

# E-commerce

business. technology. society.

Kenneth C. Laudon | Carol Guercio Traver

# 2016

12 edition



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

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# P R E F A C E

*E-commerce. Business. Technology. Society. 12E* provides you with an in-depth introduction to the field of 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.

Just as important, 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, eBay, Uber, WhatsApp, Snapchat, and many more that you will recognize, as well as some exciting startups that may be new to you. 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 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 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, 2, and 9)
- Elevator pitches; equity crowdfunding; subscription-based sales revenue models (Chapter 2)

- 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 3)
- A/B and multivariate testing; open source Web and app development tools; mobile-first and responsive design (Chapter 4)
- 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 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; USA Freedom Act; CalECPA; White House draft Consumer Privacy Bill of Rights; 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)
- The rise of social e-commerce; Millennials' 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 9)
- 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 10)
- Social network monetization; social e-commerce becomes a reality; Facebook at Work; Google+ retreats; eBay goes it alone; Yahoo continues to struggle (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

- 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.
- Congress considers legislation to regulate the use of personal information for behavioral tracking and targeting consumers online.
- 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.
- States 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 2016**

Since it began in 1995, electronic commerce has grown in the United States from a standing start to a \$531 billion retail, travel, and media business and a \$6.2 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, Twitter, 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 Walmart, Ford, IBM, Macy's, 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 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 is organized into four parts.

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

Part 2, "Technology Infrastructure for E-commerce," focuses on the technology infrastructure that forms the foundation for all e-commerce. Chapter 3 traces the historical development of 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 4 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 5 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.

Part 3, "Business Concepts and Social Issues," focuses directly on the business concepts and social-legal issues that surround the development of e-commerce. Chapter 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, multichan-

nel 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.

Part 4, "E-commerce in Action," focuses 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 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 9 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 10 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 11 explores the online world of social networks, auctions, and portals. 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 Uber-ization of Everything

**I**f you were trying to pick iconic examples of e-commerce in the two decades since it began in 1995, it is likely that companies such as Amazon, eBay, Google, Apple, and Facebook would be high on the list. Today, there's a new company that may become the face of e-commerce as it enters its third decade: Uber. Uber and other firms with similar business models, such as Lyft (a ride service similar to Uber's), Airbnb (rooms for rent), Heal (doctor home visits), Handy and Homejoy (part-time household helpers), Instacart (grocery shopping), Washio (laundry service), and BloomThat (flower delivery), are the pioneers of a new on-demand service e-commerce business model that is sweeping up billions of investment dollars in 2015, and disrupting major industries from transportation, to hotels, real estate, house cleaning, maintenance, and grocery shopping. On-demand service firms have collected over \$25 billion in venture capital funding over the last five years, making this the hottest business model in e-commerce for 2015.

Uber provides two major services: UberTaxi (also called UberX), which provides taxi service, and UberBlack, which provides a higher-priced town car service for business executives. UberPool is a ride-sharing service that allows users to share a ride with another person who happens to be going to same place. Google is working with Uber on developing this new service. In several cities, Uber is developing UberEats, a food delivery service; UberRush, a same-day delivery service; and UberCargo, a trucking service.

