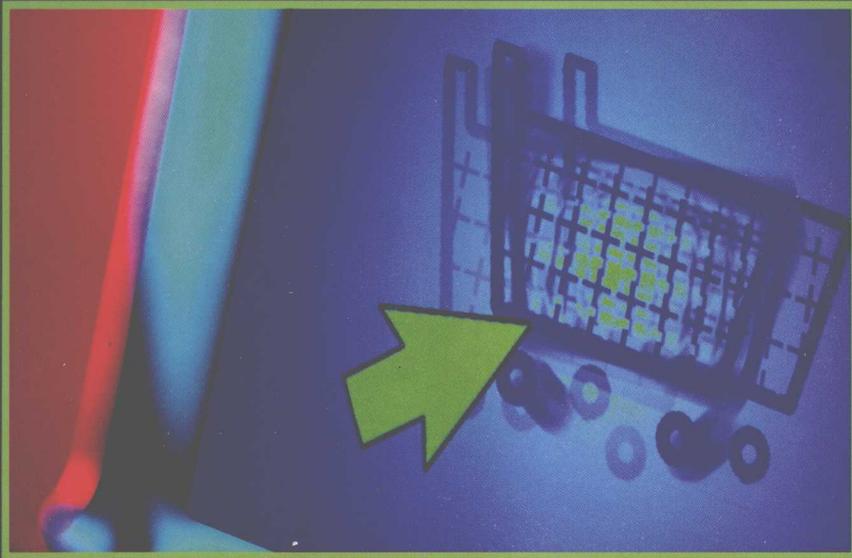


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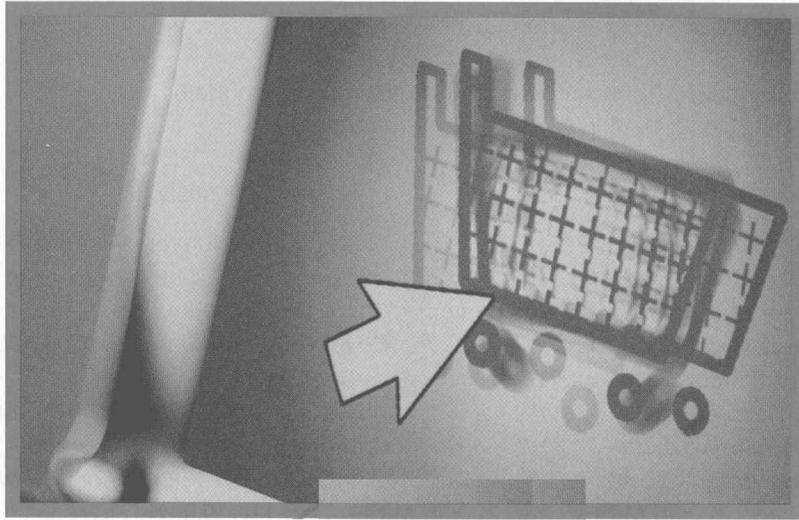
E-commerce



business. technology. society.

Kenneth C. Laudon
Carol Guercio Traver

E-commerce



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THIRD EDITION

Kenneth C. Laudon

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Carol Guercio Traver

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P R E F A C E

WELCOME TO THE NEW E-COMMERCE

In the ten years since it began in 1995, electronic commerce has grown in the United States from a standing start to a \$172 billion retail business and a \$1.5 trillion business-to-business juggernaut in 2005, bringing about enormous change in business firms, markets, and consumer behavior. Economies and business firms around the globe, in Europe, Asia, and Latin America, are being similarly affected. In the next five years, e-commerce in all of its forms is projected to continue growing at double-digit rates, becoming the fastest growing form of commerce in the world. Just as automobiles, airplanes, and electronics defined the twentieth century, so will e-commerce of all kinds define business and society in the twenty-first century. The rapid movement toward an e-commerce economy and society is being led by both established business firms such as Wal-Mart, J.C. Penney, and General Electric, and new entrepreneurial firms such as Amazon, E*Trade, Expedia, MySpace and eBay. Students of business and information technology need a thorough grounding in electronic commerce in order to be effective and successful managers in the next decade. This book is written for tomorrow's managers.

