 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher, or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, (978) 750-8400, fax (978) 750-4470. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10158-0012, (212) 850-6011, fax (212) 850-6008, E-Mail: PERMREQ@WILEY.COM. To order books please call 1(800)-225-5945.

Materials from the Certificate in Management Accounting Examinations, by the Institute of Management Accountants, 10 Paragon Drive, Montvale, NJ 07645-1760 U.S.A., are reprinted and/or adapted with permission.

Materials from the uniform CPA Examination Questions, by the American Institute of Certified Public Accountants, Inc., Harborside Financial Center, 201 Plaza Three, Jersey City, NJ 07311-3881 U.S.A., are adapted with permission.

Materials from the Certified Internal Auditor Examinations, by the Institute of Internal Auditors, Inc., 249 Maitland Ave, Altamonte Springs, FL 32701 U.S.A., are adapted with permission.

ISBN 0-471-07290-7

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

***To my wife Laura, and my children, Justin, Jodi, Sarah,
and Stephanie. (Steve Moscové)***

To my parents, Edward and Selma Simkin. (Mark Simkin)

This one's for my students. (Nancy Bagranoff)

ABOUT THE AUTHORS

Stephen A. Moscové earned his B.S. degree in accounting and his M.S. degree in accounting from the University of Illinois. Dr. Moscové received his Ph.D. degree in business administration (majoring in accounting) from Oklahoma State University (1971). Dr. Moscové worked as an auditor for Price Waterhouse & Company during 1966 and 1967. From 1970 to 1980 he was a member of the faculty of the Department of Accounting at the University of Hawaii. During this period, Dr. Moscové was a visiting professor at the University of Miami and a visiting professor at the University of New Orleans. Dr. Moscové subsequently joined the faculty at the University of Nevada, Reno and served as department chair of the Department of Accounting and Computer Information Systems for six years. He also served as Professor and Chair of the Department of Accounting at Central Connecticut State University. Currently Professor Moscové is a professor at the University of New Haven. Dr. Moscové has published numerous articles in professional journals and is the author of several textbooks in accounting. These professional journals include *Management Accounting*, *The National Public Accountant*, *Cost and Management*, *Managerial Planning*, *Journal of Systems Management*, and *Healthcare Financial Management*.

Mark G. Simkin received his A.B. degree from Brandeis University and his MBA and Ph.D. degrees from the Graduate School of Business at the University of California, Berkeley. Before assuming his present position of professor in the Department of Accounting and Information Systems, University of Nevada, Professor Simkin taught in the Department of Decision Sciences at the University of Hawaii. He has also taught at California State University, Hayward, and the Japan America Institute of Decision Sciences, Honolulu; worked as a research analyst at the Institute of Business and Economic Research at the University of California, Berkeley; programmed computers at IBM's Industrial Development—Finance Headquarters in White Plains, New York; and acted as a computer consultant to business companies in California, Hawaii, and Nevada. Dr. Simkin is the author of more than 100 articles that have been published in such journals as *Decision Sciences*, *JASA*, *The Journal of Accountancy*, *Communications of the ACM*, *Interfaces*, *The Review of Business and Economic Research*, and the *Journal of Bank Research*. He has also authored several textbooks in the information systems area, including *Applications Programming in Visual Basic 5* (Scott/Jones, 1998).

Nancy A. Bagranoff received her A.A. degree from Briarcliff College, B.S. degree from the Ohio State University, and M.S. degree in accounting from Syracuse University. Her DBA degree was conferred by The George Washington University in 1986 (accounting major and information systems minor). From 1973 to 1976, she was employed by General Electric in Syracuse, New York, where she completed the company's Financial Management Training Program. Dr. Bagranoff is a Certified Public Accountant, licensed in the District of Columbia, since 1982. She spent Fall 1995 as Faculty in Residence at Arthur Andersen where she worked for the Business Systems Consulting and Computer Risk Management groups. Professor Bagranoff has published several articles in such journals as *Journal of Information Systems*, *Journal of Accounting Literature*, *Computers and Accounting*, *The Journal of Accounting Education*, *Behavioral Research in Accounting*, *Journal of Accountancy*, and *The Journal of Accounting and EDP*. Dr. Bagranoff is also co-author of *Core Concepts of Consulting for Accountants*. She is currently Professor of Accountancy at Miami University.

