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**MANAGEMENT  
INFORMATION SYSTEMS**

# **Managing with Computers**

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The Dryden Press  
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To my mother, Jane E. McKeown  
P.G.M.

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To my wife, Paula, and my two sons, Rob and Adam  
R.A.L.

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# P R E F A C E

Information-based organizations are becoming increasingly more prevalent in business, industry, and government. This type of organization will continue to grow throughout the 1990s and into the twenty-first century, when power will reside with those who possess the information that will ensure the continued well-being of the organization. To exercise the power of information, employees must know how to use it to manage their respective organizations effectively in a highly competitive economy.

Information-based organizations emerged in the tremendous wake of wide-spread availability of computing power. As recently as ten years ago, only certain persons in the organization benefited from the use of computers. Whereas today, technology exists to provide information to anyone who needs it in the organization. Indeed, it is predicted that the traditional pyramidal structure of the organization will crumble as the computer transforms all employees into managers by providing them with information that will allow them to make individual decisions about their jobs.

Organizations of all sizes are recognizing that they must better manage their information to gain strategic advantages over their competitors. Effectively managing this information usually involves the use of computer-based information systems. Today, most managers understand the importance of information systems and have learned that it is virtually impossible to manage their organizations without some knowledge of information systems.

## Approach

Knowledge of information systems is crucial to business and economics students as they prepare to join tomorrow's workforce. The goal of *Management Information Systems: Managing with Computers* is to help students understand the types of information systems organizations actually use today and how the numerous challenges that confront organizations affect the development, implementation, and management of information systems. This textbook is designed for introductory management information systems (MIS) courses at both the undergraduate and MBA levels. It deals not only with the theoretical aspects of these challenging issues but incorporates real-life examples, applications, and cases.

A key pedagogical element of *Management Information Systems* is the ProYacht, Inc., case, which is used throughout the textbook to demonstrate the various concepts discussed in each chapter. ProYacht builds and markets various sizes of sailboats. The first chapters focus on the divisions of ProYacht and how each division uses information systems. As the text advances, we see ProYacht taking over other companies, which requires it to develop, acquire, manage, and control new information systems.

Besides the ProYacht case, the textbook contains over 50 boxed inserts that provide students with insightful examples of how actual organizations use, develop, and control information systems. Finally, there are an average of two major cases (a total of 36) at the end of each chapter. Each case focuses on the chapter material and encourages the student to synthesize, and therefore better understand, the ideas and information presented in the chapter.

## Organization

The textbook is divided into five sections. Section I, “The Information Resource,” is an introduction. It discusses competitive uses of information, types of information systems, and decision-making concepts. Chapter 1 covers the importance of information as a competitive resource, and Chapter 2 provides the reader with a survey of the types of information systems at work in a modern organization. Chapter 3 discusses various decision-making activities that require information support and includes an introduction to the tools and concepts used in developing information systems.

Section II, “Information System Resources,” discusses the various resources critical to the success of any information system. Chapter 4 focuses on computer hardware and software resources that are used in information systems. Chapters 5 and 6 provide complete coverage of file and data base management systems, and Chapter 7 discusses the importance of networks and telecommunications to any successful information system.

Section III, “Managing with Information Systems,” details the various information systems surveyed in Chapter 2. Chapter 8 focuses on transaction processing systems (TPSs), which convert raw data into usable form. Chapter 9 discusses management information systems (MISs), which provide many reports to all levels of management. Chapter 10 covers decision support systems (DSSs) and executive information systems (EISs), which are crucial managerial decision-making tools. Finally, Chapter 11 focuses on artificial intelligence (AI) and expert systems (ESs), which further aid managerial decision making.

Section IV, “Developing and Acquiring Information System Resources,” discusses the important topic of information system development and acquisition. Chapter 12 covers the feasibility study and structured analysis phases of the process, and Chapter 13 focuses on the structured design and implementation phases. Chapter 14 provides instruction on the acquisition of hardware and software, and Chapter 15 discusses various alternative approaches to systems development.

Section V, “Managing the Information Resource,” covers important aspects of managing and controlling information systems. Chapter 16 discusses the management of all

elements of the information system—human resources, data, hardware, software, and operations. Chapter 17 discusses control and security of information systems and various aspects of computer crime. Finally, Chapter 18 focuses on the future of information systems.

### **Pedagogy**

Each chapter begins with a chapter outline and introduction and, as we mentioned earlier, contains the ProYacht case, which is used as an example throughout the textbook, and boxed inserts that describe how known organizations use information systems. Each chapter concludes with a summary of the chapter, a list of the key terms discussed in the chapter, 15 review questions, and several discussion questions. Finally, most chapters end with two cases, many of which describe actual situations. The cases require the student to integrate his or her understanding of the chapter material.

### **Supplemental Material**

Several supplemental items are available to adopters of *Management Information Systems: Managing with Computers*, including an instructor's manual, a computer lab manual, and a short introduction to the Pascal computer language appropriate for business and information systems students.

For each chapter in the textbook, the *Instructor's Manual for Management Information Systems* by Patrick G. McKeown and Robert A. Leitch has a corresponding chapter composed of the following teaching aids: teaching objective, learning objective, chapter outline, annotated list of boxed inserts, chapter review, list of teaching suggestions, annotated list of suggested readings, answers to review and discussion questions, suggested solution to the cases, and a glossary of keywords.

A computer lab manual is available for adopters who wish to include in their courses tutorials on the following software packages: MS-DOS, WordPerfect 5.1 for DOS, Lotus 1-2-3 Version 2.2 or above, and dBASE III Plus. The *Computer Lab Manual* by Patrick G. McKeown and Ravija Badarinathi is now available separately or shrink-wrapped with the textbook. The lab manual is divided into Sessions that cover the fundamentals of using each of the four types of software and includes keystroke-by-keystroke instructions, *Try it Yourself* exercises after each section, and exercises at the end of each Session.

*Structured Programming Using Turbo Pascal*, by Margaret Anderson, provides a short introduction to the Turbo Pascal computer language. It is divided into six chapters and includes *Try it Yourself* exercises after each section and exercises at the end of each chapter.

### **Acknowledgments**

If you are familiar with writing and producing a package such as this, you know that the product is not just the work of the authors, but the result of a team effort. The team for *Management Information Systems: Managing with Computers* included many talented people. We are grateful for their many contributions and hard work.

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