Principles of
MARKETING

EIGHTEENTH EDITION

Philip Kotler • Gary Armstrong

Principles of
MARKETING

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Principles of
MARKETING

18e **GLOBAL EDITION**

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To Kathy, Betty, Mandy, Matt, KC, Keri, Delaney, Molly, Macy, and Ben; and Nancy, Amy, Melissa, and Jessica

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Preface

New to This Edition

All That's New in Marketing

The eighteenth edition of *Principles of Marketing* reflects the major trends and shifting forces that impact marketing in this digital age of customer value, engagement, and relationships. Here are just some of the major new and continuing changes you'll find in this edition.

- *Customer engagement framework:* This eighteenth edition continues to build on its *customer engagement* framework—creating direct and continuous customer involvement in shaping brands, brand conversations, brand experiences, brand advocacy, and brand community. New coverage and fresh examples throughout the text address the latest customer engagement tools, practices, and developments.
- *Fast-changing marketing trends and topics:* This edition adds fresh coverage of both traditional marketing areas and fast-changing topics such as digital, mobile, and social media marketing; customer engagement marketing; the customer journey; big data, artificial intelligence, and new marketing analytics; the major digital transformation in marketing research; omni-channel marketing and the massive shifts in today's retailing; direct-to-consumer marketing (DTC); real-time customer listening and marketing; marketing content creation and native advertising; B-to-B social media and social selling; online and dynamic pricing; sustainability; global marketing; and much more.
- *Online, mobile, social media, and other digital marketing technologies:* Keeping up with digital concepts, technologies, and practices has become a top priority and major challenge for today's marketers. The eighteenth edition of *Principles of Marketing* provides thoroughly refreshed, up-to-date coverage of these explosive developments in every chapter—from digital, online, mobile, and social media engagement technologies in Chapters 1, 5, 14, 15, and 17; to "big data," new marketing analytics, the Internet of Things, and artificial intelligence in Chapters 1, 3, and 4; to the massive shift to omni-channel and digital retailing in Chapters 13 and 17; to the increasing use of augmented and virtual reality in Chapters 4 and 13. A Chapter 1 section on *The Digital Age: Online, Mobile, and Social Media Marketing* introduces the exciting new developments in digital and social media marketing. Then a Chapter 17 section on *Direct, Online, Social Media, and Mobile Marketing* digs more deeply into digital marketing tools such as online sites, social media, mobile ads and apps, online video, email, and other digital platforms that engage consumers anywhere, anytime via their computers, smartphones, tablets, and other digital devices.
- *Content marketing and marketing communications:* The eighteenth edition continues to track fast-changing developments in marketing communications and the creation of brand content. Marketers no longer simply create advertising and integrated marketing communications programs; they join with customers and media to curate and share marketing content in paid, owned, earned, and shared media. You won't find fresher coverage of these important topics in any other marketing text.

New Real-World Brand Stories, Highlights, Cases, and In-Text Examples

The eighteenth edition of *Principles of Marketing* is loaded with new brand stories, highlight features, cases, in-text examples, and end-of-chapter exercises and features that illustrate brand strategies and contemporary marketing issues and let students apply what they've learned.

- *Chapter-opening stories, Real Marketing highlights, and in-text examples:* The eighteenth edition brings marketing to life with new or heavily revised chapter-opening vignettes,

148 **PART 2** | Understanding the Marketplace and Consumer Value

Company Case Bayer: Big Data for Customer Insights

Bayer Aktiengesellschaft, or Bayer AG, is a life sciences company and a global leader in healthcare and nutrition. Headquartered in Leverkusen, Germany, Bayer has a strong presence in Europe and more than 150 years of experience. To expand its operations, Bayer carefully examines the size of the market, determines its profitability, and analyzes the entry and exit barriers. Marketing information is vital for decisions on entering new markets and about adapting to existing ones, but Bayer must balance its information gathering against its policy on customers' data privacy as well as alignment with future operational objectives. When it comes to entering new markets, Bayer's analyses are based heavily on customer satisfaction and performance measures.

