

GLOBAL
EDITION



E-commerce 2014

business. technology. society.

© CourseSmart

TENTH EDITION

Kenneth C. Laudon • Carol Guercio Traver



ALWAYS LEARNING

PEARSON

E-commerce



© CourseSmart

business. technology. society.

GLOBAL EDITION

T E N T H E D I T I O N

Kenneth C. Laudon

New York University

Carol Guercio Traver

Azimuth Interactive, Inc.

PEARSON

Boston Columbus Indianapolis New York San Francisco Upper Saddle River
Amsterdam Cape Town Dubai London Madrid Milan Munich Paris Montreal Toronto
Delhi Mexico City São Paulo Sydney Hong Kong Seoul Singapore Taipei Tokyo

Editor In Chief: Stephanie Wall
Executive Editor: Bob Horan
Senior Acquisitions Editor, Global Edition: Steven Jackson
Project Editor, Global Editions: Laura Thompson
Program Manager Team Lead: Ashley Santora
Program Manager: Denise Vaughn
Editorial Assistant: Kaylee Rotella
Executive Marketing Manager: Anne K. Fahlgren
Project Manager Team Lead: Judy Leale

Marketing Manager, International: Kristin Schneider
Project Manager: Karalyn Holland
Operations Specialist: Michelle Klein
Creative Director: Blair Brown
Sr. Art Director: Janet Slowik
Cover Designer: Jodi Notowitz
Cover Image: © Shutter_M - shutterstock
Media Project Manager: Lisa Rinaldi
Full Service Project Management: Azimuth Interactive, Inc.

Pearson Education Limited

Edinburgh Gate
Harlow
Essex CM20 2JE
England
and Associated Companies throughout the world

Visit us on the World Wide Web at:
www.pearson.com/uk

© Kenneth C. Laudon and Carol Guercio Traver, 2014, 2013, 2012, 2011, 2010

The right of Kenneth C. Laudon and Carol Guercio Traver to be identified as authors of this work has been asserted by them in accordance with the Copyright, Designs and Patents Act 1988.

Authorised adaptation from the United States edition, entitled E-commerce: business. technology. society. 2014 10th edition, ISBN 978-0-13-302444-9 by Kenneth C. Laudon and Carol Guercio Traver, published by Pearson Education, 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 or otherwise, without either the prior written permission of the publisher or a licence permitting restricted copying in the United Kingdom issued by the Copyright Licensing Agency Ltd, Saffron House, 6–10 Kirby Street, London EC1N 8TS.

All trademarks used herein are the property of their respective owners. The use of any trademark in this text does not vest in the author or publisher any trademark ownership rights in such trademarks, nor does the use of such trademarks imply any affiliation with or endorsement of this book by such owners.

Credits and acknowledgements borrowed from other sources and reproduced, with permission, in this textbook appear on page 905.

ISBN 13: 978-1-292-00909-4

ISBN 10: 1-292-00909-8

British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library

10 9 8 7 6 5 4 3 2 1

15 14 13 12 11

Typeset in ITC Veljovic Std. Book 9.5pt by Azimuth Interactive Inc.

Printed and bound by Courier/Kendallville in the United States of America.

Complete Listing of Chapter Opening Cases, Insight Features, E-commerce in Action Cases, and Case Studies

CHAPTER 1 INTRODUCTION TO E-COMMERCE

Opening Case: Puma Loves Social, Mobile, Omni
Insight on Technology: Will Apps Make the Web Irrelevant?
Insight on Business: Rocket Internet
Insight on Society: Facebook and the Age of Privacy
Case Study: The Pirate Bay: Searching for a Safe Haven

© CourseSmart

CHAPTER 2 E-COMMERCE INFRASTRUCTURE: THE INTERNET, WEB, AND MOBILE PLATFORM

Opening Case: Wikitude: Augment My Reality
Insight on Society: Government Surveillance and Regulation of the Internet
Insight on Technology: Is HTML5 Ready for Prime Time?
Insight on Business: Apps for Everything: The App Ecosystem
Case Study: Akamai Technologies: Attempting to Keep Supply Ahead of Demand

© CourseSmart

CHAPTER 3 BUILDING AN E-COMMERCE PRESENCE: WEB SITES, MOBILE SITES, AND APPS

Opening Case: The Financial Times: A Remodel for 21st Century Publishing Profitability
Insight on Business: Curly Hair and Appillionaires
Insight on Society: Designing for Accessibility
Insight on Technology: Building a Mobile Presence
Case Study: Orbitz Charts Its Mobile Trajectory

CHAPTER 4 E-COMMERCE SECURITY AND PAYMENT SYSTEMS

Opening Case: Europol Takes on Cybercrime with EC3
Insight on Business: We Are Legion
Insight on Technology: Think Your Smartphone Is Secure?
Insight on Society: Bitcoin
Case Study: Online Payment Marketplace: Goat Rodeo

© CourseSmart

CHAPTER 5 E-COMMERCE BUSINESS MODELS

Opening Case: Beatguide: Turning a Passion into a Business
Insight on Society: Foursquare: Check Your Privacy at the Door
Insight on Business: Crowdfunding Takes Off
Insight on Technology: Battle of the Titans: Music in the Cloud
Case Study: Pandora and the Freemium Business Model

© CourseSmart

CHAPTER 6 E-COMMERCE MARKETING AND ADVERTISING

Opening Case: InMobi's Global Mobile Ad Network
Insight on Business: Are the Very Rich Different From You and Me?
Insight on Technology: The Long Tail: Big Hits and Big Misses
Insight on Society: Every Move You Take, Every Click You Make, We'll Be Tracking You
Case Study: Instant Ads: Real-Time Marketing on Exchanges

continued on back inside cover

continued from front inside cover

CHAPTER 7 SOCIAL, MOBILE, AND LOCAL MARKETING

Opening Case: Just Falafel Soars with Social Media

Insight on Technology: Fairmont Hotels: Using Google Analytics to Optimize Social and Mobile Marketing

Insight on Society: Marketing to Children of the Web in the Age of Social Networks

Insight on Business: Mobile Marketing: Land Rover Seeks Engagement on the Small Screen

Case Study: ExchangeHunterJumper.com: Building a Brand with Social Marketing

CHAPTER 8 ETHICS, LAW, AND E-COMMERCE

Opening Case: The EU Objects to Google's New Privacy Policy

Insight on Technology: Apple and Samsung Fight a Patent Battle Around the Globe

Insight on Business: New Rules Extend EU Taxation of E-commerce © CourseSmart

Insight on Society: The Internet Drug Bazaar Operates Around the Globe

Case Study: The Google Books Settlement: Is It Fair?

