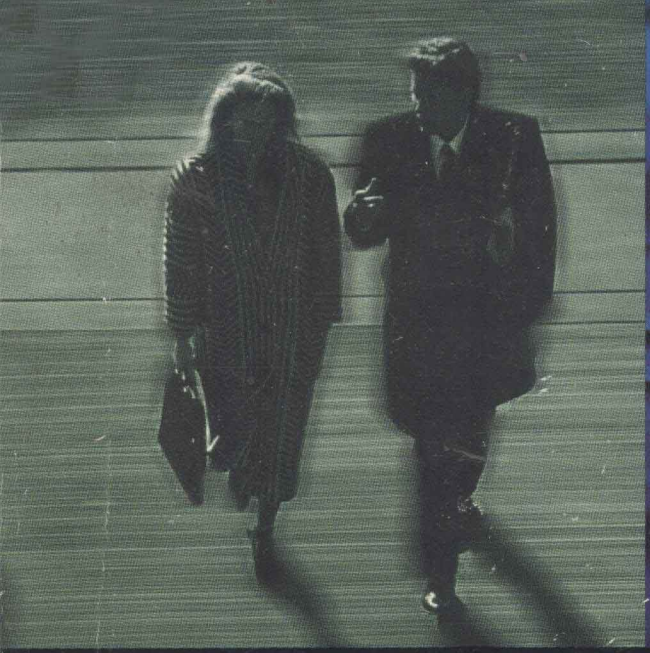
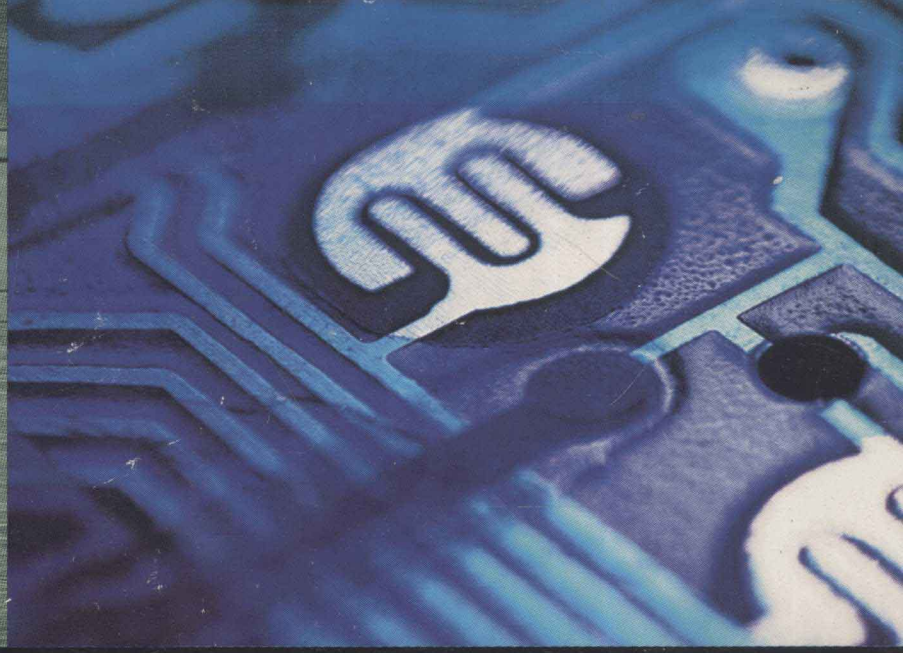
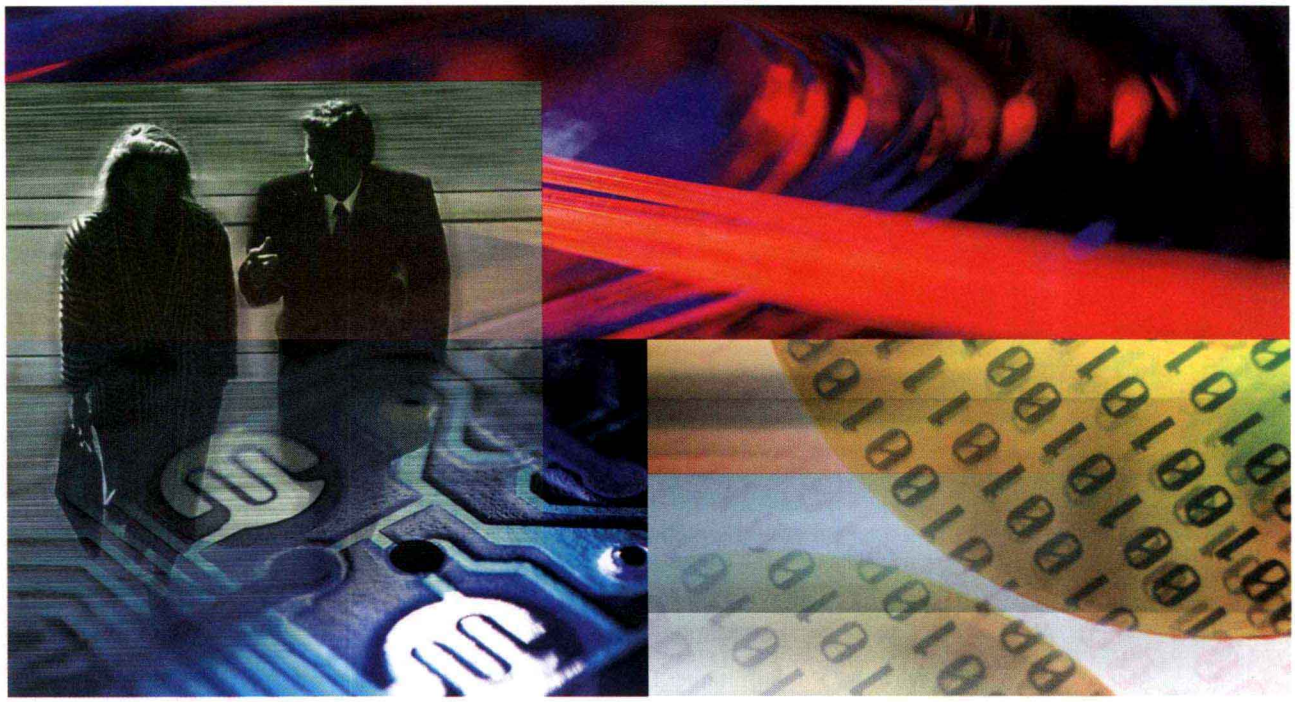