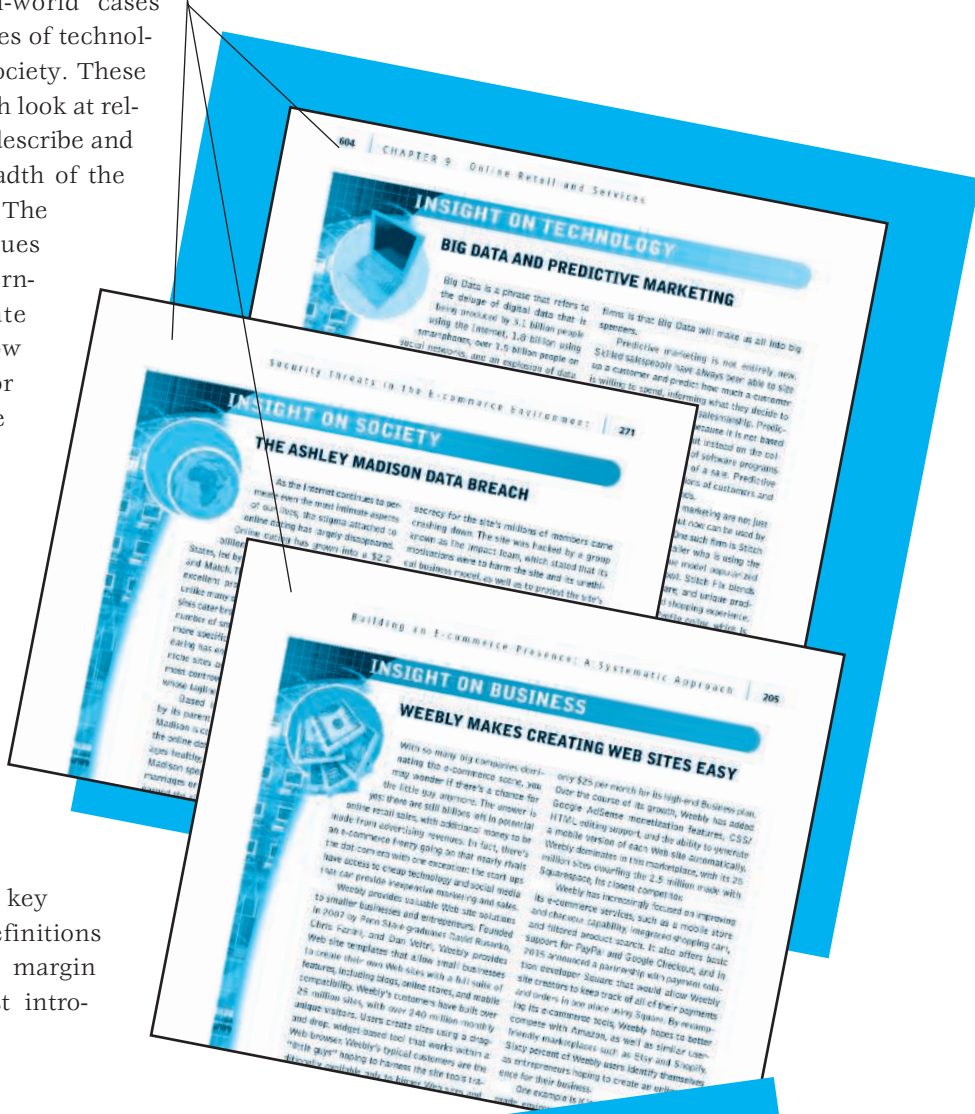
Uber, headquartered in San Francisco, was founded in 2009 by Travis Kalanick and Garrett Camp, and has grown explosively since then to over 300 cities and 60 countries. Drivers are signing up at an exponential rate, doubling every year; as of the beginning of 2015, there were over 160,000. Over 64% of Uber drivers have college degrees (compared to 15% of taxi drivers), 71% say they have boosted their income and financial security by driving for Uber, and 73% say they prefer a job where they choose their hours rather than a 9-to-5 job, according to an Uber-sponsored survey. In 2015, Uber's revenue is estimated to be \$10 billion, with profits (after paying its drivers) of \$2 billion. This is five times as much as it made in 2014, when net revenue was about \$400 million, which itself is about four times as much as its net revenue in 2013. Uber appears to be growing



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3

**“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, ExchangeHunterJumper'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 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/ecommerce12e](http://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](http://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 Twitter for Business
- 2.2 Angel Investing
- 2.3 Deals Galore at Groupon

### Chapter 3

- 3.1 How Freshdesk Uses Amazon Web Services
- 3.2 Google Data Center Efficiency Best Practices
- 3.3 NBA: Competing on Global Delivery