ACKNOWLEDGMENTS

We wish to thank the many people who helped us during the writing, editing, and production of our textbook. First on our list of acknowledgments are our families and friends. We thank them for their patience and understanding as we were writing this book. We also wish to thank those instructors who read earlier drafts of this edition of our textbook, and provided many useful suggestions for improving the final product. These people include Ed Scribner, New Mexico State University, Jane E. Campbell, Kennesaw State University, and Rubik Atamian, University of Texas—Pan American.

Many of our colleagues and professional acquaintances were also extremely helpful. We thank our editor at John Wiley and Sons, Jay O'Callaghan. We'd also like to thank Susan Elbe and Keri Bedford. This will be the third time that Larry Meyer and the staff at Hermitage Publishing Services has been responsible for the editing and production of our book, and we are grateful for their efficiency and professionalism. For providing a student perspective, we thank the many undergraduate and graduate students who provided us with feedback on our chapters. In particular we thank Methuselah Nyang'oro for his editing work. We also extend our thanks to Paula Funkhouser who has helped us with our supplementary materials on this and several previous editions.

Special thanks go to Julie David, Arizona State University, for her ERP figure. We'd also like to thank Guido Geerts for his help in linking us to Stevie. Thanks to Jane Fedorowicz for looking over the materials on XBRL and to Skip White for providing us with XBRL code. We thank Jan Eighme for previewing our materials on data modeling using REA and, of course, we are grateful to Bill McCarthy, Michigan State, for his development of the REA approach to data modeling. We are also appreciative of the comments of the many individuals who teach AIS whom we have spoken with and listened to at various professional meetings. Their comments about AIS courses and textbooks have been helpful. Finally, we wish to thank Brian Ferrell and Larry Bagranoff, both of whom worked very hard helping us correct the page proofs of our manuscript as well as assisting us with the instructor's manual.

June 2002
Stephen A. Moscovice
Mark G. Simkin
Nancy A. Bagranoff

PREFACE

Every aspect of accounting has been fundamentally changed by information technology and the Internet, including financial reporting, managerial accounting, auditing, and tax. Thus, the accounting profession is in a state of flux as the information age forces accountants to redefine the work they do and recent business and auditing failures force the profession to rethink the state of assurance services. No matter how it all settles, the subject of accounting information systems (AIS) will continue to be an important part of the new vision of the accounting profession.

The purpose of this book is to help students understand basic AIS concepts. Exactly what comprises these AIS concepts is subject to some interpretation, and is certainly changing over time, but most accounting professionals believe that it is the knowledge that accountants will need for understanding and using information technologies and for knowing how an AIS gathers and transforms data into useful decision-making information.

In developing the content of this textbook, we have considered both the 1987 American Accounting Association *Report of the AAA Committee on Contemporary Approaches to Teaching Accounting Information Systems* and the recommendations made by the International Federation of Accountants (IFAC) in Guideline No. 11. The AAA report identified nine content areas for AIS and prerequisite courses. In this textbook, we have addressed all of these content areas. The table below identifies the chapters that provide the major coverage of each topic.

ACCOUNTING INFORMATION SYSTEMS COURSE CONTENT AREA COVERAGE	
Content Area	Chapter(s)
Database Concepts	7, 8
Internal Control	9, 10, 11
Technology of Information Systems	All
Use of Systems Technology	All
AIS Applications	4, 5, 6
Management Use of Information	1, 4, 5, 6, 13
Management of Information Systems	1, 13
Systems Development Work	13, 14, 15
Auditing	12

The IFAC Education Committee's guideline, *IEG-11: Information Technology for Professional Accountants*, describes the general IT knowledge requirements and competencies needed relative to IT controls. The framework describes several different roles accountants may take with respect to IT and then describes IT competencies and skills needed relative to each role. While our book discusses many of the topics described in this report, it does not cover everything. For instance, we assume that most students will already have a basic understanding of computer hardware and software concepts. Nevertheless, this book does cover many of the knowledge areas covered in the IFAC report, particularly those related to accounting information systems. For an in-depth description of the IFAC's recommendations, we suggest you view the report at the web site, www.ifac.org.