Reading the Customer's Mind

Bayer bases its various strategies on marketing information. Some of its markets are difficult to operate in; for example, pharmaceuticals involves multiple customers, distribution channels, purchasing arrangements and pricing methodologies, marketing techniques, and cost-control tools or prescription drug reimbursement systems. Gaining useful customer or marketplace insights from these various sources is challenging. Additionally, Bayer conducts research to discover new drugs and tests and validates their effectiveness and safety before introducing them to the market. As such, the company accumulates, analyzes, and stores vast amounts of clinical data from patients as well as healthy volunteers. Marketing information is also collected from laboratories and electronic devices but is automatically anonymized at the point of collection, following the guidelines and regulations created by local drugs administrations. Recently, Bayer deployed a microservices-based architecture for its data platform to enable easier and faster analysis of drug development data for company's researchers.

Bayer operates mainly as a business-to-business (B2B) company, but in the pharmaceuticals market, its focus is on researching, developing, and marketing specialty-focused medicines to businesses as well as individual consumers. Its products are distributed to hospitals and general practitioners, who also deliver useful marketplace insights. But Bayer carefully examines all information gathered even before it distributes to these intermediaries. For example, for distribution of the allergy drug Claritin, Bayer uses third-party analytics to analyze global warming data so that it can model the supply based on weather trends and allergy trends.

Bayer's customer insights and marketplace data are processed based mainly on how specialized products are received within the pharmaceutical market. Healthcare division insights are communicated between Bayer and the brands to which its products are distributed. Coupled with a large geographical footprint, this results in an enormous store of insights and techniques that can be used in marketing mix decision-making, formulation of marketing strategy, as well as daily business operations.

Bayer has market- and customer-specific distribution channels for each segment in which it operates. Through a number of programs, such as its Patient-Focused Transformation of Customer Engagement, the company draws on the experiences and challenges of participants to support business transformation initiatives at the company with the objective of shifting mindsets, implementing new processes, building new skills, or changing target behaviors. This customer engagement model

has transformed information gathering into a single customer-centric and patient-focused model.

The consumer health and pharmaceuticals segments are connected to a global pharmaceutical monitoring system that includes safety management teams and experts across various disciplines. To detect potential safety concerns early on and identify changes in the risk–benefit profile, such teams must evaluate internal benefits, safety data, marketing studies, clinical trials, external databases, and scientific publications. These are all entered into Bayer's pharmacovigilance database, which is used in market research to test the viability of new products and services based on the responses of potential customers. The company is constantly investing in R&D—which generates information—but each product must also comply with the relevant regulatory environment.

Diving Deeper for Insights

At Bayer, internal data is information about customers—current and potential—collected primarily from four major sources: sales, finance, human resources, and marketing. However, gaining trade insights from each segments can be challenging due to legal requirements, especially from sources such as patients. For example, to collect customer satisfaction data, the company must follow different standards for prescription medicines and for non-prescription medicines.

Bayer's marketing activities focus on the local needs of its customers, but these needs can vary significantly. The company's customer-focused marketing activities take this into account. For instance, working together with Kansas City-based Consumer Orbit, Bayer combines the data it generates with the firm's databases, resulting in a total of 63 trillion pieces of data that enable Bayer to build a model of its customer base and deliver tailored messages to its customers through their preferred communications platform.

However, customer needs may differ merely because each country or state has its own set of rules and laws. The company must adhere to laws and regulations dealing with marketing practices; global, regional, and local industry codes; customer privacy and protection of consumer information and data; and recommendation and promotion only of lawful uses (for instance, there should be no off-label promotion for medicinal products). Ongoing dialogues with customers enable the company to take such local and country-specific regulatory frameworks into account and deploy optimization measures.

Bayer analyzes customer satisfaction reports and customer complaints to compare the company's performance in the individual segments, optimize its measures, and safeguard its long-term business strategy. Various marketing research techniques ensure accurate directions for shaping and redefining its marketing strategy. For instance, by using AI-driven diagnostic and treatment support for individual customers in the pharmaceuticals segment, the company accelerates the discovery of new drugs for heart conditions while combining processing power with the large data sets and advanced analytics available for marketing information. This allows Bayer to offer a personalized testing and treatment as well as personalized online medical consulting that examines customers' lifestyles, health, and diet directly through a website.