Information Technology and the Networked Economy

Patrick G. McKeown



Information Technology

and the Networked Economy

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Preface

As we move into the twenty-first century, we also are moving quickly into the networked economy. Whereas the industrial economy was built on producing goods by leveraging human strength with machines, the networked economy will be built on producing services by leveraging human knowledge with computers and connectivity. The networked economy will be characterized by rapidly changing market conditions and methods of commerce. It will also require that organizations concentrate on improving their organizational productivity rather than worrying about personal productivity. As a result, colleges and universities must immediately begin to prepare their students to work in the networked economy. This textbook, *Information Technology and the Networked Economy,* is aimed at helping educators do just that by providing today's business students with the knowledge of the networked economy necessary to be successful employees and managers in the twenty-first century.

Every economy has needed an infrastructure to support the flow of goods and services between buyers and sellers. For the networked economy, information technology (IT) provides that infrastructure in the form of computers and connectivity that can process data into information and share data, information, and resources with others. Companies that want to survive and flourish in the networked economy must understand how that infrastructure works and how to take advantage of it. Learning how to use electronic commerce and the Internet to their advantage will be essential, as virtually all commerce becomes electronic. *Information Technology and the Networked Economy* uses this idea of information technology as the infrastructure of the networked economy to link the two concepts together.

When information technology is applied to organizations to help managers and employees make decisions, the result is usually referred to as information systems. These information systems must enable organizations to handle the present, remember the past, and prepare for the future. Handling the present requires organizations to have some way of processing transactions. Remembering the past requires that organizations find ways to use computers and networks to manage data, information, and knowledge resulting from handling the present. Preparing for the future requires that organizations use the stored data, information, and knowledge to make decisions that will enable them to be successful in the future. It also requires organizations to understand the use of electronic commerce to market and distribute products and services over the Internet. *Information Technology and the Networked Economy* covers the use of information systems and electronic commerce to handle the present, remember the past, and prepare for the future as a part of the preparation of the student to work in the networked economy.