CHAPTER 9 ONLINE MEDIA

Opening Case: Spotify and Deezer: European Streaming Music Services Spread Around the Globe

Insight on Society: Can Apps and Video Save Newspapers?

Insight on Business: Read All About It: Rival Digital Newstands Fight

Insight on Technology: Hollywood and the Internet: Let's Cut a Deal

Case Study: Netflix: The Next Blockbuster?

CHAPTER 10 SOCIAL NETWORKS AND COMMUNITIES

Opening Case: Viadeo Challenges LinkedIn with a Multi-Local Approach

Insight on Society: The Dark Side of Social Networks

Insight on Technology: Facebook Has Friends

Insight on Business: The Transformation of AOL

Case Study: eBay Evolves

CHAPTER 11 E-COMMERCE RETAILING AND SERVICES

Opening Case: Souq.com: The Amazon of the Middle East

E-Commerce in Action: Amazon.com

Insight on Technology: Comparison Shopping Around the World

Insight on Business: Private Accommodation Services

Insight on Society: Phony Reviews

Case Study: OpenTable: Your Reservation is Waiting

© CourseSmart

CHAPTER 12 B2B E-COMMERCE

Opening Case: Alibaba: China's E-commerce Enchanter

Insight on Society: Where's My iPad? Supply Chain Risk and Vulnerability

Insight on Technology: RFID Autoidentification: Giving a Voice to Your Inventory

Insight on Business: Walmart Develops a Private Industrial Network

Case Study: Elemica: Cooperation, Collaboration, and Community

P R E F A C E

E-commerce. Business. Technology. Society. Global Edition 10e provides you with an in-depth introduction to the field of global e-commerce. We focus on concepts that will help you understand and take advantage of the evolving world of opportunity offered by e-commerce, which is dramatically altering the way business is conducted and driving major shifts in the global economy. E-commerce is a global phenomenon affecting economic and social life throughout the world. The Global Edition is aimed at students and professionals in the European Union, the Middle East, Asia Pacific, Australia, and South Africa. Case studies reflect e-commerce firms in these regions, and figures and tables relate to these regional sources wherever possible.

Just as important as our global orientation, we have tried to create a book that is thought-provoking and current. We use the most recent data available, and focus on companies that you are likely to encounter on a daily basis in your everyday life, such as Facebook, Google, Twitter, Amazon, YouTube, Pinterest and eBay. New Global Edition cases include PUMA, Wikitude, Financial Times, Beatgroup, InMobi, Just Falafel, Spotify, Deezer, Viadeo, Souk, Alibaba, and RocketInternet, among others. We also have up-to-date coverage of the key topics in e-commerce today, from privacy and piracy, to government surveillance, cyberwar, social, local, and mobile marketing, Internet sales taxes, intellectual property, and more. You will find here the most up-to-date and comprehensive overview of e-commerce today.

The e-commerce concepts you learn in this book will make you valuable to potential employers. The e-commerce job market is expanding rapidly. Many employers expect new employees to understand the basics of e-commerce, social and mobile marketing, and how to develop an e-commerce presence. Every industry today is touched in at least some way by e-commerce. The information and knowledge you find in this book will be valuable throughout your career, and after reading this book, we expect that you will be able to participate in, and even lead, management discussions of e-commerce for your firm.

WHAT'S NEW IN THE TENTH GLOBAL EDITION

New Chapter on Social, Mobile, and Local Marketing

Given the growing importance of social, mobile, and local marketing in e-commerce, we have written an entirely new chapter devoted to providing an in-depth examination of these topics. In this new chapter, you will learn how companies are using Facebook, Twitter, and Pinterest for social marketing, how to begin a social marketing campaign and how to measure results for each of these platforms. We provide similar examination of mobile and local and location-based marketing as well.

New Infographics

A variety of infographics throughout the book provide a more visual and intuitive access to concepts and information. Infographics make it easier to see and remember patterns and relationships than traditional charts and graphs.

Currency

The 10th edition features all new or updated opening, closing, and “Insight on” cases. The text, as well as all of the data, figures, and tables in the book, have been updated through October 2013 with the latest marketing and business intelligence available from eMarketer, Pew Internet & American Life Project, Forrester Research, comScore, Gartner Research, and other industry sources.

What’s New in E-commerce 2014

E-commerce today is greatly different from e-commerce only five years ago. The iPhone was introduced in 2007. The iPad tablet was first introduced in 2010 and has already gone through several generations! The smartphone and tablet devices have changed e-commerce into a social, local, and mobile experience. The 10th edition spotlights the following themes and content:

Headlines

- Social, Mobile, Local: We have included an entirely new chapter describing social, mobile, and local marketing. Content about social networks, the mobile platform and local e-commerce appears throughout the book.
 - » Social networks such as Facebook, Twitter, Pinterest, and LinkedIn continue their rapid growth, laying the groundwork for a social network marketing platform
 - » The mobile platform composed of smartphones and tablet computers takes off and becomes a major factor in search, marketing, payment, retailing and services, and online content. Mobile device use poses new security and privacy issues as well.
 - » Location-based services lead to explosive growth in local advertising and marketing.
- Online privacy continues to deteriorate, driven by a culture of self-revelation and powerful technologies for collecting personal information online without the knowledge or consent of users.
- Internet security risks increase; cyberwarfare becomes a new way of conducting warfare among nation-states and a national security issue.