About This Book

Despite the commonality of subjects in the AAA study, the content of AIS courses continues to vary widely from school to school. Some schools, for example, use their AIS courses to teach accounting students how to use computers. In other colleges and universities, the course focuses on business processes and data modeling. Yet other courses emphasize transaction processing and accounting as a communication system, and have little to do with the technical aspects of how underlying accounting data are processed or stored.

Given the variety of objectives for this AIS course and the different ways that instructors teach it, we have developed a textbook that attempts to cover only the core concepts of AIS. In writing the text, we have only assumed that students will have completed basic courses in financial and managerial accounting as well as a basic knowledge of computer hardware and software concepts. The text is designed for a one-semester course in AIS and may be used at the community college, baccalaureate, or graduate level.

Our hope is that individual instructors will use this book as a foundation for an AIS course, building around it to meet their individual course objectives. Thus we fully expect that many instructors will supplement this textbook with other books, cases, software, or readings. The arrangement of the chapters permits *flexibility* in the instructor's subject matter coverage. Certain chapters may be omitted if students have covered specific topics in prior courses.

Part One introduces students to the subject of AIS. In the first chapter, we lay the basic foundation for the remainder of the text and set the stage for students to think about accounting in the information age. This chapter also includes a section on careers in AIS so that students can understand career paths that combine accounting with the study of information systems. Although we have integrated Internet technology throughout this book, its influence on accounting information systems is so great that we have devoted a special chapter to it. Thus, Chapter 2 discusses Internet technology and the World Wide Web, and also discusses special technology issues for accountants such as XBRL. Finally, Chapter 3 is about systems documentation, a matter of critical importance to the success of an AIS and also to one's understanding of an information system. This chapter describes the various tools that accountants can use to document AIS for their own and others' understanding of information flows.

Part Two explains how AISs collect, record, and store business data. Chapters 4 and 5 cover business processes. Instructors who focus on transaction cycles in their AIS courses may choose to use supplemental pedagogical tools, such as software and practice sets, to cover this material in more depth. In addition to providing an overview of the basic transaction processing cycles in Chapters 4 and 5, Chapter 5 explains to students that many organizations have unique AIS needs. This is, we believe, an important idea, as accounting students frequently think of an organization's AIS needs as generic and are unfamiliar with the special information requirements of a vertical market organizations. Chapter 6 is new to this edition of the book. In it, we discuss accounting and enterprise software. Finally, in this edition of our textbook, we have expanded our coverage of databases and data modeling to two chapters—an enhancement that responds to increasing instructor interest in teaching the REA approach to data modeling.

An important function of accountants working with AISs is to develop effective internal control systems. Although the subject of internal control appears repeatedly

throughout the book, Part Three examines this subject in depth. A unique chapter here is Chapter 11, which focuses on computer crime, security, and ethics in the information age. Chapter 12 covers the important topic of information systems auditing. We have tried to present the material in Part Three so that it will be useful to students who study AIS prior to taking an auditing course, as well as to students who study auditing before AIS.

Part Four of this book examines systems studies through an in-depth coverage of performing one for an organization. Recognizing that some students in current AIS courses may have taken a prior course in management information systems (MIS) and thus are already familiar with systems development topics, the emphasis in Chapters 13, 14, and 15 is on the accountant's role in designing, developing, implementing, and maintaining a system. Thus, these chapters integrate many of the computer and accounting concepts of previous chapters in Part Four's discussion of systems study.

Special Features

This edition of our book uses a large number of special features to enhance the coverage of chapter material as well as help students understand chapter concepts. Thus, each chapter begins with an outline and a list of learning objectives that emphasize the important subject matter of the chapter. This edition of the book also includes many real world Cases-in-Point, which are woven into the text material. Each chapter also includes a more-detailed real-world case or concept in an end-of-chapter *AIS-at-Work* feature.

Each chapter ends with a summary and a list of key terms, and also includes four types of end-of-chapter exercises to help students understand the material and test this understanding: discussion questions, problems, Internet exercises, and cases. This wide variety of questions, problems, Internet exercises, and cases enables students to examine many different aspects of each chapter's subject matter and also enables instructors to vary the exercises they use each semester. The end-of-chapter materials also include a list of references, recommended readings, and web sites that allow interested students to explore the chapter material in greater depth.