On June 7, 2018 Bayer acquired 100 percent of the outstanding shares of Monsanto Company. Bayer's strong position

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boxed features that highlight relevant companies and marketing issues, and loads of new in-text examples throughout that illustrate contemporary marketing practice.

- *New company cases and end-of-chapter applications and exercises:* The eighteenth edition provides 20 new company cases by which students can apply what they learn to actual company situations. End-of-chapter discussion questions, critical thinking exercises, and other applications features are also new and revised.

Solving Teaching and Learning Challenges

Today's marketing is all about creating customer value and engagement in a fast-changing, increasingly digital and social marketplace. Marketing starts with understanding consumer needs and wants, determining which target markets the organization can serve best, and developing a compelling value proposition by which the organization can attract and grow valued consumers. Then, more than just making a sale, today's marketers want to engage customers and build deep customer relationships that make their brands a meaningful part of consumers' conversations and lives.

In this digital age, to go along with their tried-and-true traditional marketing methods, marketers have a dazzling set of new online, mobile, and social media tools for engaging customers anytime, anyplace to jointly shape brand conversations, experiences, advocacy, and community. If marketers do these things well, they will reap the rewards in terms of market share, profits, and customer equity. In the eighteenth edition of *Principles of Marketing*, students learn how customer value and customer engagement drive every good marketing strategy.

Five Major Customer Value and Engagement Themes

The eighteenth edition of *Principles of Marketing* builds on five major customer value and engagement themes:

- *Creating value* for *customers in order to capture value* from *customers in return*. Today's marketers must be good at *creating customer value, engaging customers,* and *managing customer relationships*. In return, they capture value from customers in the form of sales, profits, and customer equity. This innovative *customer value and engagement framework* is introduced at the start of Chapter 1 in a unique five-step marketing process model, which details how marketing *creates* customer value and *captures* value in return. The framework is carefully developed in the first two chapters and then fully integrated throughout the remainder of the text.

Marketing: Engaging Customers to Create and Capture Customer Value

Create value for customers and build customer relationships — **Capture value from customers in return**

| Understand the marketplace and customer needs and wants | → | Design a customer value-driven marketing strategy | → | Construct an integrated marketing program that delivers superior value | → | Engage customers, build profitable relationships, and create customer delight | → | **Capture value from customers to create profits and customer equity** |

● FIGURE 1.1
The Marketing Process: Creating and Capturing Customer Value

- *Customer engagement and today's digital and social media*. Digital and social media have taken today's marketing by storm, dramatically changing how companies and brands engage consumers and how consumers connect and influence each other's brand behaviors. The eighteenth edition thoroughly explores the exciting new digital, mobile, and social media technologies that help brands to engage customers more deeply and interactively. It starts with two major Chapter 1 sections: *Customer Engagement and Today's Digital and Social* Media and *The Digital Age: Online, Mobile, and Social Media.* A refreshed Chapter 17 on *Direct, Online, Social Media, and Mobile Marketing* summarizes the latest developments in digital engagement and relationship-building tools. Everywhere in between, you'll find revised and expanded coverage of the exploding use of digital and social marketing tools.

- *Building and managing strong, value-creating brands*. Well-positioned brands with strong brand equity provide the basis upon which to build customer value and profitable customer relationships. Today's marketers must position their brands powerfully and manage them well to create valued brand experiences. The eighteenth edition provides a deep focus on brands, anchored by a Chapter 8 section on *Branding Strategy: Building Strong Brands*.

- *Measuring and managing return on marketing*. Especially in uneven economic times, marketing managers must ensure that their marketing dollars are being well spent. "Marketing accountability"—measuring and managing marketing return on investment—has now become an important part of strategic marketing decision making. This emphasis on marketing accountability is addressed in Chapter 2, in *Appendix 2: Marketing by the Numbers,* and throughout the eighteenth edition.