The focus of our book is on the new breed of e-commerce that emerged from the explosive entrepreneurial growth period of e-commerce that occurred from 1995 to Spring 2000. The defining characteristic of today's e-commerce firms is that they are profitable, sustainable, efficient, and innovative firms with powerful brand names. The surviving firms have evolved their business models, integrated their online and offline operations, and changed their revenue models to become profitable. Students must understand how to build these kinds of e-commerce businesses in order to help the business firms they manage to succeed in this new era of e-commerce. Since the dot.com bubble burst beginning in Spring 2000, many of the once high-flying dot.coms have failed, and what seemed like a never-ending supply of venture capital to support them turned out to be quite finite. It would be foolish to ignore the lessons learned in this early period of e-commerce. Like so many technology revolutions in the past—automobiles, electricity, telephones, television, and biotechnology—there was an explosion of entrepreneurial efforts, followed by consolidation, and yet continued rapid deployment. We do not shy away from making critical, yet sympathetic, assessments of this early, exciting period in e-commerce.

Fortunately, e-commerce has recovered from its initial period of consolidation. In 2006, e-commerce is alive, well, and growing very fast at double digit rates, bringing about extraordinary changes to markets, industries, individual businesses, and society as a whole. E-commerce is generating thousands of new jobs for young managers in all fields from marketing to management, entrepreneurial studies, and information systems. Today, e-commerce has moved into the mainstream life of established businesses that have the market brands and financial muscle required for the long-term deployment of e-commerce technologies and methods. If you are working in an established business, chances are the firm's e-commerce capabilities and Web presence are important factors for its success. If you want to start a new business, chances are very good that the knowledge you learn in this book will be very helpful.

BUSINESS. TECHNOLOGY. SOCIETY.

We believe that in order for business and technology students to really understand e-commerce, they must understand the relationships among e-commerce business concerns, Internet technology, and the social and legal context of e-commerce. These three themes permeate all aspects of e-commerce, and therefore in each chapter we present material that explores the business, technological, and social aspects of that chapter's main topic.

Given the continued growth and diffusion of e-commerce, all students—regardless of their major discipline—must also understand the basic economic and business forces driving e-commerce. E-commerce is creating new electronic markets where prices are transparent, markets are global, and trading is highly efficient, though not perfect. E-commerce is having a direct impact on the firm's relationship with suppliers, customers, competitors, and partners, as well as how firms market products, advertise, and use brands. Whether you are interested in marketing and sales, design, production, finance, information systems, or logistics, you will need to know how e-commerce technologies can be used to reduce supply chain costs, increase production efficiency, and tighten the relationship with customers. This text is written to help you understand the fundamental business issues in e-commerce.

We spend a considerable amount of effort analyzing the business models and strategies of “pure-play” online companies and established businesses now forging “bricks-and-clicks” business models. We explore why many early e-commerce firms failed and the strategic, financial, marketing, and organizational challenges they faced. We also describe how contemporary e-commerce firms learned from the mistakes of early firms, and how established firms are using e-commerce to succeed. Above all, we attempt to bring a strong sense of business realism and sensitivity to the often exaggerated descriptions of e-commerce. As founders of a dot.com company and participants in the e-commerce revolution, we have learned that the “E” in e-commerce does not stand for “easy.”

E-commerce is driven by Internet technology. Internet technology, and information technology in general, is perhaps the star of the show. Without the Internet, e-commerce would be virtually nonexistent. Accordingly, we provide four specific chapters on the Internet and e-commerce technology, and in every chapter we provide continuing coverage by illustrating how the topic of the chapter is being

shaped by new information technologies. For instance, Internet technology drives developments in payment systems, security, marketing strategies and advertising, financial applications, business-to-business trade, and retail e-commerce. We describe new wireless and mobile commerce technology, new telecommunications technologies that lower business costs, new software languages such as XML for expediting the flow of documents among business firms, new Internet technologies for making payments over the Internet, and new types of Internet-based information systems that support electronic business-to-business markets.