**Chapter 4**

- 4.1 WL Gore Expands Using Demandware
- 4.2 ESPN Goes to eXtreme Scale

**Chapter 5**

- 5.1 Cyberespionage: The Chinese Threat
- 5.2 Stuxnet and Cyberwarfare
- 5.3 Apple Pay vs. Google Wallet vs. PayPal

**Chapter 6**

- 6.1 Nielsen Online Campaign Ratings
- 6.2 Pandora's Recommendation System

**Chapter 7**

- 7.1 The Power of Like
- 7.2 Pinterest Users Engage with Sephora

**Chapter 8**

- 8.1 The Right to Be Forgotten
- 8.2 Facebook Privacy
- 8.3 What Net Neutrality Means for You

**Chapter 9**

- 9.1 Etsy: A Marketplace and a Community
- 9.2 Amazon Echo

**Chapter 10**

- 10.1 YouTube's 7th Birthday
- 10.2 Vox Media

**Chapter 11**

- 11.1 Facebook Graph Search
- 11.2 Mint Returns for Goodwill's eBay Auctions of Thrift-Store Finds

**Chapter 12**

- 12.1 Flextronics Uses Elementum's Cloud-based Mobile Supply Chain Apps
- 12.2 Walmart Retail Link

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PART

1



- **CHAPTER 1**  
The Revolution Is Just Beginning
- **CHAPTER 2**  
E-commerce Business Models and Concepts

# Introduction to E-commerce



## CHAPTER

# 1

# The Revolution Is Just Beginning

## LEARNING OBJECTIVES

**After reading this chapter, you will be able to:**

- Define e-commerce and describe how it differs from e-business.
- Identify and describe the unique features of e-commerce technology and discuss their business significance.
- Describe the major types of e-commerce.
- Understand the evolution of e-commerce from its early years to today.
- Describe the major themes underlying the study of e-commerce.
- Identify the major academic disciplines contributing to e-commerce.

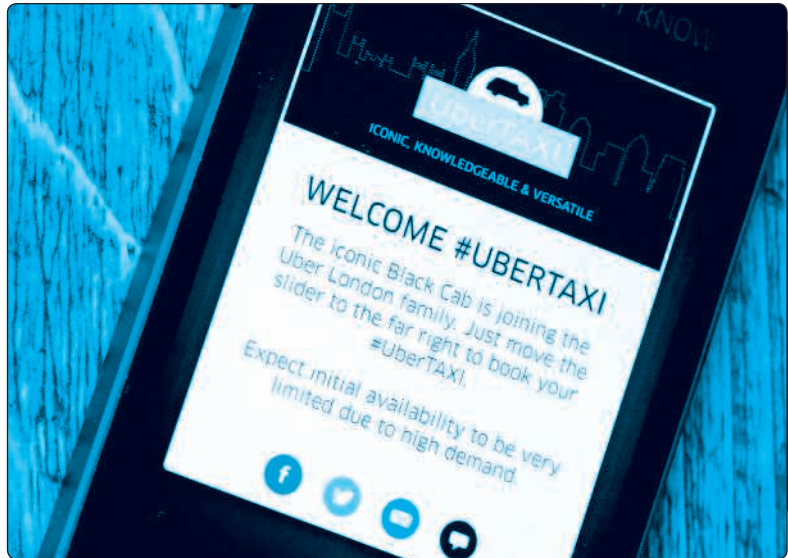
# The Uber-ization of Everything

If you were trying to pick iconic examples of e-commerce in the two decades since it began in 1995, it is likely that companies such as Amazon, eBay, Google, Apple, and Facebook would be high on the list. Today, there's a new company that may become the face of e-commerce as it enters its third decade: Uber. Uber and other firms with similar business models, such as Lyft (a ride service similar to Uber's), Airbnb (rooms for rent), Heal (doctor home visits), Handy and Homejoy (part-time household helpers), Instacart (grocery shopping), Washio (laundry service), and BloomThat

(flower delivery), are the pioneers of a new on-demand service e-commerce business model that is sweeping up billions of investment dollars in 2015, and disrupting major industries from transportation, to hotels, real estate, house cleaning, maintenance, and grocery shopping. On-demand service firms have collected over \$26 billion in venture capital funding over the last five years, making this the hottest business model in e-commerce for 2015.