- *Sustainable marketing around the globe*. As technological developments make the world an increasingly smaller and more fragile place, marketers must be good at marketing their brands globally and in sustainable ways. New material throughout the eighteenth edition emphasizes the concepts of global marketing and sustainable marketing—meeting the present needs of consumers and businesses while also preserving or enhancing the ability of future generations to meet their needs. The eighteenth edition integrates global marketing and sustainability topics throughout the text. It then provides focused coverage on each topic in Chapters 19 and 20, respectively.

In-Text Teaching and Learning Features

Principles of Marketing provides a wealth of chapter-opening, within-chapter, and end-of-chapter learning features that help students to learn, link, and apply major concepts.

- *Integrated chapter-opening preview sections.* The active and integrative chapter-opening spread in each chapter starts with an *Objectives Outline* that provides a helpful preview of chapter contents and learning objectives, complete with page numbers. Next, a *Chapter Preview* section briefly previews chapter concepts, links them with previous chapter concepts, and introduces the chapter-opening story. Finally, a *chapter-opening vignette*—an engaging, deeply developed, illustrated, and annotated marketing story—introduces the chapter material and sparks student interest.

APPENDIX 2 **Marketing by the Numbers**

Marketing managers are facing increased accountability for the financial implications of their actions. This appendix provides a basic introduction to measuring marketing financial performance. Such financial analysis guides marketers in making sound marketing decisions and in assessing the outcomes of those decisions.

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Marketing by the Numbers Uniqlo's Digital Marketing Campaigns

Uniqlo is a Japanese retail brand that has grown into a global brand in 15 countries thanks to digital marketing campaigns. Founder Tadashi Yamai inherited a chain of men's tailoring retail stores, so he was no stranger to fashion retailing. But he wanted to bring affordable, fashionable, casual clothing to all people, so he created Uniqlo in 1984 to offer casual clothing for all. The philosophy of the brand is "UNIQLO clothes are MADE FOR ALL." The company focuses on its signature innovative clothing lines that have names like HeatTech, UV Cut, LifeWear, and AIRism. In 2007, its pioneering "Uniqlock" viral marketing campaign won dozens of advertising awards, including the coveted Grand Prix award at Cannes. The company continues to run digital marketing campaigns, and while awards are nice, results are better. Marketers measure all sorts of metrics related to digital campaigns, from impressions and click-throughs to purchases.

Consider one of its most recent digital campaigns running in the United States to increase brand awareness and sales of its LifeWear line of clothing:

Measures	Value
Impressions	4,000,000
Click-through to site	150,000
Cost of campaign	$45,000
Number of orders	10,250
Revenue generated	$750,000
Abandoned shopping cart	650
Average cost of goods sold (%)	45%
Shipping and handling costs (per order)	$8.50

Performance Metric	Equation
Click-through rate (CTR)	(Click-throughs ÷ Impressions) × 100
Cost-per-click (CPC)	Cost of campaign ÷ Click-throughs
Conversion ratio	(Number of orders ÷ Click-throughs) × 100
Cost per conversion	Cost of campaign ÷ Number of orders
Average-order-value (AOV)	Revenue generated ÷ Number of orders
Shopping cart abandonment rate	(Abandoned shopping cart ÷ Click-throughs) × 100

Fixed costs
Costs that do not vary with produc[...] sales level.

Variable costs
Costs that vary directly with the le[...] production.

Total costs
The sum of the fixed and variable [...] for any given level of production.

17-14 Calculate the performance metrics listed in the preceding table. Based on these metrics, evaluate the campaign. (AACSB: Communication; Analytic Reasoning; Reflective Thinking)

17-15 Calculate the net marketing contribution (NMC), marketing return on sales marketing ROS), and

marketing return on investment (marketing ROI). Was the campaign successful? Refer to Marketing Profitability Metrics in Appendix 2: Marketing by the Numbers to learn how to do this analysis. (AACSB: Communication; Reflective Thinking; Analytic Reasoning)

Company Case OfferUp: A Mobile Solution for the Mobile Era

When people think of buying and selling things online locally, most think automatically of Craigslist, the classified ad marketplace that has dominated that business for the past two decades. But as the rest of the world has gone mobile, Craigslist has not. In fact, the familiar but cluttered collection of blue hyperlinks has changed very little over the years. Some critics suggest that Craigslist has taken its monopoly for granted. One industry observer refers to Craigslist as "the cockroach of the internet age—an ugly but effective e-commerce platform that…emerged unscathed from technology shifts that crippled mightier contemporaries like Netscape and Yahoo."