E-commerce is not only about business and technology, however. The third part of the equation for understanding e-commerce is society. E-commerce and Internet technologies have important social consequences that business leaders can ignore only at their peril. E-commerce has challenged our concepts of privacy, intellectual property, and even our ideas about national sovereignty and governance. Google, Amazon and assorted advertising networks maintain profiles on millions of U.S. and foreign online shoppers. The proliferation of illegally copied music on the Internet are challenging the intellectual property rights of record labels and artists. And many countries—including the United States—are demanding to control the content of Web sites displayed within their borders for political and social reasons. Tax authorities in the United States and Europe are demanding that e-commerce sites pay sales taxes. As a result of these challenges to existing institutions, e-commerce and the Internet are the subject of increasing investigation, litigation, and legislation. Business leaders need to understand these societal developments, and they cannot afford to assume any longer that the Internet is borderless, beyond social control and regulation, or a place where market efficiency is the only consideration. In addition to an entire chapter devoted to the social and legal implications of e-commerce, each chapter contains material highlighting the social implications of e-commerce.

FEATURES AND COVERAGE

Strong Conceptual Foundation We analyze e-commerce, digital markets, and e-business firms just as we would ordinary businesses and markets using concepts from economics, marketing, finance, philosophy, and information systems. We try to avoid ad hoc theorizing of the sort that sprang breathlessly from the pages of many journals in the early years of e-commerce.

Some of the important concepts from economics and marketing that we use to explore e-commerce are transaction cost, network externalities, perfect digital markets, segmentation, price dispersion, targeting, and positioning. Important concepts from the study of information systems and technologies play an important role in the book, including public key encryption, multi-tier server systems, Internet standards and protocols, wireless technologies, and client/server computing. From the literature on ethics and society, we use important concepts such as intellectual property, information rights, governance, public health, and welfare.

From the literature on business, we use concepts such as business process design, return on investment, strategic advantage, industry competitive environment, oligopoly, and monopoly. One of the witticisms that emerged from the early years of e-commerce and that still seems apt is the notion that e-commerce changes

everything except the rules of business. Businesses still need to make a profit in order to survive in the long term.

Real-World Business Firm Focus From Akamai Technologies, to Google, Microsoft, Apple, Amazon, to Zoomerang.com, *E-commerce: Business. Technology. Society.* contains well over one hundred real-company examples that place coverage in the context of actual dot.com businesses. You'll find these examples in each chapter, as well as in special features such as chapter-opening and chapter-closing cases, and "Insight on" boxes.

E-commerce in Action Cases Part IV of the book analyzes the business strategies and financial operating results of seven public e-commerce companies in retail, services, B2B, auctions, portals, communities, and digital media content. The companies we analyze in-depth are:

Chapter 10 Retailing on the Web	Amazon
Chapter 11 Online Service Industries	E*Trade Expedia
Chapter 12 B2B E-commerce: Supply Chain Management and Collaborative Commerce.	Ariba
Chapter 13 Auctions, Portals, and Communities	eBay Yahoo
Chapter 14 Online Content Providers: Digital Media	CNET Networks

For each company, we identify the vision of the company, analyze its financial performance, review its current strategy, and assess the near-term future prospects for the firm. These cases are ideal real-world instructional guides for students interested in understanding the financial foundation of e-commerce firms, their strategic visions and customer value propositions, and their changing strategic objectives. They can also be used as projects where students update the case materials using the most current financial and business news, or provide additional analysis.

In-depth Coverage of B2B E-commerce We devote an entire chapter to an examination of B2B e-commerce. In writing this chapter, we developed a unique and easily understood classification schema to help students understand this complex arena of e-commerce. This chapter covers four types of Net marketplaces (e-distributors, e-procurement companies, exchanges, and industry consortia) as well as the development of private industrial networks and collaborative commerce.

Current and Future Technology Coverage Internet and related information technologies continue to change rapidly. What was once a shortage of telecommunications capacity has now turned into a surplus, PC prices have continued to fall, new client-side devices have emerged, Internet high-speed broadband connections are now typical and are continuing to show double-digit growth, and wireless technologies such as Wi-Fi are gaining widespread acceptance. While we thoroughly discuss the current Internet environment, we devote considerable attention to describing Internet II technologies and applications such as the advanced network infrastructure, fiber optics, wireless Web and 3G technologies, Wi-Fi, IP multicasting, and future guaranteed service levels.

Up-to-date Coverage of the Research Literature This text is well grounded in the e-commerce research literature. We have sought to include where appropriate references and analysis of the latest e-commerce research findings, as well as many classic articles, in all of our chapters. We have drawn especially on the disciplines of economics, marketing, and information systems and technologies, as well as law journals and broader social science research journals including sociology and psychology.