Business

- Global e-commerce revenues surge after the recession.
- Internet advertising growth resumes, at a faster rate than traditional advertising.
- Social marketing grows faster than traditional online marketing like search and display advertising.

- E-books take off and expand the market for text, supported by the iPad, Kindle, Nook, and iPhone.
- Streaming of popular TV shows and movies (Netflix, Amazon, and Hulu.com) becomes a reality, as Internet distributors and Hollywood and TV producers strike deals for Web distribution that also protects intellectual property.
- “Free” and “freemium” business models compete to support digital content.
- New mobile payment platforms emerge to challenge PayPal.
- B2B e-commerce exceeds pre-recession levels as firms become more comfortable with digital supply chains.

Technology

- Smartphones, tablets, and e-book readers, along with associated software applications, and coupled with 4G cellular network expansion, fuel rapid growth of the mobile platform.
- Investment in cloud computing increases, providing the computing infrastructure for a massive increase in online digital information and e-commerce.
- Cloud-based streaming services for music and video challenge sales of downloads and physical product.
- Software apps fuel growth in app sales, marketing, and advertising; transforming software production and distribution.
- Touch interface operating systems dominate mobile devices. Windows 8 introduced with a touch screen interface, mimicking Apple’s iOS and Google Android smartphones.
- The cost of developing sophisticated Web sites continues to drop due to declining software and hardware prices and open source software tools.
- Internet and cellular network capacity is challenged by the rapid expansion in digital traffic generated by mobile devices; the use of bandwidth caps tier-pricing expands.
- Internet telecommunications carriers support differential pricing to maintain a stable Internet; opposed by Net neutrality groups pushing non-discriminatory pricing.

Society

- The mobile, “always on” culture in business and family life continues to grow.
- Congress considers legislation to regulate the use of personal information for behavioral tracking and targeting consumers online.
- States heat up the pursuit of taxes on Internet sales by Amazon and others.
- Intellectual property issues remain a source of conflict with significant movement toward resolution in some areas, such as Google’s deals with Hollywood and the publishing industry, and Apple’s and Amazon’s deals with e-book and magazine publishers.

- P2P piracy traffic declines as paid streaming music and video gains ground, although digital piracy of online content remains a significant threat to Hollywood and the music industry.
- Governments around the world increase surveillance of Internet users and Web sites in response to national security threats; Google continues to tussle with China and other countries over censorship and security issues.
- Venture capital investing in e-commerce explodes for social, mobile, and local software applications. Crowdfunding becomes a new source of funding for e-commerce start-ups.

WELCOME TO THE NEW E-COMMERCE

Since it began in 1995, global electronic commerce has grown from a standing start to a \$1.2 trillion retail, travel, and media business and a \$12.4 trillion business-to-business juggernaut, bringing about enormous change in business firms, markets, and consumer behavior. Economies and business firms around the globe are being similarly affected. During this relatively short time, e-commerce has itself been transformed from its origin as a mechanism for online retail sales into something much broader. Today, e-commerce has become the platform for media and new, unique services and capabilities that aren't found in the physical world. There is no physical world counterpart to Facebook, Twitter, Google search, or a host of other recent online innovations from Pinterest and iTunes to Tumblr. Welcome to the new e-commerce!

Although e-commerce today has been impacted by the worldwide economic recession, in the next five years, e-commerce in all of its forms is still projected to continue growing at high single-digit rates, becoming the fastest growing form of commerce. 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 Walmart, Ford, IBM, Macy's, and General Electric, and newer entrepreneurial firms such as Google, Amazon, Apple, Facebook, Yahoo, Twitter, YouTube, and Photobucket. 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.

While newer firms such as Facebook, Tumblr, YouTube, Twitter, Pinterest, Alibaba, and Square have grown explosively in the last two years and grab our attention, the traditional forms of retail e-commerce and services also remain vital and have proven to be more resilient than traditional retail channels in facing the economic recession. The experience of these firms from 1995 to the present is also a focus of this book. The defining characteristic of these firms is that they are profitable, sustainable, efficient, and innovative, with powerful brand names. Many of these now-experienced retail and service firms, such as eBay, Amazon, E*Trade, Priceline, and Expedia, are survivors of the first era of e-commerce, from 1995 to spring 2000. These 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 the e-commerce era.

It would be foolish to ignore the lessons learned in the 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. By 2005, the survivors of the early period were moving to establish profitable businesses while maintaining rapid growth in revenues. In 2013, e-commerce is entering a new period of explosive entrepreneurial activity focusing on social networks and the mobile digital platform created by smartphones and tablet computers. These technologies and social behaviors are bringing about extraordinary changes to our personal lives, markets, industries, individual businesses, and society as a whole. In 2012–2013, the stock values of Apple, Google, and Amazon hit new highs, along with many start-ups. 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 has created new electronic markets where prices are more transparent, markets are global, and trading is highly efficient, though not perfect. E-commerce has a direct impact on a 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 employing “bricks-and-clicks” business models. We explore why e-commerce firms fail and the strategic, financial, marketing, and organizational challenges they face. We also discuss how e-commerce firms learned from the mistakes of early firms, and how estab-

lished 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.”

The Web and e-commerce have caused a major revolution in marketing and advertising in the United States. We spend two chapters discussing online marketing and advertising. Chapter 6 discusses “traditional” online marketing formats like search engine marketing, display advertising, and e-mail, as well as various Internet marketing technologies underlying those efforts, and metrics for measuring marketing success. Chapter 7 provides an in-depth examination of social, mobile, and local marketing, which relies on mobile devices and social networks.