In the new landscape of digital disruption, one thing seems certain: What dominates today could be under threat tomorrow. That tomorrow may already be here for Craigslist as numerous, more user-friendly competitors have emerged to challenge the classified ad champ. Enter OfferUp—a relatively new mobile app for buying and selling items that is taking the digital marketplace by storm. OfferUp is not only challenging Craigslist as the go-to platform by which individuals and businesses sell goods and services in local markets, it's also starting to challenge the likes

of eBay and even Amazon by flexing its muscles beyond local market boundaries. Unexpectedly, OfferUp now rivals the most popular social media apps in terms of time spent by users.

About a decade ago, as the mobile device revolution began to explode, Seattle resident Nick Huzar was frustrated as he tried to unload unwanted household items in preparation for his soon-to-be-born daughter's nursery. He didn't have time to post all these items on Craigslist, which required multiple steps that pretty much required a desktop or laptop to complete. Instead, he went to Goodwill, where he always found a line to drop donations. With a smartphone in his hand, he recognized the potential for an online marketplace that made posting, monitoring, and browsing items for sale in a local market as simple as social media interactions. That led to a partnership with friend Arean van Veelen and the ultimate launch of OfferUp in 2011.

A Different Kind of Marketplace
The main thing that differentiates OfferUp from Craigslist and other traditional online marketplace platforms is that it's

- *Author comments and figure annotations.* Throughout each chapter, author comments ease and enhance student learning by introducing and explaining major chapter sections and figures.
- *Reviewing and extending the concepts.* Sections at the end of each chapter summarize key chapter concepts and provide questions and exercises by which students can review and apply what they've learned. The *Objectives Review* section reviews major chapter concepts and links them to chapter objectives. The *Key Terms* section provides a helpful listing of chapter key terms by order of appearance with page numbers that facilitate easy reference. *Discussion Questions* and *Critical Thinking Exercises* sections help students to keep track of and apply what they've learned in the chapter.
- *Applications and Cases.* Completely revised sections at the end of each chapter provide brief *Online, Mobile, and Social Media Marketing; Marketing Ethics*; and *Marketing by the Numbers* applications cases that facilitate discussion of current issues and company situations in areas such as mobile and social marketing, ethics, and financial marketing analysis. All-new end-of-chapter *company cases* in each chapter help students apply major marketing concepts and critical thinking to real company and brand situations.

Developing Employability Skills

Real Marketing features. Each chapter contains two deeply developed Real Marketing highlight features that provide in-depth looks at real brand marketing strategies and contemporary marketing issues. For example, students learn how Uniqlo tries to live up to its philosophy "Made for All"; how Netflix uses big data and advanced marketing analytics to personalize each customer's experience; why Apple's products fly off the shelves despite their premium prices; how Swyp targeted users between the ages of 15 and 29 to craft a brand story; how Instagram has made itself a win-win-win for the company, advertisers, and Instagrammers alike; how Nestlé is integrating marketing communication into its operations; why store retailer Best Buy is thriving in the age of Amazon; how Coca-Cola, long a master of mass market advertising, has now also mastered digital, mobile, and social media marketing; and how Waitrose presents itself as part of the larger movement working toward a more sustainable future. They learn that artificial intelligence in marketing is now "a bigger deal than fire and electricity," how companies are increasingly using augmented and virtual reality to enhance consumer shopping experiences, and how mobile marketing engages consumers in the moments that matter. No other text brings marketing to life like the eighteenth edition of *Principles of Marketing*.

Marketing Plan appendix. Appendix 1 contains a detailed sample marketing plan that helps students to apply important marketing planning concepts.

Marketing by the Numbers appendix. An innovative and freshly revised *Appendix 2* provides students with a comprehensive introduction to the marketing financial analysis that helps guide, assess, and support marketing decisions. A new or revised exercise at the end of each text chapter lets students apply analytical and financial thinking to that chapter's concepts and links the chapter to the *Marketing by the Numbers* appendix.