Special Attention to the Social and Legal Aspects of E-commerce We have paid special attention throughout the book to the social and legal context of e-commerce. Chapter 9 is devoted to a thorough exploration of four ethical dimensions of e-commerce: information privacy, intellectual property, governance, and protecting public welfare on the Internet. We have included an analysis of the latest Federal Trade Commission and other regulatory and nonprofit research reports, and their likely impact on the e-commerce environment.

OVERVIEW OF THE BOOK

The book is organized into four parts.

Part 1, "Introduction to E-commerce," provides an introduction to the major themes of the book. Chapter 1 defines e-commerce, distinguishes between e-commerce and e-business, and defines the different types of e-commerce. Chapter 2 introduces and defines the concepts of business model and revenue model, describes the major e-commerce business and revenue models for both B2C and B2B firms, and introduces the basic business concepts required throughout the text for understanding e-commerce firms including industry structure, value chains, and firm strategy.

Part 2, "Technology Infrastructure for E-commerce," focuses on the technology infrastructure that forms the foundation for all e-commerce. Chapter 3 traces the historical development of Internet I—the first Internet—and thoroughly describes how today's Internet works. A major focus of this chapter is the new Internet II that is now under development and will shape the near-term future of e-commerce. Chapter 4 builds on the Internet chapter by focusing on the steps managers need to follow in order to build a commercial Web site. This e-commerce infrastructure chapter covers the systems analysis and design process that should be followed in

building an e-commerce Web site; the major decisions surrounding the decision to outsource site development and/or hosting; and how to choose software, hardware, and other tools that can improve Web site performance.

Chapter 5 focuses on Internet security and encryption, building on the e-commerce infrastructure discussion of the previous chapter by describing the ways security can be provided over the Internet. This chapter defines digital information security, describes the major threats to security, and then discusses both the technology and policy solutions available to business managers seeking to secure their firm's sites. Chapter 6 focuses on payment systems. This chapter identifies the stakeholders in payment systems, the dimensions to consider in creating payment systems, and the various types of systems, and then describes in some detail digital wallets, digital cash, digital credit cards, digital checking, smart cards, B2B payment systems, and electronic billing and presentment systems.

Part 3, "Business Concepts and Social Issues," focuses directly on the business concepts and social-legal issues that surround the development of e-commerce. Chapter 7 focuses on e-commerce consumer behavior, the Internet audience, and introduces the student to the basics of online marketing and branding, including online marketing technologies and marketing strategies. Chapter 8 is devoted to online marketing communications, such as online advertising, e-mail marketing, and search-engine marketing.

Chapter 9 provides a thorough introduction to the social and legal environment of e-commerce. Here, you will find a description of the ethical and legal dimensions of e-commerce, including a thorough discussion of the latest developments in personal information privacy, intellectual property, Internet governance, jurisdiction, and public health and welfare issues such as pornography, gambling, and health information.