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 three chapters specifically 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 security and payment systems, marketing strategies and advertising, financial applications, media distribution, business-to-business trade, and retail e-commerce. We discuss the rapid growth of the mobile digital platform, the emergence of cloud computing, new open source software tools and applications that enable Web 2.0, 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, Facebook, Apple, Amazon, and assorted advertising networks maintain profiles on millions of shoppers and consumers worldwide. The proliferation of illegally copied music and videos on the Internet, and the growth of social networking sites often based on displaying copyrighted materials without permission, are challenging the intellectual property rights of record labels, Hollywood studios, 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 just like ordinary brick and mortar stores on mainstreet. 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 The book emphasizes the three major driving forces behind e-commerce: business development and strategy, technological innovations, and social controversies and impacts. Each of these driving forces is represented in every chapter, and together they provide a strong and coherent conceptual framework for understanding e-commerce. We analyze e-commerce, digital markets, and e-business firms just as we would ordinary businesses and markets using concepts from economics, marketing, finance, sociology, philosophy, and information systems. We strive to maintain a critical perspective on e-commerce and avoid industry hyperbole.

Some of the important concepts from economics and marketing that we use to explore e-commerce are transaction cost, network externalities, information asymmetry, social networks, 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 Internet standards and protocols, client/server computing, multi-tier server systems, cloud computing, mobile digital platform and wireless technologies, and public key encryption, among many others. From the literature on ethics and society, we use important concepts such as intellectual property, privacy, information rights and rights management, 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. We also provide a basic understanding of finance and accounting issues, and extend this through an “E-commerce in Action” case that critically examines the financial statements of Amazon. 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.

Currency Important new developments happen almost every day in e-commerce and the Internet. We try to capture as many of these important new developments in each annual edition. You will not find a more current book for a course offered for the 2014 academic year. Many other texts are already six months to a year out of date before they even reach the printer. This text, in contrast, reflects extensive research through October 2013, just weeks before the book hits the press.

Real-World Global Business Firm Focus and Cases From Akamai Technologies to Google, Microsoft, Apple, and Amazon, to Facebook, Twitter, and Tumblr, to Netflix, Pandora, and Elemica, this book contains hundreds of real-company examples and over 60 more extensive cases 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, chapter-closing, and “Insight on” cases. The book takes a realistic look at the world of e-commerce, describing what’s working and what isn’t, rather than presenting a rose-colored or purely “academic” viewpoint.

© CourseSmart

In-depth Coverage of Marketing and Advertising The text includes two chapters on marketing and advertising, both traditional online marketing and social, mobile, and local marketing. Marketing concepts, including market segmentation, personalization, clickstream analysis, bundling of digital goods, long-tail marketing, and dynamic pricing, are used throughout the text.

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.

© CourseSmart

Current and Future Technology Coverage Internet and related information technologies continue to change rapidly. The most important changes for e-commerce include dramatic price reductions in e-commerce infrastructure (making it much less expensive to develop sophisticated Web sites), the explosive growth in the mobile platform such as iPhones, iPads, tablet computers, and expansion in the development of social technologies, which are the foundation of online social networks. What was once a shortage of telecommunications capacity has now turned into a surplus, PC prices have continued to fall, smartphone and tablet sales have soared, Internet high-speed broadband connections are now typical and are continuing to show double-digit growth, and wireless technologies such as Wi-Fi and cellular broadband are transforming how, when, and where people access the Internet. While we thoroughly discuss the current Internet environment, we devote considerable attention to describing Web 2.0 and emerging technologies and applications such as the advanced network infrastructure, fiber optics, wireless Web and 4G 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.

We do not use references to Wikipedia in this text, for a variety of reasons. Most colleges do not consider Wikipedia a legitimate or acceptable source for academic research and instruct their students not to cite it. Material found on Wikipedia may be out of date, lack coverage, lack critical perspective, and cannot necessarily be trusted. Our references are to respected academic journals; industry sources such as eMarketer, comScore, Hitwise, Nielsen, and Gartner; newspapers such as the *New York Times* and *Wall Street Journal*; and industry publications such as *Computerworld* and *InformationWeek*, among others. Figures and tables sourced to “authors’ estimates” reflect analysis of data from the U.S. Department of Commerce, estimates from various research firms, historical trends, revenues of major online retailers, consumer online buying trends, and economic conditions.

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 8 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.

A major theme throughout this chapter, and the remainder of the book, is the impact of social, mobile, and local commerce on how consumers use the Internet.

Writing That's Fun to Read Unlike some textbooks, we've been told by many students that this book is actually fun to read and easy to understand. This is not a book written by committee—you won't find a dozen different people listed as authors, co-authors, and contributors on the title page. We have a consistent voice and perspective that carries through the entire text and we believe the book is the better for it.

OVERVIEW OF THE BOOK

The book begins with an introductory chapter that 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 traces the historical development of the Internet and thoroughly describes how today's Internet works. A major focus of this chapter is mobile technology, Web 2.0 applications, and the near-term future Internet that is now under development and will shape the future of e-commerce. Chapter 3 builds on the Internet chapter by focusing on the steps managers need to follow in order to build an e-commerce presence. This e-commerce infrastructure chapter covers the steps involved in developing an e-commerce presence; the systems analysis and design process that should be followed; the major decisions regarding outsourcing site development and/or hosting; and how to choose software, hardware, and other tools that can improve Web site performance. Chapter 4 focuses on Internet security and payments, building on the e-commerce infrastructure discussion of the previous chapter by describing the ways security can be provided over the Internet. The 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. This chapter concludes with a section on Internet payment systems. We identify the stakeholders in payment systems and the various types of online payment systems (credit cards, alternative online payment systems such as PayPal and Google Wallet), and the development of mobile payment systems.