Careers in Marketing. Appendix 3 helps students to explore marketing career paths and lays out a process for landing a marketing job that best matches their special skills and interests.

For more information and resources, visit www.pearsonglobaleditions.com

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Inset textbook page sample:

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Real Marketing 13.2 | AR and VR in Retailing: Extending and Enhancing the Shopping Experience

Remodeling a dated kitchen or bathroom can be a Herculean task, and many customers simply throw up their hands and say, "Forget it!" To help solve this customer... home-improvement retailer Lo... a virtual reality program called... let customers in some stores... tools or redo rooms to see ho... look without ever knocking dow...

Dubbed "Minecraft for Mom..." let customers use an in-store... design their dream room, se... nets, countertops, faucets, ap... and paint colors in endless co... with Lowe's products, of course... then donned an HTC Vive head... themselves standing in the mid... designed space in 3D virtual... on what they saw, they could... design until it looked just rig... could export it to YouTube 36... and viewing at home with Goog...

Welcome to the fast-growing... mented and virtual reality in reta... are increasingly using sophist... technologies to extend and enh... tomer shopping experience, bri... world into their stores, and brin... the outside world. They are usi... reality (AR) and virtual reality (V... artificial intelligence (AI), to cre... personalized, and highly engag... riences that transcend real-worl...

Augmented reality merges... mented objects with real-worl... can help consumers design, tr... sualize products before buying... ample, Sephora's Virtual Artist... scans a customer's face and l... ment with different combinatio... likes. It also offers "virtual tutor... customers how to apply makeu... overlays the results on their fa... Sherwin-Williams Color Visualize... "Color It Before You Paint It!" by... tual room images and painting... And IKEA's AR app, IKEA Place... ers place furniture items virtually... to see what they look like before...

At the NIKEiD Direct Studi... augmented video mapping let... sign their own one-of-a-kind... watch the designs come to lif... very eyes. Customers start by... white version of the Nike Air Fo... NIKEiD Direct configurator—a... that serves as the display a...

customers select colors, materials, and patterns from the options on a tablet interface, their selections are projected onto the shoe

the ground and say, 'You know what? this is too tight,' then swipe your hand to try another tent." Whereas Walmart doesn't have room to

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CHAPTER 4 | Managing Marketing Information to Gain Customer Insights   139

Real Marketing 4.2 | Artificial Intelligence in Marketing: "A Bigger Deal Than Fire or Electricity"

It's early morning, you're headed out to start your day, and you feel the urge for that first jolt of caffeine. As you get in your car, you tap the Starbucks app on your phone and ask for "the usual." Your Starbucks virtual barista replies in her familiar, cheerful voice: "One tall caramel latte!" She then politely suggests a breakfast snack—a Vermont maple nut muffin—not your usual, but it sure sounds good. You agree. "Thanks! Your order will be ready for pickup in five to seven minutes at University and 28th," she confirms. "Would you like to pay for that with your credit card on file?" You step inside the store, bypass the long lines, and grab your order—no fuss, no muss. Welcome to the world of artificial intelligence (AI).

This is just one example of how AI has exploded onto the marketing scene. Starbucks has long been into cutting-edge technology—a full 25 percent of its transactions are already placed through its smartphone apps. But My Starbucks Barista is more than just an ordering app. It uses artificial intelligence to create personalized customer experiences and manage real-time customer interactions, based on everything from customers' past transactions and preferences to demographics, store trends and inventories, and local traffic and weather conditions.

Artificial intelligence is sweeping the world. It involves machines that think and learn in a way that looks and feels human but with a lot more analytical capacity. The engine behind the AI's explosive growth is big data. Raw data is flowing in from everywhere: customer transaction and interaction data, web and social media data, news and environmental data, and data from more than 50 billion connected devices—everything from consumer wearables and GPS technology to household thermostats, washing machines, and cars. Companies need to make sense of all that data for their brands and consumers.