There are two major supplements to this textbook. One is an instructor's manual containing suggested answers to the end-of-chapter discussion questions, problems, and cases. There is also a test bank of true-false and multiple-choice questions.

What's New in the Eighth Edition

This edition of our book includes significant changes from prior editions. These include:

- Expanded and earlier coverage of electronic commerce and the Internet. We've moved our Internet chapter to Section One and expanded our coverage of the topic throughout the book.
- Detailed explanation of XBRL. XBRL promises to be a significant area of importance to financial reporting. As a result, we've included several pages describing it in Chapter 2.

- New chapter on accounting and enterprise software. There are many issues associated with accounting and enterprise software of concern to accountants, and some schools even devote a separate course to enterprise systems. For this reason, we have added a chapter on this topic in the current edition which should be of interest to AIS instructors who currently use ERP software in their AIS class or wish to teach students how to select such software.
- Expanded coverage of data modeling and databases. This edition dedicates two chapters to these topics. The new material includes detailed discussions and illustrations of the REA approach to data modeling, as well as expanded coverage of data warehouses and data mining.
- Updated materials on computer crime. This edition's chapter incorporates the latest developments to discuss this fascinating, fast-moving topic. Like the other chapters in this book, the emphasis is on those issues most directly impacting accounting systems.

CONTENTS

PART ONE	AN INTRODUCTION TO ACCOUNTING INFORMATION SYSTEMS/	1
Chapter 1	Accounting Information Systems and the Accountant/	3
Introduction/	4	
What Are Accounting Information Systems?/	4	
Accounting in the Information Age/	9	
Careers in Accounting Information Systems/	17	
Chapter 2	Electronic Commerce and the Internet/	29
Introduction/	30	
The Internet and World Wide Web/	31	
Electronic Commerce/	38	
Privacy and Security on the Internet/	44	
Chapter 3	Documenting Accounting Information Systems/	56
Introduction/	57	
Why Documentation Is Important/	57	
Document and System Flowcharts/	59	
Data Flow Diagrams/	67	
Other Documentation Tools/	73	
End-User Computing and Documentation/	78	
PART TWO	COLLECTING, STORING, AND USING ACCOUNTING INFORMATION/	95
Chapter 4	Accounting Information Systems and Business Processes: Part I/	97
Introduction/	98	
Business Process Fundamentals/	98	
Collecting and Reporting Accounting Information/	104	
Core Business Processes/	109	
Chapter 5/	Accounting Information Systems and Business Processes: Part II/	132
Introduction/	133	
Additional Business Processes/	133	
Business Processes in Special Industries/	148	
Business Process Reengineering/	154	
Chapter 6	Accounting and Enterprise Software/	165
Introduction/	166	
Integrated Accounting Software Programs/	166	
Enterprise-Wide Accounting Software Solutions/	170	
Chapter 7	Data Modeling/	193
Introduction/	194	
An Overview of Databases/	194	
How to Create Databases with REA/	198	
Additional Database Design Concerns for AISS/	206	
Chapter 8	Organizing and Manipulating the Data in Databases/	219
Introduction/	220	
Normalization/	220	
Defining and Validating the Data in Databases: Data Definition Languages (DDLs)/	223	
Extracting Data from Databases: Data Manipulation Languages (DMLs)/	230	
Object-Oriented Databases, Multimedia Databases, and Data Warehouses/	235	

PART THREE CONTROLS AND SECURITY IN ACCOUNTING INFORMATION SYSTEMS/ 247

Chapter 9 Introduction to Internal Control Systems/ 249

- Introduction/ 250
- Internal Control Systems: Definition and Components/ 250
- Control Procedures Analyzed/ 255
- Control Activities Within an Internal Control System/ 258
- Cost-Benefit Concept for Developing Controls/ 268

Chapter 10 Computer Controls for Accounting Information Systems/ 281

- Introduction/ 282
- General Controls within IT Environments/ 282
- Application Controls within IT Environments/ 294
- Database Controls/ 303
- Controls in the Information Age/ 303

Chapter 11 Computer Crime and Ethics/ 319

- Introduction/ 320
- Computer Crime: An Overview/ 320
- Examples of Computer-Crime Cases/ 326
- Thwarting Computer Abuse/ 332
- Computers and Ethical Behavior/ 337