The next four chapters focus directly on the business concepts and social-legal issues that surround the development of e-commerce. Chapter 5 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. Chapter 6 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, including traditional browser-based online marketing technologies and marketing strategies. Topics include the Web site as a marketing platform, search engine marketing and advertising, display ad marketing, e-mail campaigns, affiliate and lead generation marketing programs, multichannel marketing, and various customer retention strategies such as personalization (including interest-based advertising, also known as behavioral targeting) and customer service tools. The chapter also covers other marketing strategies such as pricing and long-tail marketing. Internet marketing technologies (Web transaction logs, tracking files, data mining and big data) and CRM are also explored. The chapter concludes with a section on understanding the costs and benefits of various types of online marketing, including a new section on Web analytics software. Chapter 7 is devoted to an in-depth analysis of social, mobile, and local marketing. Topics include Facebook, Twitter, and Pinterest marketing platforms, the evolution of mobile marketing away from browsers and towards in-app marketing, and the growing use of geo-aware technologies to support geo-fencing and in-store geo-marketing. Chapter 8 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.

The final four chapters focus on real-world e-commerce experiences in retail and services, online media, auctions, portals, and social networks, and business-to-business e-commerce. 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 9 explores the world of online content and digital media, and examines the enormous changes in online publishing and entertainment industries that have occurred over the last two years, including streaming movies, e-books, and online newspapers and magazines. Chapter 10 explores the online world of social networks, auctions, and portals. Chapter 11 takes a close look at the experience of firms in the retail marketplace for both goods and services. Chapter 11 also includes an “E-commerce in Action” case that provides a detailed analysis of the business strategies and financial operating results of Amazon, which can be used as a model to analyze other e-commerce firms. Additional “E-commerce in Action” cases will be available online at the authors’ Web site for the text, www.azimuth-interactive.com/ecommerce10e. Chapter 12 explores the world of B2B e-commerce, describing both electronic Net marketplaces and the less-heralded, but very large arena of private industrial networks and the movement toward collaborative commerce.



"Insight on" Cases Each chapter contains three real-world cases illustrating the themes of technology, business, and society. These cases take an in-depth look at relevant topics to help describe and analyze the full breadth of the field of e-commerce. The cases probe such issues as the ability of governments to regulate Internet content, how to design Web sites for accessibility, the challenges faced by luxury marketers in online marketing, and smartphone security. A number of Insight on cases focus on companies with a presence in Europe, the Middle East, Africa, Asia and/or Australia, or on issues that relate specifically to one of those areas.

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 Pandora's freemium business model, ExchangeHunterJumper's efforts to build a brand, and the fairness of the Google Books settlement.

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

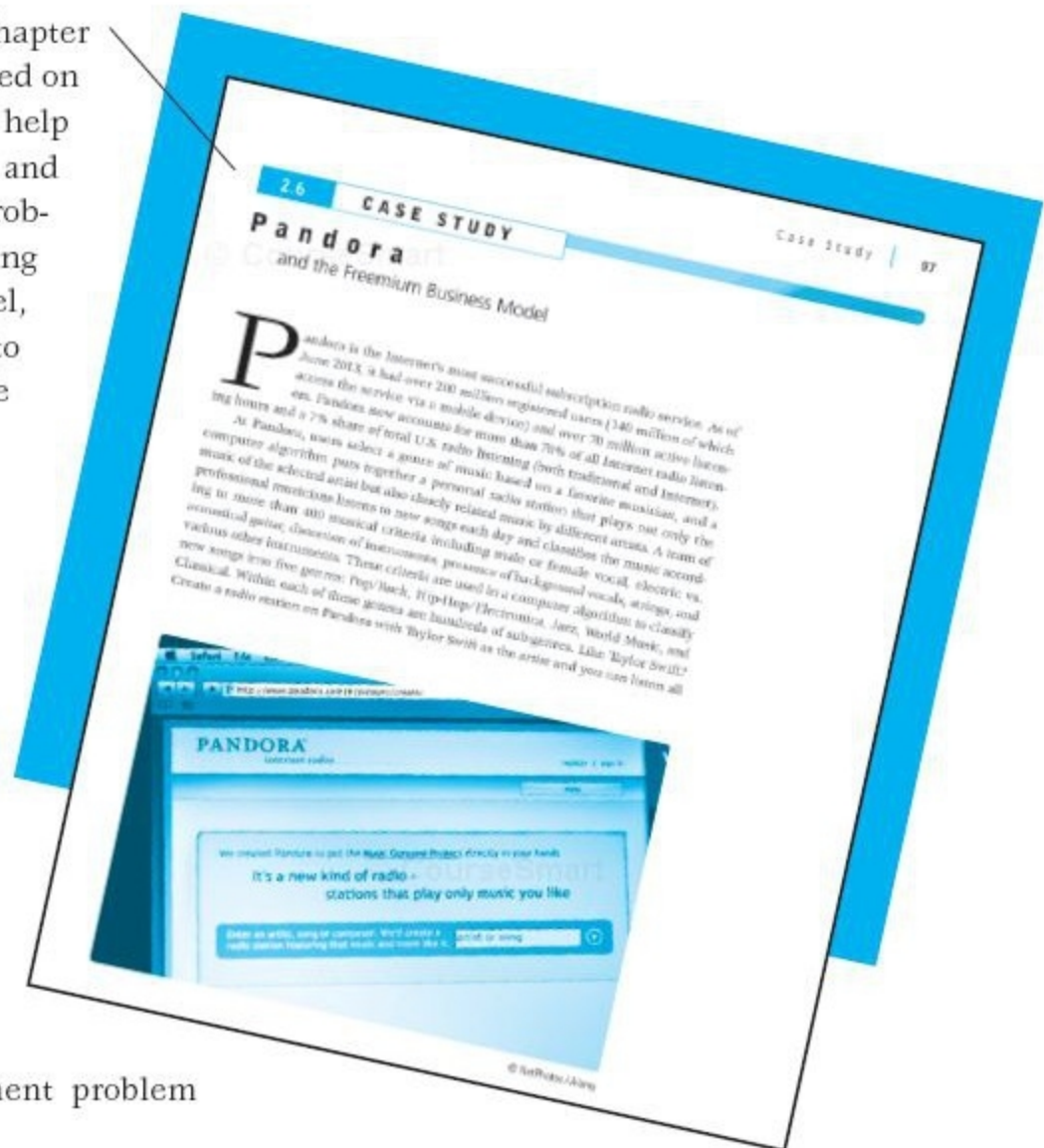
Key Concepts Keyed to the learning objectives, Key Concepts present the key points of the chapter to aid student study.

