E-commerce 2019

business. technology. society.

FIFTEENTH EDITION

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PREFACE

E-commerce 2019: business.technology.society 15E 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, fintech, social-local-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, online 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 about e-commerce for your firm.

WHAT'S NEW IN THE 15TH EDITION

Careers in E-commerce

In this edition, at the end of every chapter, we feature a section on careers in e-commerce that examines a job posting by an online company for an entry-level position. We provide a brief overview of the field and company, some details about the position, a list of the qualifications and skills that are typically required, and then some tips about how to prepare for an interview, as well as showing how the concepts learned in each chapter can help students answer some possible interview questions.

Currency

The 15th 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 2018 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 2018, including the following:

- The latest developments with respect to on-demand service companies such as Uber; updates on the challenges that mobile apps pose to the Web's dominance of the Internet ecosphere, including progressive web apps (PWAs); Y Combinator's startup boot camp, Facebook and the Cambridge Analytica scandal; Pinterest focuses on visual search (Chapter 1).

- Twitter's continued efforts to find a workable business model; changes in Foursquare's business model; use of initial coin offerings (ICOs) by startups; new issues surrounding crowdfunding; connected cars as a new platform for e-commerce; how Dollar Shave Club used a viral video and subscription-based business model to go from small startup to being acquired for $1 billion in just five years (Chapter 2)

- Voice-controlled digital assistants, including Alexa, Google Assistant, and Siri; 5G and new Wi-Fi standards; new Internet access technologies such as drones, balloons, and white space; developments in IoT, wearable computing devices such as the Apple Watch, virtual and augmented reality, artificial intelligence, and intelligent assistants (Chapter 3)

- Walmart's effort to better compete with Amazon by redesigning its website; alternative web development methodologies such as agile development, DevOps, component-based development, and the use of web services; DHTML, AngularJS, D3; jQuery; mobile-first and responsive design; increasing focus on online accessibility; update on Dick's Sporting Goods' effort to reclaim its e-commerce infrastructure (Chapter 4)

- New cyberwarfare threats; new security threats (such as the growth of cryptojacking, malvertising, ransomware (including WannaCry), business e-mail compromise (BEC) and W-2 phishing, data breaches at Equifax, Exactis, and Facebook; IoT botnet DDoS attacks, newly discovered software vulnerabilities, and smartphone security issues; new biometric security techniques such as Apple's Face ID; FTC enforcement actions with respect to data security; mobile wallets; Bitcoin and blockchain technology; P2P (Venmo, Facebook Messenger, Zelle); and mobile payment systems (Chapter 5)

- Updates on online video advertising; Google search engine algorithm updates; new IAB guidelines, ad fraud, and viewability issues; the continuing rise in usage of ad blocking software; industry and FTC guidelines on cross-device tracking; Apple's Intelligent Tracking Prevention (ITP); issues with programmatic advertising (Chapter 6)

- Building a microbrand with social media marketing; new social marketing and social e-commerce tools from Facebook, Twitter, Pinterest, Instagram, LinkedIn, and Snapchat; Sprout Social (social media marketing analysis); use of 3D mobile marketing; proximity marketing; BLE (Chapter 7)

- Update on the right to be forgotten, privacy issues associated with digital assistant devices, facial recognition, and IoT technology; issues with persistent location tracking; FTC privacy enforcement actions; new EU General Data Protection Regulation (GDPR); Apple/U.S. government iPhone privacy fight; new technological privacy protections; privacy as a business; updates on DMCA litigation; EU draft copyright legislation; impact of Supreme Court's *Wayfair* decision on online sales taxes; net neutrality developments; online fantasy sports gambling issues; Big Tech and antitrust issues (Chapter 8)

- Updates on Blue Nile, Amazon, Stitch Fix, Instacart, Grubhub, and OpenTable; digital native verticals (manufacturer-direct); fintech startups; the impact of phony online reviews; updates on on-demand service companies (Chapter 9)

- The "Internet Broadcasting System" takes off; industry structure convergence continues; updates on newspaper Digital First business models; native digital news sites; update on e-books; streaming music and television services; the impact of Pokemon GO and emergence of e-sports (Chapter 10)

- Update on LinkedIn; use of algorithms by social networks, such as Facebook; the dark side of social networks; Facebook fake news controversy; Verizon acquires AOL and Yahoo as the portal business faces challenges; update on eBay (Chapter 11)

- Amazon Business; the rise of B2B sell-side marketplaces; supply chain visibility; blockchain in the supply chain; cloud-based B2B; mobile B2B; B2B marketing; update on Walmart supply chain issues (Chapter 12)

FEATURES AND COVERAGE

Strong Conceptual Foundation: Business, Technology, Society The book emphasizes the three major driving forces that permeate all aspects of e-commerce: business development and strategy, technological innovations, and social and legal issues and impacts. In each chapter, we explore how these forces relate to the chapter's main topic, which provides students with a strong and coherent conceptual framework for understanding e-commerce.

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 2019 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 2018, 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 Snapchat; to Netflix, YouTube, and Dick's Sporting Goods, 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. We strive to maintain a critical perspective on e-commerce and avoid industry hyperbole.

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, and expansion in the development of social technologies, which are the foundation of online social networks. While we thoroughly discuss the current Internet environment, we devote considerable attention to describing emerging technologies and applications such as the Internet of Things, blockchain, augmented and virtual reality, and 5G, among others.