The human mind simply can't grapple with today's glut of big data. But machines can. However, more than just collecting and tabulating mountains of data, AI analyzes it at lightning speed to gain deep insights and apply them to accomplish designated tasks. AI learns as it goes along—the more data it ingests, the smarter and more accurate it gets. "AI is the planet we're headed to," says one AI expert. "Machine learning is the rocket that's going to get us there. And big data is the fuel."

Marketers use AI to assess, address, service, and sell to customers. In turn, AI can help customers manage their lives and their buying. It might be requesting a ride from Lyft via chat (Facebook Messenger or Slack) or voice (Amazon Echo's Alexa virtual assistant). Lyft's chatbot lets you know the current location of your driver along with a picture of the license plate and car model. Or it might be IBM's Watson supercomputer combing through vast amounts of data to unearth customer and market insights that help marketers sharpen their targeting, personalize customer engagements, design new products, and even craft better ads in real time.

Today's machines are smart and eerily human. IBM's Watson "is loquacious; it can tell jokes, answer questions, and write songs," notes one observer. "Google's AI can now read lips better than a professional and can master video games within hours. MIT's AI can predict action on video two seconds before it begins. Tesla's AI powers [its] innovative self-driving car."

Companies like Amazon have mastered AI, harnessing insights and interactions that let it understand and serve customers. Amazon's Echo brings Alexa's AI magic to nearly 50 million U.S. homes. Beyond serving as a valet for duties such as adjusting household appliances, controlling music, keeping shopping lists, sending text messages, and answering questions on about any subject, Echo and other similar AI devices,

such as Google Home, have become voice-activated personal shopping assistants. Companies ranging from P&G and Clorox to 1-800-Flowers are hard at work perfecting ways to tap into Echo users who voice-shop from the comfort of their own kitchens.

At Amazon's shopping and video sites, AI powers recommendations that help consumers decide what to buy and what to watch. "Increasingly, Amazon will be selling you things you didn't even know you needed because it has learned what you like and are most inclined to buy," says an analyst. Amazon is so good at this that it's even considering what it calls "predictive delivery," sending consumers stuff they haven't even ordered yet. If customers don't want it, they would just keep it for free. Although such deliveries may still be a while off, Amazon uses such AI predictions to keep the right stock in warehouses or even on trucks to support its ever-more-popular one-day or even one-hour delivery promise.

Hosts of retailers are employing AI to improve how they service and sell to their customers. For example, home improvement retailer Lowe's is experimenting with LoweBots—five-foot something, fully mobile, AI-powered robots that roam stores helping customers. The LoweBots detect customers who might need assistance and engage them through voice and touchscreens. The AI robots tap store and external data to answer customer questions, offer solutions,

Artificial intelligence: The My Starbucks Barista uses artificial intelligence to create personalized customer experiences and manage real-time customer interactions, based on everything from customers' past transactions and preferences to local traffic and weather conditions.
Elias Stein Illustration

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Gary Armstrong

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About the Authors

As a team, Philip Kotler and Gary Armstrong provide a blend of skills uniquely suited to writing an introductory marketing text. Professor Kotler is one of the world's leading authorities on marketing. Professor Armstrong is an award-winning teacher of undergraduate business students. Together, they make the complex world of marketing practical, approachable, and enjoyable.

Philip Kotler is S.C. Johnson & Son Distinguished Professor of International Marketing at the Kellogg School of Management, Northwestern University. He received his master's degree at the University of Chicago and his Ph.D. at M.I.T., both in economics. Dr. Kotler is the co-author of *Marketing Management* (Pearson), now in its fifteenth edition and the most widely used marketing textbook in graduate schools of business worldwide. He has authored more than 60 other successful books and has published more than 150 articles in leading journals. He is the only three-time winner of the coveted Alpha Kappa Psi award for the best annual article in the Journal of Marketing.