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 or electronic 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 10 cookies on their own computer and the sites they are from.

Web Resources Web resources that can extend students' knowledge of each chapter with projects, exercises, and additional content are available at www.azimuth-interactive.com/ecommerce10e. The Web site contains the following content provided by the authors:

- Additional projects, exercises, and tutorials
- Information on how to build a business plan and revenue models
- Essays on careers in e-commerce



SUPPORT PACKAGE

The following supplementary materials are available to qualified instructors through the Online Instructor Resource Center. Contact your Pearson 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, additional topics for class discussion and debate, lecture tips, discussion of the chapter-ending case, and answers to the Case Study Questions, Review Questions, and Student Projects.
- **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** These 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. The slides also include additional questions for the opening cases and the "Insight on" vignettes throughout the book. These questions are very useful for in-class discussions, or quizzes.
- **Learning Tracks** These additional essays, created by the authors, provide instructors and students with more in-depth content on selected topics in e-commerce.

Chapter 1

- 1.1 Global E-commerce Europe
- 1.2 Global E-commerce Latin America
- 1.3 Global E-commerce China

Chapter 6

- 6.1 Basic Marketing Concepts
- 6.2 Consumer Behavior: Cultural, Social, and Psychological Background Factors
- 6.3 Social Media Marketing - Blogging

- **Video Cases** The authors have created a collection of video case studies that integrate short videos, supporting case study material, and case study questions. Video cases can be used in class to promote discussion or as written assignments.

Chapter 1

- 1.1 The Future of E-commerce

Chapter 2

- 2.1 Google Data Center Efficiency Best Practices
- 2.2 NBA: Competing on Global Delivery

Chapter 3

3.1 ESPN Goes to eXtreme Scale

3.2 Data Warehousing at REI: Understanding the Customer

Chapter 4

4.1 Cyberespionage: The Chinese Threat

4.2 Stuxnet and Cyberwarfare

4.3 IBM Zone Trusted Information Channel (ZTIC)

4.4 Open ID and Web Security

Chapter 5

5.1 Deals Galore at Groupon

Chapter 6

6.1 Nielsen Online Campaign Ratings

Chapter 7

7.1 The Power of Like

Chapter 8

8.1 Facebook Privacy

8.2 What Net Neutrality Means for You

8.3 Lawrence Lessig on Net Neutrality

Chapter 9

9.1 YouTube's 7th Birthday

Chapter 10

10.1 Mint Returns for Goodwill's eBay Auctions of Thrift-Store Finds

Chapter 11

11.1 Etsy: A Marketplace and a Community

Chapter 12

12.1 Ford AutoXchange B2B Marketplace

ACKNOWLEDGMENTS

Pearson Education sought the advice of many excellent reviewers, all of whom strongly influenced the organization and substance of this book. The following individuals provided extremely useful evaluations of this and previous editions of the text:

- Deniz Aksen, Koç University (Istanbul)
- Carrie Andersen, Madison Area
Technical College
- Dr. Shirley A. Becker, Northern Arizona
University
- Prasad Bingi, Indiana-Purdue University,
Fort Wayne
- Christine Barnes, Lakeland Community
College
- Cliff Butler, North Seattle Community
College
- Joanna Broder, University of Arizona
- James Buchan, College of the Ozarks
- Ashley Bush, Florida State University
- Mark Choman, Luzerne City Community
College
- Andrew Ciganek, Jacksonville State
University
- Daniel Connolly, University of Denver
- Tom Critzer, Miami University
- Dursan Delen, Oklahoma State
University
- Abhijit Deshmukh, University of
Massachusetts
- Brian L. Dos Santos, University of
Louisville
- Robert Drevs, University of Notre Dame
- Akram El-Tannir, Hariri Canadian
University, Lebanon
- Kimberly Furumo, University of Hawaii
at Hilo
- John H. Gerdes, University of California,
Riverside
- Philip Gordon, University of California at
Berkeley
- Allan Greenberg, Brooklyn College
- Bin Gu, University of Texas at Austin
- Peter Haried, University of Wisconsin- La
Crosse
- Sherri Harms, University of Nebraska at
Kearney
- Sharon Heckel, St. Charles Community
College
- David Hite, Virginia Intermont College
- Gus Jabbour, George Mason University
- Ellen Kraft, Georgian Court University
- Gilliean Lee, Lander University
- Zoonky Lee, University of Nebraska,
Lincoln
- Andre Lemaylleux, Boston University,
Brussels
- Haim Levkowitz, University of
Massachusetts, Lowell
- Yair Levy, Nova Southeastern University
- Richard Lucic, Duke University
- John Mendonca, Purdue University
- Dr. Abdulrahman Mirza, DePaul
University
- Kent Palmer, MacMurray College
- Karen Palumbo, University of St. Francis
- Wayne Pauli, Dakota State University
- Jamie Pinchot, Thiel College
- Kai Pommerenke, University of
California at Santa Cruz
- Barry Quinn, University of Ulster,
Northern Ireland
- Michelle Ramim, Nova Southeastern
University
- Jay Rhee, San Jose State University
- Jorge Romero, Towson University
- John Sagi, Anne Arundel Community
College
- Patricia Sendall, Merrimack College
- Dr. Carlos Serrao, ISCTE/DCTI, Portugal
- Neerja Sethi, Nanyang Business School,
Singapore
- Amber Settle, DePaul CTI
- Vivek Shah, Texas State University-San
Marcos
- Seung Jae Shin, Mississippi State
University