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 to 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. 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 ethical dimensions of e-commerce, including information privacy, intellectual property, governance, and protecting public welfare on 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 the Internet, Web, and mobile platform work. Chapter 4 focuses on the steps managers need to follow in order to build an e-commerce presence. This 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 website performance; and issues involved in developing a mobile website 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, and others), the development of mobile and social payment systems such as Apple Pay, Venmo, Zelle, and Facebook Messenger, as well as a new section on cryptocurrencies and blockchain, the technology underlying them.

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 website 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 section on marketing analytics software. Chapter 7 is devoted to an in-depth analysis of social, mobile, and local marketing. Topics include Facebook, Twitter, Pinterest, and other social media marketing platforms such as Instagram, Snapchat, and LinkedIn, 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, questions surrounding Big Tech and compeittion, 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.

Everything on Demand:
The "Uberization" of E-commerce

If you were asked to pick iconic examples of e-commerce in the two decades since it began in 1995, it is likely that companies such as eBay, Google, Apple, and Facebook would be high on your list. But today, a new breed of e-commerce company is muscling its way to the forefront. Uber and other firms with similar business models, such as Lyft (a ride service similar to Uber's), Airbnb (rooms for rent), Instacart (grocery shopping), and Grubhub (restaurant food delivery) are the pioneers of an on-demand service e-commerce business model that is sweeping up billions of investment dollars and disrupting major industries, from transportation to hotels, real estate, house cleaning, maintenance, and grocery shopping.

Uber is perhaps the most well-known, as well as the most controversial, company that uses the on-demand service model. Uber offers a variety of different services. The two most common are UberX, which uses compact sedans and is the least expensive, and UberBlack, which provides higher-priced town car service. UberPool is a ride-sharing service that allows users to share a ride with another person who happens to be going to the same place. Uber is also attempting to leverage its business model by expanding into several related areas, with UberRush, as same-day delivery service; UberCargo, a trucking service, and UberEats, a food delivery service.

Uber, headquartered in San Francisco, was founded in 2009 by Travis Kalanick and Garrett Camp, and has grown explosively since then to over 600 cities in 65 countries. Uber currently has over 3 million worldwide and 75 million riders who made 4 billion trips in 2017. In 2017, riders spent $37 billion on the Uber platform, generating $7.5 billion in revenue for Uber, but it still lost $4.5 billion, with losses in developing markets swallowing up profits being generated in North America, Europe, and elsewhere. Uber's strategy has been to expand as fast as possible while foregoing short-term profits in the hope of long-term returns. As of June 2018, Uber has raised over $21 billion from venture capital investors. Uber is currently valued at around $62 billion, more than all of its competitors combined. In the last several years, Uber has sold its operations in China, Southeast Asia, and Russia, where it had been

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"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 websites 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 Dick's Sportings Goods efforts to take control of its e-commerce operations, 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 website, 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 E-commerce2019.com. The website 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 support.pearson.com/getsupport 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**
- **Image Library**
- **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. There are 29 video cases for the 15th edition, all with updated supporting case study material.

    Chapter 1
    1.1 The Importance of the Internet for E-commerce
    1.2 The Growth of the On-Demand Economy

    Chapter 2
    2.1 From Startup to Success
    2.2 Angel Investing
    2.3 Deals Galore at Groupon

    Chapter 3
    3.1 How Freshdesk Uses Amazon Web Services
    3.2 Compare.com Turns to Microsoft Azure and the Cloud
    3.3 Facebook's Data Centers
    3.4 Smart Speakers: Amazon Echo and Google Home

    Chapter 4
    4.1 E-commerce Platforms: Salesforce Commerce Cloud
    4.2 National Kidney Registry Turns to Rackspace for Managed Hosting
    4.3 Building a Mobile App

    Chapter 5
    5.1 The Rise of Cyberwarfare
    5.2 Understanding Bitcoin

    Chapter 6
    6.1 To Ad Block or Not to Ad Block
    6.2 Pandora's Recommendation System

    Chapter 7
    7.1 Pinterest Users Engage with Sephora

7.2 The Full Value of Mobile Marketing

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 Walmart Takes On Amazon
9.2 Etsy: A Marketplace and a Community

Chapter 10
10.1 YouTube: Secrets of Successful Content Creators
10.2 Vox Media
10.3 ESPN: Sports Broadcasting Evolves

Chapter 11
11.1 Instagram
11.2 Small Businesses Find a Home on eBay

Chapter 12
12.1 Flextronics Uses Elementum's Cloud-based Mobile Supply Chain Apps
12.2 Mechan Groep Streamlines with Sana Commerce

- **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
7.1 Social Media Marketing: Facebook
7.2 Social Media Marketing: Twitter

ACKNOWLEDGMENTS

Reneta Barneva, SUNY Fredonia

Rathin Basu, Ferrum College

Dr. Shirley A. Becker, Northern Arizona University

Prasad Bingi, Indiana-Purdue University, Fort Wayne

Joanna Broder, Pima Community College

Lisa Bryan, Southeastern Community College

James Buchan, College of the Ozarks

Ashley Bush, Florida State University

Cliff Butler, North Seattle Community College

Carl Case, St. Bonaventure University

Teuta Cata, Northern Kentucky University

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Gus Jabbour, George Mason University

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Gilliean Lee, Lander University

Zoonky Lee, University of Nebraska, Lincoln

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Vincent McCord, Foothill College

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John Miko, Saint Francis University

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