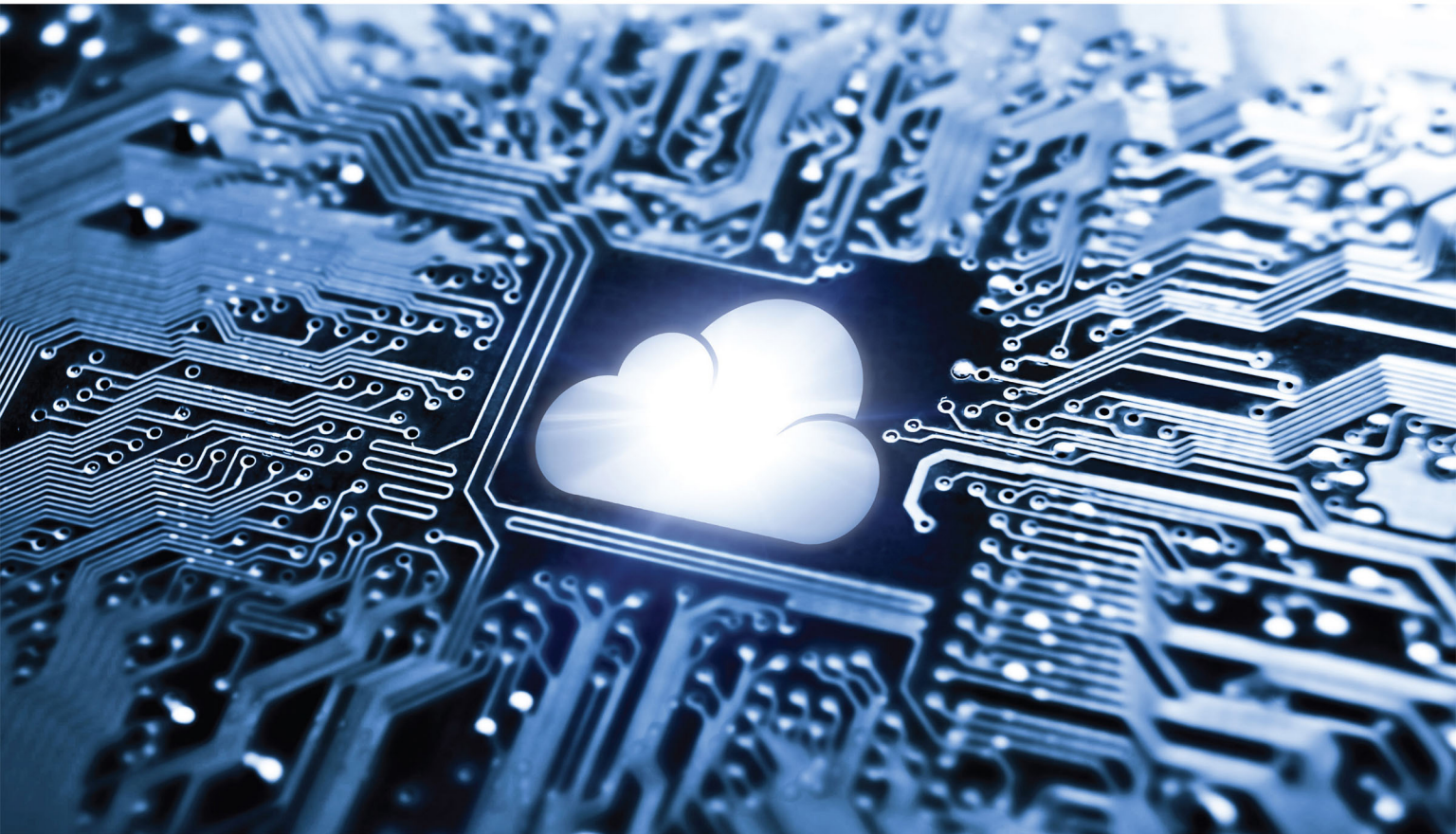# E-commerce 2016
business. technology. society.

TWELFTH EDITION

Kenneth C. Laudon • Carol Guercio Traver

PEARSON

E-commerce

business.   technology.   society.

GLOBAL EDITION

TWELFTH EDITION

Kenneth C. Laudon
New York University

Carol Guercio Traver
Azimuth Interactive, Inc.