Learning Objectives

Information Technology and the Networked Economy is built around achieving the following five key learning objectives. In so doing, it ensures that students will be prepared to be successful employees and managers in the networked economy. After reading this book, the student will be able to:

1. Understand the networked economy and how information technology provides the infrastructure for this new economy.
2. Describe how information technology is used to process data into information and to share data, information, and resources.
3. Discuss how information systems are used in organizations to handle the present, remember the past, prepare for the future, and to use electronic commerce.
4. Discuss the issues involved in the selection, acquisition, and development of information systems.
5. Understand the effect that information technology and the networked economy will have on crime, security, privacy, ethics, and society.

Achieving these learning objectives will go a long way toward providing the student with an understanding of the networked economy, information technology, information systems, and their effect on society.

Organization

To achieve the learning objectives, *Information Technology and the Networked Economy* is divided into four parts, as shown in the table below. In general, these parts should be covered in the order in which they appear, as should the chapters within each part. The one exception to this is part 4, which can be covered immediately after parts 1 or 2 have been covered if so desired. Because part 3, the design and development of information systems, is dependent on an understanding of the material on information systems in part 2, parts 2 and 3 should be covered in sequential order.

Part	Topical Coverage
1	Introduction to Information Technology and the Networked Economy
2	Information Systems in Organizations
3	Design and Development of Information Systems
4	Issues in the Networked Economy

Part 1 provides information about the networked economy and information technology. This part includes chapters on the networked economy, elements of information technology, and networks for sharing data, information, and resources.

Part 2 covers the effects of information technology on organizations and includes chapters on transaction processing systems for handling the present, organizational memory for remembering the past, decision support systems for preparing for the future, and electronic commerce as a way of transforming organizations. This section provides the student with a complete discussion of information systems as they enable organizations in the networked economy not just to survive, but to grow.

Part 3 considers the issues involved in developing or acquiring information systems. This includes topics on designing new information systems and making the decision whether to acquire, outsource, or develop the new system. This section also covers the process of developing an information system. These chapters provide the student with an understanding of the systems development process including the structured approach, RAD, outsourcing, and acquisition.

Finally, part 4 covers the impact of information technology and the networked economy on society in the areas of security, crime, privacy, ethics, health, and lifestyle. This includes a chapter on crime and security in organizations, a chapter on privacy and ethical issues, and a chapter on the societal issues associated with information technology and the networked economy.

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Approach to Topics

To prepare readers to work in the networked economy using information technology and information systems, *Information Technology and the Networked Economy* uses a variety of pedagogical elements. An important element is a case, fareastfoods.com, that runs through all of the chapters. Involving a small distributor of oriental foods via the Internet, this case provides students with a look at the ways in which companies use information technology and information systems to transact business in the networked economy. Fareastfoods.com takes orders over the Internet that it fulfills by ordering individual items from wholesalers. The individual food items are combined to create a shipment that is picked up by a package delivery company and delivered to the customer. As we move through the book, the various aspects of information technology and information systems are applied to the company. For example, in the chapters on systems development (chapters 8 and 9), a new information system is created for the company.

Other pedagogical elements in this book include Quick Review questions after each major section, sixty boxed inserts, review questions, discussion questions, and a case at the end of each chapter. The Quick Review questions enable students to check their understanding of the material immediately after reading it. Answers to these questions are available on the Web site associated with the book so students can gauge their comprehension of the material.