Uber provides two major services: UberTaxi (also called UberX), which provides taxi service, and UberBlack, which provides a higher-priced town car service for business executives. UberPool is a ride-sharing service that allows users to share a ride with another person who happens to be going to same place. Google is working with Uber on developing this new service. In several cities, Uber is developing UberEats, a food delivery service; UberRush, a same-day delivery service; and UberCargo, a trucking service.

Uber, headquartered in San Francisco, was founded in 2009 by Travis Kalanick and Garrett Camp, and has grown explosively since then to over 300 cities and 60 countries. Drivers are signing up at an exponential rate, doubling every year; as of the beginning of 2015, there were over 160,000. Over 44% of Uber drivers have college degrees (compared to 15% of taxi drivers), 71% say they have boosted their income and financial security by driving for Uber, and 73% say they prefer a job where they choose their hours rather than a 9-to-5 job, according to an Uber-sponsored survey. In 2015, Uber's revenue is estimated to be \$10 billion, with profits (after paying its drivers) of \$2 billion. This is five times as much as it made in 2014, when net revenue was about \$400 million, which itself is about four times as much as its net revenue in 2013. Uber appears to be growing



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at 300% a year! As a result, in 2015, Uber is the most richly valued start-up in history and is currently valued at more than \$50 billion.

Uber has a compelling value proposition for both customers and drivers. Customers can sign up for free, request and pay for a ride (at a cost Uber claims is 40% less than a traditional taxi) using a smartphone and credit card, and get picked up within a few minutes. No need to stand on a street corner frantically waving, competing with others, or waiting and waiting for an available cab to drive by, without knowing when that might happen. Instead, customers can use the Uber app to secure a ride, and they know just how long it will take for the ride to arrive, and how much it will cost. With UberPool ride-sharing, the cost of a ride drops by 50%, making it cost-competitive with owning a car in an urban area, according to Uber. For drivers, Uber's value proposition is: set your own hours, work when you like, and put your own car to use generating revenue.

Uber is the current poster child for "digital disruption." It is easy to see why Uber has ignited a firestorm of opposition from existing taxi services both in the United States and around the world. Who can compete in a market where a new upstart firm offers a 50% price reduction? If you've paid \$1 million for a license to drive a taxi in New York City, what is it worth now that Uber has arrived? Even governments find Uber to be a disruptive threat. Cities and states do not want to give up regulatory control over passenger safety, driver training, nor the healthy revenue stream generated by charging taxi firms for a taxi license and sales taxes.

Uber's business model differs from traditional retail e-commerce. Uber doesn't sell goods. Instead it has created a smartphone-based platform that enables people who want a service—like a taxi—to find a provider with the resources, such as a personal automobile that spends much of its time parked and a driver with available time, to fill the demand. It's important to understand that although Uber and similar firms were initially called "sharing economy" companies, this is a misnomer. Uber drivers are selling their services as drivers and the temporary use of their car. Uber the company is not in the sharing business either: it charges a hefty fee for every transaction on its platform. Uber is not an example of "peer-to-peer" e-commerce because Uber transactions involve an online intermediary: a third party that takes a cut of all transactions and arranges for the marketplace to exist in the first place.

Uber has disrupted the traditional taxi business model because it offers a superior, fast, convenient taxi-hailing service when compared to traditional taxi companies that rely on the telephone, a central dispatcher using antiquated radio communications to direct cabs, or, as in many urban areas such as New York City, customers standing on street corners frantically waving their hands. With traditional taxi services there is no guarantee you will find a cab, or that a cab will arrive when you really need one. Customers have no way of knowing how long a traditional taxi will take to arrive. Uber reduces that uncertainty: using a smartphone, the customer enters a request for pickup, and nearly instantly (under the best of circumstances) a provider will be found by Uber, and the estimated time of arrival established, along with the price. Riders can accept the price, or find an alternative.