PEARSON

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

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.pearsonglobaleditions.com

PREFACE

E-commerce. Business. Technology. Society. Global Edition 12E provides you with an in-depth introduction to the field of global e-commerce. We focus on key concepts, and the latest empirical and financial data, 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 Uber, Facebook, Google, Twitter, Amazon, YouTube, Pinterest, eBay, WhatsApp, Snapchat, and many more that you will recognize, as well as some exciting startups that may be new to you. Global Edition cases include Puma, *Financial Times*, Ace & Tate, InMobi, Just Falafel, Spotify, Deezer, Viadeo, Souq, Alibaba, and Rocket Internet, 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 12TH EDITION

Currency

The 12th Global Edition features 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 2015 with the latest marketing and business intelligence available from eMarketer, Pew Research Center, Forrester Research, comScore, Gartner Research, and other industry and government sources.

In addition, we have added new, expanded, and/or updated material throughout the text on a number of e-commerce topics that have appeared in the headlines during 2015, including the following:

- On-demand service companies such as Uber, Airbnb, Instacart, and many others (Chapters 1, 5, and 11)

- Public, private, and hybrid clouds; Amazon Web Services; proposed changes in Internet governance; Internet access drones; the Internet of Things, wearable computing (Apple Watch), smart houses, and connected cars (Chapter 2)

- A/B and multivariate testing; open source Web and app development tools; mobile-first and responsive design (Chapter 3)

- New security threats (such as XcodeGhost; FREAK; Beebone botnet; Anthem, IRS, OPM, Sony hack, JPMorgan Chase, and other data breaches; IoT and connected car risks; Superfish adware); encryption; HTTPS; new chip cards; mobile wallets; Bitcoin; P2P (Venmo; Facebook Messenger) and mobile payment systems (Chapter 4)

- Elevator pitches; equity crowdfunding; subscription-based sales revenue models (Chapter 5)

- Ad blocking software; mobile supercookies and cross-device tracing methods; Google's new Mobilegeddon algorithm; changes to Facebook's Graph Search; IAB rich media Rising Star ad units; new IAB standards for video ads; IAB research on impact of interactive digital video; FTC position on native advertising; content marketing; rise in ad fraud; Google research on ad viewability and revised MRC guidelines; personalization and targeting in e-mail marketing; increase in retargeting ads; consumer reactions to personalized marketing messages; new Big Data tools such as Spark; online video and native advertising ad metrics; cross-platform attribution issues (Chapter 6)

- New social marketing and social e-commerce tools from Facebook, Twitter, Pinterest, Instagram; proximity marketing; BLE; and Apple iBeacons (Chapter 7)

- New Facebook privacy policies; Dirtboxes; measuring privacy policies; EU court invalidates U.S. data transfer safe harbor; new EU data protection law; new fair use and DMCA cases; impact of new gTLDs on trademarks; new FCC net neutrality regulations; online fantasy sports betting (Chapter 8)

- Digital-first newspapers and explosive growth of digital news sites; Facebook Instant Articles; online magazine resurgence; Apple News app; e-book revenues; Amazon-Hatchette e-book pricing issues; social TV; binge viewing; Apple Music and other streaming music services; e-Sports (Chapter 9)

- Social network monetization; social e-commerce becomes a reality; Facebook at Work; Google+ retreats; eBay goes it alone; Yahoo continues to struggle (Chapter 10)

- The rise of social e-commerce; Millenials' use of mobile and online financial services; consolidation in the online real estate and travel services markets; online recruitment industry trends in 2015; on-demand service companies (Chapter 11)

- Impact of B2C e-commerce on B2B e-commerce; supply chain visibility; cloud-based B2B; Amazon Business; mobile B2B (Chapter 12)

Themes

E-commerce has significantly evolved over the last decade. The iPhone was introduced in 2007. The iPad tablet was first introduced in 2010 and has already gone through several generations! Cloud services for storing and streaming content, and hosting thousands of apps, were not widely available until 2011. Smartphone and tablet devices have changed e-commerce into a social, local, and mobile experience. The 12th edition spotlights the following themes and content:

Headlines

- Social, Mobile, Local: We include an entire 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, Instagram, 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, as well as on-demand service companies. 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. A growing number of consumers adopt ad blockers.
- Internet security risks increase; cyberwarfare becomes a new way of conducting warfare among nation-states and a national security issue. A growing perception of online risk supports a growing lack of trust in e-commerce firms and transactions.

Business

- Global e-commerce revenues surge, despite slow economic growth.
- Internet advertising growth continues to outpace traditional advertising, including television.
- Social marketing grows faster than traditional online marketing like search and display advertising.
- E-books sales plateau but continue as a major channel for books. Consumers increasingly use smartphones and tablets as reader devices.
- Newspapers struggle to define a digital first news service.
- Streaming of popular TV shows and movies (Netflix, Amazon, YouTube, 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. Subscription services show unexpected strength.
- 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 cloud-based 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 content, 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.
- 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.