Sumit Sircar, University of Texas at Arlington	Andrea Wachter, Point Park University
Hongjun Song, University of Memphis	Catherine Wallace, Massey University, New Zealand
Pamela Specht, University of Nebraska at Omaha	Biao Wang, Boston University
Esther Swilley, Kansas State University	Haibo Wang, Texas A&M International University
Tony Townsend, Iowa State University	Harry Washington, Lincoln University
Bill Troy, University of New Hampshire	Rolf Wigand, University of Arkansas at Little Rock
Susan VandeVen, Southern Polytechnic State University	Erin Wilkinson, Johnson & Wales University
Hiep Van Dong, Madison Area Technical College	Alice Wilson, Cedar Crest College
And Michael Van Hilst, Nova Southeastern University	Dezhi Wu, Southern Utah University
Mary Vitrano, Palm Beach Community College	Gene Yelle, SUNY Institute of Technology
	David Zolzer, Northwestern State University



We would like to thank eMarketer, Inc. and David Iankelevich for their permission to include data and figures from their research reports in our text. eMarketer is one of the leading independent sources for statistics, trend data, and original analysis covering many topics related to the Internet, e-business, and emerging technologies. eMarketer aggregates e-business data from multiple sources worldwide.

In addition, we would like to thank all those at Pearson who have worked so hard to make sure this book is the very best it can be. We want to thank Bob Horan, Executive Editor of the Pearson MIS list, and Karalyn Holland, Senior Production Project Manager, for their support; Judy Leale for overseeing production of this project; and DePinho Design for the outstanding cover design. Very special thanks to Robin Pickering, Megan Miller, and Will Anderson at Azimuth Interactive, Inc., for all their hard work on the production of, and supplements for, this book.

A special thanks also to Susan Hartman, Executive Editor for the first and second editions and to Frank Ruggirello, Publisher at Addison-Wesley when we began this project, and now Vice President and Editorial Director at Benjamin-Cummings.

Finally, last but not least, we would like to thank our family and friends, without whose support this book would not have been possible.

*Kenneth C. Laudon
Carol Guercio Traver*

Brief Contents

1	INTRODUCTION TO E-COMMERCE	42
2	E-COMMERCE INFRASTRUCTURE: THE INTERNET, WEB, AND MOBILE PLATFORM	94
3	BUILDING AN E-COMMERCE PRESENCE: WEB SITES, MOBILE SITES, AND APPS	170
4	E-COMMERCE SECURITY AND PAYMENT SYSTEMS	232
5	E-COMMERCE BUSINESS MODELS	312
6	E-COMMERCE MARKETING AND ADVERTISING	364
7	SOCIAL, MOBILE, AND LOCAL MARKETING	450
8	ETHICS, LAW, AND E-COMMERCE	522
9	ONLINE MEDIA	600
10	SOCIAL NETWORKS AND COMMUNITIES	666
11	E-COMMERCE RETAILING AND SERVICES	720
12	B2B E-COMMERCE	784

Contents

1 INTRODUCTION TO E-COMMERCE

42

Learning Objectives 42

Puma Loves Social, Mobile, Omni 43

1.1 *E-commerce: The Revolution Is Just Beginning* 46

The First 30 Seconds 49

What Is E-commerce? 50

The Difference Between E-commerce and E-business 50

Why Study E-commerce? 51

Eight Unique Features of E-commerce Technology 52

Ubiquity 52

Global Reach 53

Universal Standards 54

Richness 54

Interactivity 55

Information Density 55

Personalization/Customization 55

Social Technology: User Content Generation and Social Networking 56

Web 2.0: Play My Version 56

Types of E-commerce 59

Business-to-Consumer (B2C) E-commerce 59

Business-to-Business (B2B) E-commerce 60

Consumer-to-Consumer (C2C) E-commerce 60

Social E-commerce 61

Mobile E-commerce (M-commerce) 62

Local E-commerce 62

Growth of the Internet, Web, and Mobile Platform 62

Origins and Growth of E-commerce 64

Insight on Technology: Will Apps Make the Web Irrelevant? 66

1.2 *E-commerce: A Brief History* 68

E-commerce 1995–2000: Invention 68

	E-commerce 2001–2006: Consolidation	71
	E-commerce 2007—Present: Reinvention	72
	Assessing E-commerce: Successes, Surprises, and Failures	72
	<i>Insight on Business: Rocket Internet</i>	73
	Predictions for the Future: More Surprises	77
1.3	<i>Understanding E-commerce: Organizing Themes</i>	80
	Technology: Infrastructure	80
	Business: Basic Concepts	82
	Society: Taming the Juggernaut	82
	<i>Insight on Society: Facebook and the Age of Privacy</i>	83
	Academic Disciplines Concerned with E-commerce	85
	Technical Approaches	85
	Behavioral Approaches	85
1.4	<i>Case Study: The Pirate Bay: Searching for a Safe Haven</i>	86
1.5	<i>Review</i>	89
	Key Concepts	89
	Questions	92
	Projects	93