Uber's business model is much more efficient than a traditional taxi firm. Uber does not own taxis and has no maintenance and financing costs. It does not have employees,

but instead calls its drivers “independent contractors.” Uber is not encumbered with the costs for workers compensation, minimum wage requirements, background checks on drivers, driver training, health insurance, or commercial licensing.

Quality control would seem to be a nightmare with over 160,000 contract drivers. But Uber relies on user reviews of drivers and the ride experience to identify problematic drivers, and driver reviews of customers to identify problematic passengers. It also sets standards for cleanliness. The reviews can be used to discipline drivers: drivers are evaluated by riders on a 5-point scale, and if drivers fall below 4.5 they are warned and may be dropped if they don’t improve. Anything less than a 5 is a sign to the company that something was not right about the ride experience. Customers are also rated with a 5-point system. Drivers can refuse to pick up troublesome customers, and the Uber server can delay service to problematic people with low ratings, or ban them entirely. Uber does not publicly report on how many poorly rated drivers or passengers there are in its system. Academic articles have found that in similar on-demand companies, such as Airbnb, there’s a built-in bias for both sellers and buyers to give good reviews regardless of the actual experience. If you routinely give low reviews to sellers (drivers), they will think you are too demanding and not service you in the future. If a driver gives low reviews to passengers, they might not rate you highly in return.

Rather than having a dispatcher in every city, Uber has an Internet-based app service running on cloud servers located throughout the world. It does not provide radios to its drivers, who instead must use their own smartphones and cell service, which the drivers pay for. It does not provide insurance or maintenance for its drivers’ cars. Uber has shifted the costs of running a taxi service entirely to the drivers. Uber charges prices that vary dynamically with demand: the higher the demand, the greater the price of a ride. Therefore, it is impossible using public information to know if Uber’s prices are lower than traditional taxis. Clearly, in high-demand situations they are higher, sometimes ten times higher, than a regulated taxi. There is no regulatory taxi commission setting uniform per mile fares. Consumers do face some traditional uncertainties regarding availability: during a rain storm, a convention, or a sports event, when demand peaks, not enough drivers may be available at any price.

What could be wrong with Uber’s apparent over-the-top success? It is digitally disrupting a staid, highly regulated, and decidedly non-digital industry that employs over 200,000 people, most of whom are full-time employees, and who have a median pay of \$22,820 per year, or about \$11 an hour. In the not so distant future, Uber’s part-time drivers will outnumber full-time taxi drivers in the United States, and likely the entire world.

If Uber is the poster child for the new on-demand service economy, it’s also the iconic example of the social costs and conflicts associated with this new kind of e-commerce. Uber has been accused by attorney generals in several states of misclassifying its drivers as contractors as opposed to employees, thereby denying the drivers the benefits of employee status, such as minimum wages, social security, workers compensation, and health insurance. In June 2015, the California Labor Commission ruled that Uber’s drivers were, in

**SOURCES:** "Twisting Words to Make 'Sharing' Apps Seem Selfless," by Natasha Singer, *New York Times*, August 9, 2015; "Uber Valued at More Than \$50 Billion," by Douglas Macmillan and Telis Demos, *Wall Street Journal*, July 31, 2015; "Uber Dealt Setback on Labor Rules," by Lauren Weber, *Wall Street Journal*, June 18, 2015; "The \$50 Billion Question: Can Uber Deliver?," by Douglas Macmillan, *Wall Street Journal*, June 15, 2015; "George Zimmer Starts an 'Uber for Tailors,'" by David Gelles, *New York Times*, May 31, 2015; "Coming Next: The On-Demand Sales Force," by Christopher Mims, *Wall Street Journal*, May 31, 2015; "How Everyone Misjudges the Sharing Economy," by Christopher Mims, *Wall Street Journal*, May 25, 2015; "Icahn Puts Big Wager on Uber Rival Lyft," by Douglas Macmillan, *Wall Street Journal*, May 16, 2015; "An Uber for Doctor Housecalls," by Jennifer Jolly, *New York Times*, May 5, 2015; "Uber Expands Funding Round as Revenue Growth Accelerates," by Douglas Macmillan, *Wall Street Journal*, February 18, 2015; "The On-Demand Economy Is Reshaping Companies and Careers," *The Economist*, January 4, 2015; "The On-Demand Economy: Workers on Tap," *The Economist*, January 3, 2015.

fact, employees under the direct, detailed supervision and control of Uber management, notwithstanding Uber's claims that it merely provides a "platform."