Society

- The mobile, "always on" culture in business and family life continues to grow.
- European countries develop much stronger privacy policies, including Right to be Forgotten laws, and expand the rights of citizens viz-a-viz Internet data giants.
- U.S. state governments heat up the pursuit of taxes on Internet sales by e-commerce firms.
- 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.
- Net neutrality regulations forbid Internet providers from discriminating against types of content, or providing differential service to large players
- 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. Europe ends safe harbor protections for U.S. Internet firms.

- 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 E-COMMERCE

Since it began in 1995, global e-commerce has grown from a standing start to €1.96 billion business-to-consumer and a €14.2 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, Twittter, Google search, or a host of other recent online innovations from Pinterest and iTunes to Tumblr. The Internet is about to replace television as the largest entertainment platform. Welcome to the new e-commerce!

E-commerce is projected to continue growing at double-digit rates over the next five years, remaining 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 Tesco, Ford, IBM, Carrefours, and General Electric, and online firms such as Google, Amazon, Apple, Facebook, Yahoo, Twitter, and YouTube. Students of business and information technology need a thorough grounding in e-commerce in order to be effective and successful managers in the next decade.

While firms such as Facebook, Tumblr, YouTube, Twitter, Pinterest, and Uber 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. These surviving firms have evolved their business models, integrated their online and offline operations, and changed their revenue models to become profitable. Understanding how these online businesses succeeded will help students to manage their own firms in the current omni-channel business environment.

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 2015, e-commerce is in the midst of a new period of explosive entrepreneurial activity focusing on on-demand services, social networks and the mobile 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. E-commerce is generating thousands of new jobs 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 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 digital 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 both 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 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.

The Web and mobile platform 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 platform, the emergence of cloud computing, new open source software tools and applications, and new types of Internet-based information systems that support digital 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, Amazon, and assorted advertising networks maintain profiles on millions of shoppers and consumers worldwide. The proliferation of illegally copied music, videos, and books on the Internet, and the growth of social network sites often based on displaying copyrighted materials without permission, are challenging the intellectual property rights of record labels, Hollywood studios, artists, and writers. 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 Main Street. 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, cloud computing, mobile 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 as possible in each annual edition. You will not find a more current book for a course offered for the 2016 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 2015, 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 e-commerce 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.

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 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. The most important changes for e-commerce include dramatic price reductions in e-commerce infrastructure (making it much less expensive to develop a sophisticated e-commerce presence), the explosive growth in the mobile platform such as iPhones, iPads, and 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 emerging technologies and applications such as the Internet of Things, 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, new software 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 process that should be followed in building an e-commerce presence; the major decisions regarding outsourcing site development and/or hosting; how to choose software, hardware, and other tools that can improve Web site performance, and issues involved in developing a mobile Web site and mobile applications. Chapter 4 focuses on e-commerce 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. 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. This chapter concludes with a section on e-commerce payment systems. We identify the various types of online payment systems (credit cards, stored value payment systems such as PayPal, digital wallets such as Google Wallet, and others), and the development of mobile and social payment systems such as Apple Pay, Venmo, and Facebook Messenger.

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 traditional 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 marketing automation and CRM systems 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, and the growing use of geo-aware technologies to support proximity 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 the conceptual approach 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, as well as on-demand service companies such as Uber and Airbnb. 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. Chapter 12 concentrates on the world of B2B e-commerce, describing both Net marketplaces and the less-heralded, but very large arena of private industrial networks and the movement toward collaborative commerce.

PEDAGOGY AND CHAPTER OUTLINE

The book's pedagogy emphasizes student cognitive awareness and the ability to analyze, synthesize, and evaluate e-commerce businesses. While there is a strong data and conceptual foundation to the book, we seek to engage student interest with lively writing about e-commerce businesses and the transformation of business models at traditional firms.

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. The cases focus specifically on global aspects of e-commerce and companies with a presence in Europe, the Middle East, Africa, Asia and/or Australia.

Europol
Takes on Cybercrime with EC3

From the earliest of days, humans have warred against and stolen from each other, with the tools evolving over time from sticks and stones, to arrows and spears, to guns and bombs. Physical weaponry is familiar and readily recognizable. But today, algorithms and computer code have moved to the forefront. Cyberspace has become a new battlefield, one that often involves targets such as financial systems and communications networks.

In 2013, the European Cybercrime Center (EC3) was created at Europol, the European law enforcement agency in The Hague, to combat the rise of cybercrime and cyberattacks throughout Europe and the rest of the world. More than half of the EU's population is now online, meaning that an organization like the EC3 is needed in Europe now more than ever before.