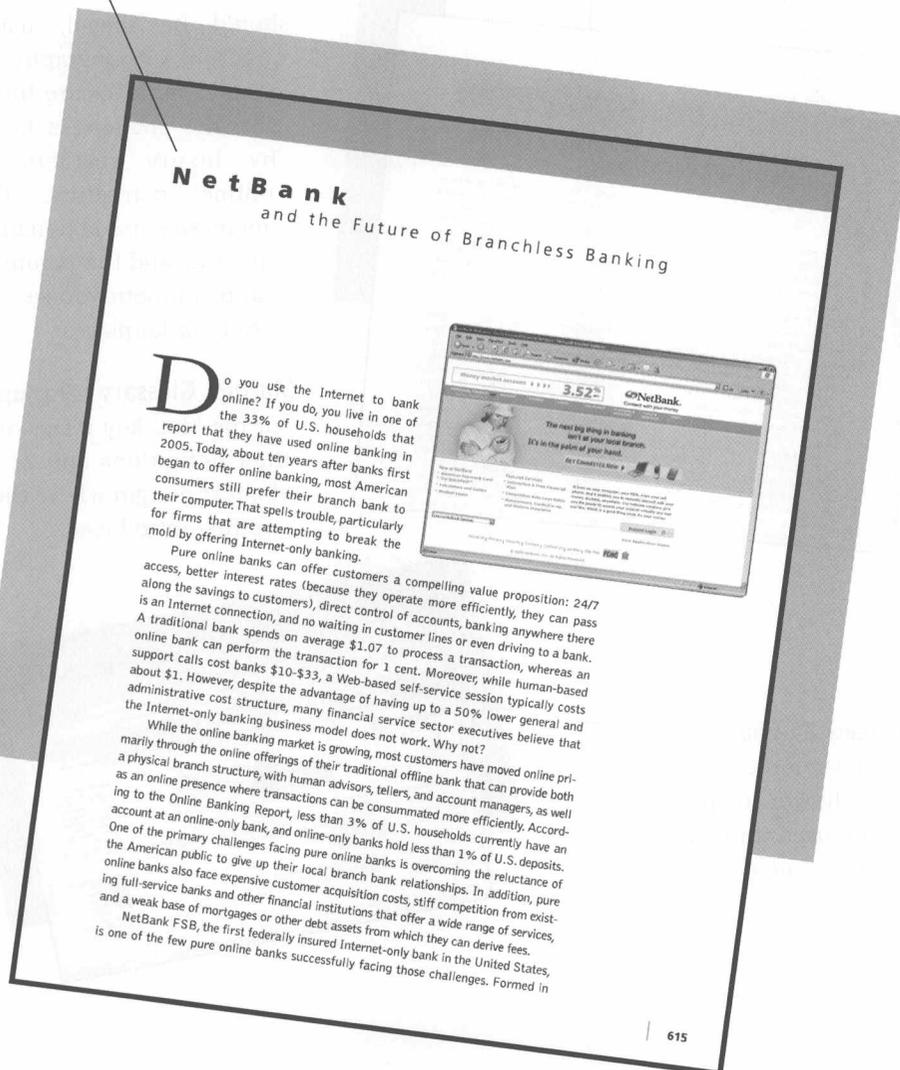
Part 4, "E-commerce in Action," focuses on real-world e-commerce experiences in retail, services, business-to-business, auctions, portals, communities, and digital online media. These chapters take a sector approach rather than a conceptual approach as used in the earlier chapters. E-commerce is different in each of these sectors. Chapter 10 takes a close look at the experience of firms in the retail marketplace, including both "pure-play" online firms such as Amazon and mixed strategy "bricks-and-clicks" firms such as Wal-Mart and J.C. Penney. Chapter 11 examines the online services industries, with an in-depth look at online financial (banking, brokerage, real estate, and insurance), travel, and career services. Chapter 12 explores the world of B2B commerce, describing both electronic Net marketplaces and the less heralded, but very large arena of private industrial networks and the movement toward collaborative commerce. Chapter 13 explores the online world of auctions, portals, and communities. We describe a number of successful ventures here, including eBay.com and Yahoo, and communities such as iVillage and MySpace. Chapter 14 explores the world of online content and digital media, and examines the online publishing and entertainment industries.

CHAPTER OUTLINE

Each chapter contains a number of elements designed to make learning easy as well as interesting.

Learning Objectives A list of learning objectives that highlights the key concepts in the chapter guides student study.

Chapter-Opening Cases Each chapter opens with a story about a leading e-commerce company that relates the key objectives of the chapter to a real-life e-commerce business venture.





"Insight on" Cases Each chapter contains three real-world short cases, drawn from the popular press, illustrating the themes of technology, business, and society. These cases create an integrated framework and coverage throughout the book for describing and analyzing the full breadth of the field of e-commerce. The cases probe such issues as whether Web bugs should be illegal, using quantum cryptography to create a more secure Internet, the challenges faced by luxury retailers in online marketing, the increasing use of dynamic pricing, and the potential anti-competitiveness of Net marketplaces.

Margin Glossary Throughout the text, key terms and their definitions appear in the text margin where they are first introduced.

Real-Company Examples Drawn from actual e-commerce ventures, well over 100 pertinent examples are used throughout the text to illustrate concepts.



Chapter-Closing Case Studies Each chapter concludes with a robust case study based on a real-world organization. These cases help students synthesize chapter concepts and apply this knowledge to concrete problems and scenarios such as evaluating the ethics and legality of advertising spyware, the marketing plans of Liquidation.com, and the business model behind the alliance between AOL and Google.