2

E-COMMERCE INFRASTRUCTURE: THE INTERNET, WEB, AND MOBILE PLATFORM

94

	Learning Objectives	94
	<i>Wikitude: Augment My Reality</i>	95
2.1	<i>The Internet: Technology Background</i>	98
	The Evolution of the Internet: 1961—the Present	100
	The Internet: Key Technology Concepts	101
	Packet Switching	101
	Transmission Control Protocol/Internet Protocol (TCP/IP)	106
	IP Addresses	106
	Domain Names, DNS, and URLs	108
	Client/Server Computing	109
	The New Client: the Mobile Platform	111
	The Internet “Cloud Computing” Model: Software and Hardware as a Service	112
	Other Internet Protocols and Utility Programs	113
	Internet Protocols: HTTP, E-mail Protocols, FTP, Telnet, and SSL/TLS	113
	Utility Programs: Ping and Tracert	114

2.2	<i>The Internet Today</i>	115
	The Internet Backbone	117
	Internet Exchange Points	118
	Campus Area Networks	118
	Internet Service Providers	120
	Intranets	122
	Who Governs the Internet?	122
2.3	<i>The Future Internet Infrastructure</i>	124
	Limitations of the Current Internet	124
	<i>Insight on Society: Government Regulation and Surveillance of the Internet</i>	125
	The Internet2® Project	128
	The First Mile and the Last Mile	130
	Fiber Optics and the Bandwidth Explosion in the First Mile	130
	The Last Mile: Mobile Internet Access	131
	The Future Internet	135
	Latency Solutions	135
	Guaranteed Service Levels and Lower Error Rates	135
	Declining Costs	135
	The Internet of Things	136
2.4	<i>The Web</i>	136
	Hypertext	137
	Markup Languages	138
	HyperText Markup Language (HTML)	138
	eXtensible Markup Language (XML)	140
	<i>Insight on Technology: Is HTML5 Ready for Prime Time?</i>	141
	Web Servers and Clients	143
	Web Browsers	145
2.5	<i>The Internet and the Web: Features and Services</i>	146
	E-mail	146
	Instant Messaging	146
	Search Engines	147
	Online Forums and Chat	149
	Streaming Media	150
	Cookies	150
	Web 2.0 Features and Services	151
	Online Social Networks	151
	Blogs	151
	Really Simple Syndication (RSS)	152
	Podcasting	152

	Wikis	152
	Music and Video Services	153
	Internet Telephony	154
	Video Conferencing, Video Chatting, and Telepresence	154
	Online Software and Web Services: Web Apps, Widgets, and Gadgets	155
	Intelligent Personal Assistants	155
2.6	<i>Mobile Apps: The Next Big Thing Is Here</i>	156
	<i>Insight on Business: Apps for Everything: The App Ecosystem</i>	157
	Platforms for Mobile Application Development	159
	App Marketplaces	159
2.7	<i>Case Study: Akamai Technologies: Attempting to Keep Supply Ahead of Demand</i>	160
2.8	<i>Review</i>	164
	Key Concepts	164
	Questions	168
	Projects	169

3

BUILDING AN E-COMMERCE PRESENCE: WEB SITES, MOBILE SITES, AND APPS

170

	Learning Objectives	170
	<i>The Financial Times: A Remodel for 21st Century Publishing Profitability</i>	171
3.1	<i>Imagine Your E-commerce Presence</i>	174
	What's the Idea? (The Visioning Process)	174
	Where's the Money: Business and Revenue Model	174
	Who and Where is the Target Audience	175
	What Is the Ballpark? Characterize the Marketplace	176
	Where's the Content Coming From?	176
	Know Yourself: Conduct a SWOT Analysis	177
	Develop an E-commerce Presence Map	178
	Develop a Timeline: Milestones	179
	How Much Will This Cost?	179
3.2	<i>Building an E-commerce Presence: A Systematic Approach</i>	180
	Planning: The Systems Development Life Cycle	182
	Systems Analysis/Planning: Identify Business Objectives, System Functionality, and Information Requirements	182
	System Design: Hardware and Software Platforms	184
	Building the System: In-house Versus Outsourcing	184
	Build Your Own versus Outsourcing	184

	Host Your Own versus Outsourcing	188
	<i>Insight on Business: Curly Hair and Appillionaires</i>	189
	Testing the System	191
	Implementation and Maintenance	191
	Factors in Optimizing Web Site Performance	192
3.3	<i>Choosing Software and Hardware</i>	193
	Simple versus Multi-tiered Web Site Architecture	193
	Web Server Software	194
	Site Management Tools	196
	Dynamic Page Generation Tools	197
	Application Servers	199
	E-commerce Merchant Server Software Functionality	199
	Online Catalog	200
	Shopping Cart	200
	Credit Card Processing	201
	Merchant Server Software Packages (E-commerce Suites)	201
	Choosing an E-commerce Suite	201
	Web Services and Open Source Options	202
	The Hardware Platform	204
	Right-Sizing Your Hardware Platform: The Demand Side	204
	Right-Sizing Your Hardware Platform: The Supply Side	207
3.4	<i>Other E-Commerce Site Tools</i>	209
	Web Site Design: Basic Business Considerations	209
	Tools for Web Site Optimization	210
	Tools for Interactivity and Active Content	211
	Common Gateway Interface (CGI)	211
	Active Server Pages (ASP and ASP.NET)	212
	Java, Java Server Pages (JSP), and JavaScript	212
	ActiveX and VBScript	213
	ColdFusion	213
	Web 2.0 Design Elements	213
	Personalization Tools	214
	The Information Policy Set	215
3.5	<i>Developing a Mobile Web Site and Building Mobile Applications</i>	215
	<i>Insight On Society: Designing for Accessibility</i>	216
	Planning and Building a Mobile Web Presence	218
	Mobile Web Presence: Design Considerations	219
	Mobile Web Presence: Performance and Cost Considerations	220
	<i>Insight on Technology: Building a Mobile Presence</i>	221