© Rafal Olechowski / Fotolia

A major challenge in fighting cybercrime is to even concretely define it and measure the amount of cybercrime taking place. Estimates of how much cybercrime costs companies and individuals vary widely, but a 2015 study by the Center for Strategic and International Studies estimates that the economic impact of cybercrime and cyberespionage worldwide is in a range of between €345 billion and €530 billion, and that both the cost and frequency of attacks are on the rise. Cybercrime is a global problem, and countries have attempted many different strategies to fight it. However, sharing information about cybercrime is critical for success in apprehending cybercriminals, making Europol the ideal vehicle to combat multi-national criminal operations. The EC3 will help to standardize approaches to better counteract European cybercrime, and will help set guidelines regarding what incidents constitute cybercrime.

EC3 began operations out of The Hague on January 1, 2013, with a focus on three areas of cybercrime: crime committed by organized groups or rings, crime that causes harm to a victim, like child pornography, and cyberattacks on European Union infrastructure, such as government Web sites, databases, and storage centers. In the wake of the terrorist attacks in Paris, France, EC3 received a boost in financial backing and powers, including the ability to coordinate police units to counter emerging threats and the capacity to directly force sites like Facebook and Twitter to remove Web pages containing terrorist

"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.

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, Exchange-HunterJumper's efforts to build a brand, and the evolution of eBay.

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 U.S Securities and Exchange Commission 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/ecommerce12e. 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

INSTRUCTOR RESOURCES

At the Instructor Resource Center, www.pearsonhighered.com/irc, instructors can easily register to gain access to a variety of instructor resources available with this text in downloadable format. If assistance is needed, our dedicated technical support team is ready to help with the media supplements that accompany this text. Visit http://247.pearsoned.com for answers to frequently asked questions and toll-free user support phone numbers.

The following supplements are available with this text:

- **Instructor's Resource Manual**
- **Test Bank**
- **TestGen® Computerized Test Bank**
- **PowerPoint Presentation**
- **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

  Chapter 7
  Social Media Marketing: Facebook
  Social Media Marketing: Twitter

- **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 Importance of the Internet for E-commerce
  1.2 The Future of E-commerce

  Chapter 2
  2.1 How Freshdesk Uses Amazon Web Services
  2.2 Google Data Center Efficiency Best Practices
  2.3 NBA: Competing on Global Delivery

  Chapter 3
  3.1 WL Gore Expands Using Demandware
  3.2 ESPN Goes to eXtreme Scale

  Chapter 4
  4.1 Cyberespionage: The Chinese Threat

ACKNOWLEDGMENTS

Deniz Aksen, Koç University (Istanbul)

Carrie Andersen, Madison Area Technical College

Christine Barnes, Lakeland Community College

Dr. Shirley A. Becker, Northern Arizona University

Prasad Bingi, Indiana-Purdue University, Fort Wayne

Joanna Broder, Pima Community College

James Buchan, College of the Ozarks

Ashley Bush, Florida State University

Cliff Butler, North Seattle Community College

Adnan Chawdhry, California University of Pennsylvania

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

Norman Hahn, Thomas Nelson Community College

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

Kevin Jetton, Texas State University, San Marcos

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

Barbara Ozog, Benedictine University

Kent Palmer, MacMurray College

Karen Palumbo, University of St. Francis

James Pauer, Lorain County Community College

Wayne Pauli, Dakota State University

Sam Perez, Mesa Community College

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

Wei Shi, Santa Clara University

Seung Jae Shin, Mississippi State University

Sumit Sircar, University of Texas at Arlington

Hongjun Song, University of Memphis

Pamela Specht, University of Nebraska at Omaha

Esther Swilley, Kansas State University

Tony Townsend, Iowa State University

Bill Troy, University of New Hampshire

Susan VandeVen, Southern Polytechnic State University

Hiep Van Dong, Madison Area Technical College

And Michael Van Hilst, Nova Southeastern University

Mary Vitrano, Palm Beach Community College

Andrea Wachter, Point Park University

Catherine Wallace, Massey University, New Zealand

Biao Wang, Boston University

Haibo Wang, Texas A&M International University

Harry Washington, Lincoln University

Rolf Wigand, University of Arkansas at Little Rock

Erin Wilkinson, Johnson & Wales University

Alice Wilson, Cedar Crest College

Dezhi Wu, Southern Utah University

Gene Yelle, SUNY Institute of Technology

David Zolzer, Northwestern State University

Kenneth C. Laudon
Carol Guercio Traver

Brief Contents

Contents

---

2   E-COMMERCE INFRASTRUCTURE   92

---

3   **BUILDING AN E-COMMERCE PRESENCE**   **172**

| 4 | E-COMMERCE SECURITY AND PAYMENT SYSTEMS | 236 |