Chapter-Ending Pedagogy Each chapter contains end-of-chapter materials designed to reinforce the learning objectives of the chapter.

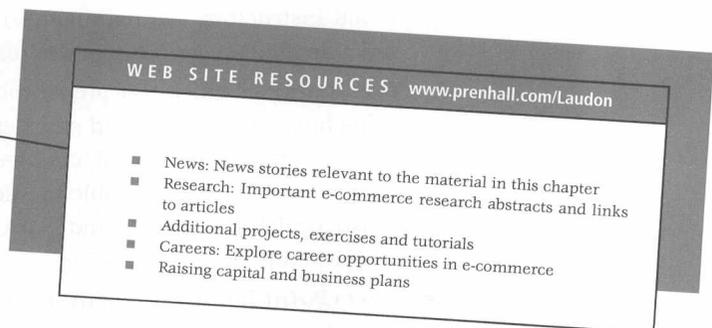
Key Concepts Keyed to the learning objectives, Key Concepts present the key points of the chapter to aid student study.

Review Questions Thought-provoking questions prompt students to demonstrate their comprehension and apply chapter concepts to management problem solving.

Projects At the end of each chapter are a number of projects that encourage students to apply chapter concepts and to use higher level evaluation skills. Many make use of the Internet and require students to present their findings in an oral presentation or written report. For instance, students are asked to evaluate publicly available information about a company's financials at the SEC Web site, assess payment system options for companies across international boundaries, or search for the top ten cookies on their own computer and the sites they are from.

WEB RESOURCES A section at the end of the chapter directs students to Web resources on the Companion Web site at www.prenhall.com/Laudon that can extend their knowledge of each chapter with projects and exercises and additional content. The Web site contains the following contemporary content maintained by the authors:

- **Featured Research:** a monthly review of important e-commerce research articles by Ken Laudon.



- **Featured News:** a monthly review of an important e-commerce related news event.
- **Projects/Exercises:** Additional projects and exercises that involve higher level skills.
- **Tech Tutorials:** Short lessons, guides and tutorials on the Web covering the following technical topics such as XML, CGI, Active Server Pages, JAVA and Web site design.
- **Business plans:** how to build a business plan and revenue models.
- **Raising capital:** Reports on the recent activities of venture capitalists in the e-commerce space.
- **Careers:** Essays on careers in e-commerce including marketing, technology, web design, and web metrics.

SUPPORT PACKAGE

Companion Web Site Integrating Technology and Learning Available at www.prenhall.com/Laudon, this Web site (described above) provides online access to innovative teaching and learning tools. In addition to the Companion Web site, the Web content is available in Course Compass™, WebCT, and BlackBoard versions. CourseCompass™ is a nationally hosted, dynamic, interactive online course management system powered by BlackBoard, leaders in the development of Internet-based learning tools. This easy-to-use and customizable program enables instructors to tailor content and functionality to meet individual course needs. To see a demo, visit www.coursecompass.com. Please contact your local sales representative for more information on obtaining Web content in these various formats.

The following supplementary materials are available to qualified instructors through the Companion Web site. Contact your Prentice Hall sales representative for information about how to access them.

- **Instructor's Manual with solutions** This comprehensive manual pulls together a wide variety of teaching tools so that instructors can use the text easily and effectively. Each chapter contains an overview of key topics, a recap of the key learning objectives, lecture tips, discussion of the chapter-ending case, and detailed answers to the Case Study Questions, Review Questions, and Student Projects. To aid instructors, the manual also includes a variety of suggested course syllabi and a detailed description of the resources available at the text's Web site.
- **Test Bank** For quick test preparation, the author-created Test Bank contains multiple-choice, true/false, and short-essay questions that focus both on content and the development of critical/creative thinking about the issues evoked by the chapter. The Test Bank is available in Microsoft Word and TestGen format. The TestGen is also available in WebCT and BlackBoard-ready format. TestGen allows instructors to view, edit, and add questions.
- **PowerPoint lecture presentation slides** illustrate key points, tables, and figures from the text in lecture-note format. The slides can be easily converted to transparencies or viewed electronically in the classroom.

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*Kenneth C. Laudon
Carol Guercio Traver*

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