Uber has also been accused of violating public transportation laws and regulations throughout the United States and the world; abusing the personal information it has collected on users of the service; seeking to use personal information to intimidate journalists; failing to protect public safety by refusing to do adequate criminal, medical, and financial background checks on its drivers; taking clandestine actions against its chief competitor Lyft in order to disrupt its business; and being tone-deaf to the complaints of its own drivers against the firm's efforts to reduce driver fees in 2015. Uber drivers went on strike in New York City in October 2014, claiming that Uber had reduced their fares by 25%, and that most drivers were making less than \$7–\$12 per hour. Expenses for owning and operating the car reduce this wage even further. Uber has been banned in several European cities.

Critics also fear the long-term impact of on-demand service firms, because of their potential for creating a society of part-time, low-paid work, temp work, displacing traditionally full-time, secure jobs—the so-called Uber-ization of work. As one critic put it, Uber is not the Uber for rides so much as it is the Uber for low-paid jobs. Uber responds to this fear by claiming that it is lowering the cost of transportation, making better use of spare human and financial resources, expanding the demand for ride services, and expanding opportunities for car drivers, whose pay is about the same as other taxi drivers. In reality, the point is moot: on-demand service companies will continue to grow explosively until the supply of part-time workers is exhausted. This means, inevitably, the continued growth of a part-time work economy, and growing political pressure to bring benefits to these workers.

Does Uber have a sustainable business model? Is the company really worth over \$50 billion based on \$2 billion in net revenue a year? If the company continues to triple its net revenue every year, the answer is yes. But Uber does have a few competitors already, such as Lyft in the United States, and local firms in Asia and Europe, and many more emerging monthly. Lyft is currently about one-tenth the size of Uber, but growing rapidly. Lyft and Uber are in a financing war. Lyft is financially backed by Alibaba, Carl Icahn (the billionaire investor), Marc Andreessen (Silicon Valley venture capital), and a number of venture firms. Uber faces a bevy of new, smaller competing firms, including Sidecar, Via, Tripda, and Shuddle, all of whom offer app-based hailing services. China has its own cab hailing services, Kuaidi Dache and Didi Dache. Uber does not have unique technology although it does have a strong brand. Large taxi firms in New York City are launching their own hailing apps, and trumpet their fixed-rate prices without surges: rain, snow, ice or sun, it's all the same price. Half of the U.S. taxi business is concentrated in three cities: New York, Los Angeles, and San Francisco, with New York accounting for about one-third. In New York City, where cabs are plentiful, many critics of Uber's high valuation believe the quickest way from point A to point B is to just hail a cab on the street. Others prefer the certainty of a ride arranged through Uber, or Lyft, regardless of price.

In 1994, e-commerce as we now know it did not exist. In 2015, just 21 years later, around 172 million American consumers are expected to spend about \$531 billion, and businesses around \$6.3 trillion, purchasing goods, services, and digital content online or via a mobile device. A similar story has occurred throughout the world. And in this short period of time, e-commerce has been reinvented not just once, but twice.

The early years of e-commerce, during the late 1990s, were a period of business vision, inspiration, and experimentation. It soon became apparent, however, that establishing a successful business model based on those visions would not be easy. There followed a period of retrenchment and reevaluation, which led to the stock market crash of 2000–2001, with the value of e-commerce, telecommunications, and other technology stocks plummeting. After the bubble burst, many people were quick to write off e-commerce. But they were wrong. The surviving firms refined and honed their business models, and the technology became more powerful and less expensive, ultimately leading to business firms that actually produced profits. Between 2002–2008, retail e-commerce grew at more than 25% per year.