Professor Kotler was named the first recipient of four major awards: the Distinguished Marketing Educator of the Year Award and the William L. Wilkie "Marketing for a Better World" Award, both given by the American Marketing Association; the Philip Kotler Award for Excellence in Health Care Marketing presented by the Academy for Health Care Services Marketing; and the Sheth Foundation Medal for Exceptional Contribution to Marketing Scholarship and Practice. He is a charter member of the Marketing Hall of Fame, was voted the first Leader in Marketing Thought by the American Marketing Association, and was named the Founder of Modern Marketing Management in the Handbook of Management Thinking. His numerous other major honors include the Sales and Marketing Executives International Marketing Educator of the Year Award; the European Association of Marketing Consultants and Trainers Marketing Excellence Award; the Charles Coolidge Parlin Marketing Research Award; and the Paul D. Converse Award, given by the American Marketing Association to honor "outstanding contributions to science in marketing." A recent *Forbes* survey ranks Professor Kotler in the top 10 of the world's most influential business thinkers. And in a recent *Financial Times* poll of 1,000 senior executives across the world, Professor Kotler was ranked as the fourth "most influential business writer/guru" of the twenty-first century.

Dr. Kotler has served as chairman of the College on Marketing of the Institute of Management Sciences, a director of the American Marketing Association, and a trustee of the Marketing Science Institute. He has consulted with many major U.S. and international companies in the areas of marketing strategy and planning, marketing organization, and international marketing. He has traveled and lectured extensively throughout Europe, Asia, and South America, advising companies and governments about global marketing practices and opportunities.

Gary Armstrong is Blackwell Distinguished Professor Emeritus of Undergraduate Education in the Kenan-Flagler Business School at the University of North Carolina at Chapel Hill. He holds undergraduate and master's degrees in business from Wayne State University in Detroit, and he received his Ph.D. in marketing from Northwestern University. Dr. Armstrong has contributed numerous articles to leading business journals. As a consultant and researcher, he has worked with many companies on marketing research, sales management, and marketing strategy.

But Professor Armstrong's first love has always been teaching. His long-held Blackwell Distinguished Professorship is the only permanent endowed professorship for distinguished undergraduate teaching at the University of North Carolina at Chapel Hill. He has been very active in the teaching and administration of Kenan-Flagler's undergraduate program. His administrative posts have included Chair of Marketing, Associate Director of the Undergraduate Business Program, Director of the Business Honors Program, and many others. Through the years, he has worked closely with business student groups and has received several UNC campuswide and Business School teaching awards. He is the only repeat recipient of the school's highly regarded Award for Excellence in Undergraduate Teaching, which he received three times. Most recently, Professor Armstrong received the UNC Board of Governors Award for Excellence in Teaching, the highest teaching honor bestowed by the 16-campus University of North Carolina system.

Marc Oliver Opresnik is a Professor of Marketing and Management and Member of the Board of Directors at SGMI St. Gallen Management Institute, a leading international business school. In addition, he is Professor of Business Administration at the Technische Hochschule Lübeck as well as a visiting professor to international universities such as the Judge Business School of the University of Cambridge, Regent's University London, and the East China University of Science and Technology (ECUST) in Shanghai. He has 10 years of experience working in senior management and marketing positions for Shell International Petroleum Co. Ltd.

Dr. Opresnik is the author of numerous articles and books. Along with Kevin Keller and Phil Kotler, he is co-author of the German edition of *Marketing Management*, the "Bible of Marketing." In addition, he is co-editor and member of the editorial board of several international journals such as *Transnational Marketing Journal, International Journal of New Technologies in Science and Engineering,* and *International Journal of Management & Social Sciences.*

In March 2014, he was appointed Chief Research Officer at Kotler Impact Inc., the internationally operating company of Phil Kotler. In addition, he was appointed chief executive officer of the Kotler Business Programme, an initiative to enhance marketing education worldwide via online and offline learning with Pearson as global educational partner.

As president of his consulting firm Opresnik Management Consulting, he works for numerous institutions, governments and international corporations, including Google, Coca-Cola, McDonald's, SAP, Shell International Petroleum Co. Ltd., Procter & Gamble, Unilever, L'Oréal, Bayer, BASF, and adidas. More than a quarter of a million people have benefited professionally and personally from his insights and learned from him when he served as a coach in seminars on marketing, sales and negotiation, and as a speaker at conferences all over the world, including locations such as St. Gallen, Berlin, Houston, Moscow, Kuala Lumpur, London, Paris, Dubai, and Tokyo.