Chapter 12 Auditing Computerized Accounting Information Systems/ 351

- Introduction/ 352
- The Audit Function/ 352
- Auditing Through the Computer/ 360
- Auditing with the Computer/ 367
- Auditing in the Information Age/ 370

PART FOUR DEVELOPING EFFECTIVE ACCOUNTING INFORMATION SYSTEMS/ 387

Chapter 13 Systems Study: Planning and Analysis/ 389

- Introduction/ 390
- The System Development Life Cycle: An Introduction/ 390
- Systems Planning and the Initial Investigation/ 393
- Systems Analysis/ 396

Chapter 14 Systems Study: System Design and Selection/ 417

- Introduction/ 418
- The Feasibility Evaluation/ 418
- Detailed Systems Design/ 425
- Selecting a Final System/ 433

Chapter 15 Systems Study: Implementation, Follow-up, and Maintenance/ 447

- Introduction/ 448
- Systems Implementation/ 448
- Systems Follow-Up and Maintenance/ 459
- Outsourcing/ 461

Glossary/ 479

Index/ 497

PART ONE

AN INTRODUCTION TO ACCOUNTING INFORMATION SYSTEMS

CHAPTER 1

Accounting Information Systems and the Accountant

CHAPTER 2

Electronic Commerce and The Internet

CHAPTER 3

Documenting Accounting Information Systems

Part One introduces the subject of accounting information systems (AISs). It defines accounting's principal goal, which is to communicate relevant information to individuals and organizations. Part One further describes the strong influence of information technology on this communication process.

Chapter 1 defines information systems and then introduces the subject of AIS in the information age. This chapter examines the impact of information technology on financial accounting, managerial accounting, auditing, and taxation. Information technology's impact on electronic commerce within the environment of the Internet is also briefly discussed. Finally, Chapter 1 describes a number of career opportunities in AISs.

The Internet and electronic commerce impact AISs in many ways. As an increasing number of business organizations engage in electronic commerce, it becomes important for accountants to understand the fundamentals of doing business electronically. Chapter 2 describes the hardware and software technology that underlies the Internet and electronic commerce, including a special language for financial reporting. The chapter also discusses intranets and extranets as well as general categories of electronic commerce, such as retail sales. Finally, the chapter describes the special privacy and security issues for business enterprises engaged in electronic commerce.

The documentation of an AIS is critical. It allows management, auditors, systems analysts, and other users to understand the basic processes and functions of the system. Chapter 3 describes various techniques for documenting AISs. These techniques include document and system flowcharts, data flow diagrams, and computer-assisted software engineering (CASE) tools.

Chapter 1

Accounting Information Systems and the Accountant

INTRODUCTION

WHAT ARE ACCOUNTING INFORMATION SYSTEMS?

The Information Age

An Information System

Accounting Information Systems and Their Role
in Organizations

ACCOUNTING IN THE INFORMATION AGE

Financial Accounting

Managerial Accounting

Auditing

Taxation

CAREERS IN ACCOUNTING INFORMATION SYSTEMS

Systems Consulting

Information Systems Auditing and Security

AIS AT WORK—THE CPA VISION PROJECT

SUMMARY

KEY TERMS YOU SHOULD KNOW

DISCUSSION QUESTIONS

PROBLEMS

INTERNET EXERCISES

CASE ANALYSES

The Annual Report

Hoden's Hamburger Corporation

Universal Concrete Products

Ross, Sells, and Young, LLP

REFERENCES, RECOMMENDED READINGS, AND WEB SITES

After reading this chapter, you will:

1. *Know* how our economy has changed through the agricultural age, the industrial age, and the information age.
2. *Be able to define* systems, information systems, and accounting information systems.
3. *Have learned* how information technology influences all aspects of accounting.
4. *Understand* how financial reporting is changing in the information age.
5. *Appreciate* how information technology is allowing management accountants to adopt new costing systems and performance measures.
6. *Know* about the expanded role of auditing into a variety of assurance services.
7. *Understand* the impact of the Internet and electronic commerce on accounting information systems.
8. *Be aware of* career opportunities for those who study and work with accounting information systems.