Today, we are in the middle of yet another transition. Social networks such as Facebook, Twitter, YouTube, Pinterest, and Tumblr, which enable users to distribute their own content (such as videos, music, photos, personal information, commentary, blogs, and more), have rocketed to prominence. Never before in the history of media have such large audiences been aggregated and made so accessible. Businesses are grappling with how best to approach this audience from a marketing, advertising, and sales perspective. At the same time, the traditional desktop platform and Web browser that most consumers have used to access the Internet in the past is being augmented by mobile devices such as smartphones and tablet computers, and mobile apps. Facilitated by technologies such as cloud computing, mobile devices have become advertising, shopping, reading, and media viewing machines, and in the process, consumer behavior is being transformed yet again. Mobile, social, and local have become driving forces in e-commerce. The mobile platform infrastructure is also giving birth to yet another e-commerce innovation: on-demand services that are local and personal. From hailing a taxi, to shopping, to washing your clothes, these new businesses are creating a marketplace where owners of resources such as cars, spare bedrooms, and spare time can find a market of eager consumers looking to buy a service in a few minutes using their smartphones. The opening case on Uber is a leading example of these new on-demand service firms that are disrupting traditional business models.

## 1.1 E-COMMERCE: THE REVOLUTION IS JUST BEGINNING

**Table 1.1** describes the major trends in e-commerce in 2015–2016. The mobile platform based on smartphones and tablet computers has finally arrived with a bang, making true mobile e-commerce a reality. Social networks are enabling social e-commerce by providing search, advertising, and payment services to vendors and customers. More

TABLE 1.1	MAJOR TRENDS IN E-COMMERCE 2015–2016
<b>BUSINESS</b>	
<ul style="list-style-type: none"> <li>• Retail e-commerce in the United States continues double-digit growth (over 14%), with global growth rates even higher in Europe and emerging markets such as China, India, and Brazil.</li> <li>• Mobile e-commerce explodes and is estimated to reach around \$128 billion in the United States in 2015.</li> <li>• The mobile app ecosystem continues to grow, with almost 200 million U.S. consumers using mobile apps.</li> <li>• Social e-commerce, based on social networks and supported by advertising, emerges and grows by 25% from 2013 to 2014, generating over \$3.3 billion in revenue for the top 500 social media retailers in the United States.</li> <li>• Local e-commerce, the third dimension of the mobile, social, local e-commerce wave, also is growing in the United States, fueled by an explosion of interest in on-demand services such as Uber, to over \$25 billion in 2015.</li> <li>• On-demand service firms like Uber and Airbnb attract billions in capital, garner multi-billion dollar valuations, and show explosive growth.</li> <li>• Mobile and social advertising platforms show strong growth and begin to challenge search engine marketing.</li> <li>• Small businesses and entrepreneurs continue to flood into the e-commerce marketplace, often riding on the infrastructures created by industry giants such as Apple, Facebook, Amazon, Google, and eBay.</li> <li>• B2B e-commerce in the United States continues to strengthen and grow to \$6.3 trillion.</li> </ul>	
<b>TECHNOLOGY</b>	
<ul style="list-style-type: none"> <li>• A mobile computing and communications platform based on smartphones, tablet computers, and mobile apps becomes a reality, rivaling the PC platform and creating an alternative platform for online transactions, marketing, advertising, and media viewing. Mobile messaging services like WhatsApp and Snapchat are used by 40% of smartphone users.</li> <li>• Cloud computing completes the transformation of the mobile platform by storing consumer content and software on Internet servers and making it available to any consumer-connected device from the desktop to a smartphone.</li> <li>• Computing and networking component prices continue to fall dramatically.</li> <li>• As firms track the trillions of online interactions that occur each day, a flood of data, typically referred to as Big Data, is being produced.</li> <li>• In order to make sense out of Big Data, firms turn to sophisticated software called business analytics (or Web analytics) that can identify purchase patterns as well as consumer interests and intentions in milliseconds.</li> </ul>	
<b>SOCIETY</b>	
<ul style="list-style-type: none"> <li>• User-generated content, published online as social network posts, tweets, blogs, and pins, as well as video and photo-sharing, continues to grow and provides a method of self-publishing that engages millions.</li> <li>• The amount of data the average American consumes continues to increase, more than doubling from an average of about 34 gigabytes in 2008 to an estimated 74 gigabytes by 2015.</li> <li>• Social networks encourage self-revelation, while threatening privacy.</li> <li>• Participation by adults in social networks increases; Facebook becomes ever more popular in all demographic categories.</li> <li>• Conflicts over copyright management and control continue, but there is substantial agreement among online distributors and copyright owners that they need one another.</li> <li>• Taxation of online sales becomes more widespread and accepted by large online merchants.</li> <li>• Surveillance of online communications by both repressive regimes and Western democracies grows.</li> <li>• Concerns over commercial and governmental privacy invasion increase.</li> <li>• Online security continues to decline as major sites are hacked and lose control over customer information.</li> <li>• Spam remains a significant problem despite legislation and promised technology fixes.</li> <li>• On-demand service e-commerce produces a flood of temporary, poorly paid jobs without benefits.</li> </ul>	