There are five boxed inserts in each chapter covering six different focus areas: management, society, technology, the Internet, and people. They provide interesting information about elements of the networked economy beyond the material covered in the body of the chapter. The Focus on Management boxes discuss companies or situations that illustrate business situations or problems in the networked economy. For example, the Focus on Management box in chapter 1 describes the transition of General Electric to the use of electronic commerce. The Focus on Society boxes present scenarios or problems associated with the onset of the networked economy. For example, the Focus on Society box in chapter 12 covers the problems facing people living in "Internet time." The technology focus boxes describe, in greater detail, technologies associated with the chapter topic. For example, the Focus on Technology box in chapter 3 describes the latest technology for wireless access to the Internet. The Focus on the Internet boxes describe Internet applications or companies that use or support the chapter topic. For example, in the chapter on security and crime (chapter 10), the Internet focus box describes a new Internet application that enables users to securely save electronic documents in Safe-DepositBox.com. Finally, the Focus on People boxes provide an inside look at people closely associate with the growth of the networked economy. For example, the Focus on People box in chapter 6, on decision support systems, describes Bill Inmon, the father of the data warehouse.

The review and discussion questions at the end of the chapter provide the reader with an opportunity to review what they have learned from the chapter and to research and discuss issues associated with the material. The end-of-chapter case, WildOutfitters.com, is a continuing case that introduces the reader to Alex and Claire Campagne, owners of a small shop specializing in equipment and provisions for outdoor recreation located near the New River Gorge of West Virginia. The Campagnes are moving their business onto the Internet and the case asks students to apply what they have learned in the chapter to the development of the company. The WildOutfitters.com cases also requests that readers use Microsoft Office (or equivalent software) to solve problems associated with the situation described in the case.

Ancillary Materials

In addition to this textbook, there are a variety of ancillary items that are a part of the *Information Technology and the Networked Economy* package. These include a complete set of slides in Microsoft PowerPoint format, created by Norman Hollingsworth of Georgia Perimeter College; and a Test Bank, in electronic format,

that includes more than fifteen hundred test questions, created by Mark Huber of the University of Georgia. Both of these are available to adopters of the textbook. In addition, there will be two Web sites associated with this book, one that provides information and data files to both instructors and students and one that is associated with the running case on fareastfoods.com.

The Web site for the textbook, at http://www.harcourtcollege.com/infosys/mckeown, will provide students with data files necessary to work with the WildOutfitters.com case as well as answers to the Quick Review questions in the text. For instructors, this Web site provides a wealth of material, including an online Instructor's Manual, additional boxed inserts, and Microsoft Excel projects. The online Instructor's Manual contains a variety of items for each chapter, including: teaching objectives, learning objectives, chapter outlines, chapter reviews, list of teaching suggestions, annotated list of boxed inserts, suggested readings and Web sites, answers to review and discussion questions, and suggested solutions to the WildOutfitters cases.

The Web site, http://www.fareastfoods.com, corresponds to the case that runs throughout the textbook and allows students to interact with a simulated electronic commerce company. Although students cannot actually receive goods from fareastfoods.com, they can carry out all of the other activities described in the text.

A special ancillary available only to adopters of *Information Technology and the Networked Economy* are a group of Microsoft Excel projects and associated spreadsheet grading software. These Excel projects can be assigned independently of the textbook, to provide the students with opportunities to practice their spreadsheet skills. The spreadsheet grading software can grade spreadsheet projects stored on a local or network drive, create a class roll spreadsheet of student names and ID numbers and copy the grading results to it, and send the graded spreadsheets back to the student. All of this is accomplished automatically without requiring the instructor to be involved in the process.

Acknowledgments

Anyone familiar with writing a textbook such as this knows that the final product is not just the work of the author, but the result of a team effort. The team for *Information Technology and the Networked Economy* included many talented people, and I am thankful for their efforts. First, I want to thank Richard T. Watson of the Terry College of Business at the University of Georgia for his work as Consulting Editor on the text. In this role, Rick worked with me to define the key ideas in the text, discussed the topical coverage of each chapter with me, and acted as first reviewer of each chapter. I certainly could not have written this book without his help. I also want to thank Craig Piercy of Towson University for writing the WildOutfitters.com cases that appear at the end of each chapter. He brought to this part of the book a special talent for making the cases interesting as well as useful in the learning process. The health section of chapter 12 is primarily the result of work carried out by my wife, Carolyn McKeown, RN, BSN, and I want to express special thanks to her for that effort.

I also want to express my appreciation for those who reviewed one or more chapters of the manuscript. The final text reflects many of their ideas.

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