The American Institute of Certified Public Accountants (AICPA) has projected that two of the top technology issues facing the accounting profession during the first several years of the 21st century are (1) Information security and controls within information systems, and (2) Electronic commerce.

Issie Rabinovitch, "The Top Ten Tech Issues for 2001," *CPA Magazine*, January-February 2001, p. 2.

INTRODUCTION

The accounting function is critical in the successful operation of today's businesses. This function provides individuals and groups both inside and outside a company with relevant information for planning, decision making, and control. We will begin this chapter by discussing the information age. We will then define information systems and describe the role of AISs in organizations. In our book, we take the view that an AIS is the dominant organizational information subsystem. This approach considers AISs to be much more than bookkeeping or transaction processing systems. We hope to help you understand that AISs provide opportunities for accountants to build systems that can provide a variety of decision makers with the information they need for optimal planning, decision making, and control.

As you probably know, information technology is changing the way we do just about everything. Just a few years ago, the authors never imagined that people could someday purchase a copy of our book from a giant "virtual" bookstore on the Internet. The explosion in electronic commerce is just one example of the many ways information technology is influencing how people do business and how we account for business events. In fact, going back to the quote at the beginning of this chapter, electronic commerce as well as information security and controls within information systems are two of the top technology issues that the accounting profession must address in the current century. Both of these technology issues are addressed in this book. The present chapter describes the ways that information technology is affecting financial accounting, managerial accounting, auditing, and taxation. In addition, Chapter 1 briefly looks at the impact of electronic commerce and the environment on AISs.

Students taking courses in AISs often wonder if there are special career opportunities combining the study of accounting with computer science and information systems. The answer is that almost endless employment opportunities await such graduates. Accounting employers are very interested in hiring students who have emphasized information systems in their study of accounting. This means that the traditional jobs in accounting are available to those who study AISs in addition to other career opportunities that you may never have considered. The last part of this chapter describes a number of special job opportunities for those with an interest in AISs.

WHAT ARE ACCOUNTING INFORMATION SYSTEMS?

Information technology is the hardware and software used in computerized information systems and has had as much impact on our society as the industrial

revolution. In the **information age**, fewer workers are making products, and a large segment of the employee population is involved in producing, analyzing, and distributing information. Information systems play a vital role in our economy and our everyday lives. An accounting information system is a special type of information system that provides information about business processes and events affecting an organization.

The Information Age

In the information age, companies are finding that success or failure is increasingly dependent on their management and use of information. A characteristic of the information age is the employment of much of the labor force as **knowledge workers**. These workers are producing and using information and knowledge. Accountants are knowledge workers, as are information systems employees and consultants.

The information age has implications for accounting. Accountants have always been in the information business, for their role is to communicate accurate and relevant information to parties interested in knowing how organizations are performing. Information technology has influenced the accounting profession, and how and what we communicate, in many ways. The impact of information technology as it relates to financial accounting, managerial accounting, auditing, and taxation will be discussed in detail later in this chapter.

An important contributor to the information age is the **Internet**. It is a global collection of tens of thousands of interconnected business, government, military, and education networks that communicate with each other. The number of Internet users is increasing daily. The wide variety of computers employed on the Internet is able to send, receive, and view information. Among the many services available on the Internet are electronic mail, entertainment, discussion forums, education, access to a wide variety of databases, news, software downloads, stock quotes, and electronic commerce (which refers to conducting business with computers and data communications). A unique aspect of this book is that each chapter contains Internet exercises that expose students to the important role of the Internet in our current information age. Many of the chapters talk about different aspects of the Internet that apply to accounting information systems. In fact, Chapter 2 focuses entirely on the subject of electronic commerce and the Internet.

An Information System

People typically think of computers when they hear the term *information system*, but an information system need not be a computerized system. Many times each day we see examples of information systems that do not rely on computers. For example, you witness an information system at work when you go to a movie, purchase a ticket, and then present the ticket to an usher who tears off a stub. Of course, a computer may issue the ticket and scan the stubs to update the information system. But an information system exists, with or without a computer.

An information system is part of an overall system. A **system** is an entity consisting of interacting parts or components that attempt to achieve one or more goals. An entity is a separate unit of accountability. This book emphasizes the **business entity**, such as partnerships and corporations. *Subsystems* are system components. For