and more people and businesses are using the Internet and mobile devices to conduct commerce; smaller, local firms are taking advantage of the Internet and mobile platform as e-commerce technologies become less and less expensive. New e-commerce brands have emerged while traditional retail brands such as Walmart and Macy's are further extending their omnichannel strategies and retaining their dominant retail positions by strengthening their e-commerce operations. At the societal level, other trends are apparent. The Internet and mobile platform provide an environment that allows millions of people to create and share content, establish new social bonds, and strengthen existing ones through social network, photo- and video-posting, and blogging sites and apps, while at the same time creating significant privacy issues. The major digital copyright owners have increased their pursuit of online file-sharing services with mixed success, while reaching broad agreements with the big technology players like Apple, Amazon, and Google to protect intellectual property rights. Governments have successfully moved toward taxation of e-commerce sales. Sovereign nations have expanded their surveillance of, and control over, online communications and content as a part of their anti-terrorist activities and their traditional interest in snooping on citizens. Privacy seems to have lost some of its meaning in an age when millions create public online personal profiles.

## **THE FIRST 30 SECONDS**

It is important to realize that the rapid growth and change that has occurred in the first 21 years of e-commerce represents just the beginning—what could be called the first 30 seconds of the e-commerce revolution. Technology continues to evolve at exponential rates. This underlying ferment presents entrepreneurs with new opportunities to both create new businesses and new business models in traditional industries, and also to destroy old businesses. Business change becomes disruptive, rapid, and even destructive, while offering entrepreneurs new opportunities and resources for investment. For instance, on-demand service firms such as Uber and Airbnb threaten the traditional taxi and low-cost hotel industries.

Improvements in underlying information technologies and continuing entrepreneurial innovation in business and marketing promise as much change in the next decade as was seen in the previous decade. The twenty-first century will be the age of a digitally enabled social and commercial life, the outlines of which we can barely perceive at this time. Analysts estimate that by 2019, consumers will be spending over \$775 billion and businesses over \$8.5 trillion in digital transactions. It appears likely that e-commerce will eventually impact nearly all commerce, and that most commerce will be e-commerce by the year 2050.

Can e-commerce continue to grow indefinitely? It's possible that at some point, e-commerce growth may slow simply as a result of overload: people may just not have the time to watch yet another online video, open another e-mail, or read another blog, tweet, or Facebook update. However, currently, there is no foreseeable limit to the continued rapid development of e-commerce technology, or limits on the inventiveness of entrepreneurs to develop new uses for the technology. Therefore, for now at least, it is likely that the disruptive process will continue.