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An Overview of Sustainable Marketing

In this chapter you will learn about:

Introduction to Sustainable Marketing

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INTRODUCTION TO SUSTAINABLE MARKETING

Samso, Denmark

Our journey into sustainable marketing begins in Samso, Denmark, a tiny island located about four hours from Copenhagen.¹ Facing considerably high energy prices for diesel and coal, inhabitants of this island embarked on an effort to reduce their dependency on fossil fuels in 1997. The island won a state-sponsored contest to create a model community that combined wind and solar power for electricity and geothermal, plant-based energy for heating. The project has been successful on many fronts. The island reached energy independence in 2005, enabling the inhabitants to sell excess power to the national utility while bringing *income* to hundreds of residents who own shares in the island's land and sand sea-based wind farms (see Figure 1-1). Not only did the island eliminate its dependence on fossil fuels, but it did so via *renewable energy* sources with substantially lower carbon footprints than their fossil fuel counterparts. These renewable sources of energy will be employed rather than fossil fuels in the form of coal, oil, or natural gas.

The project will also demand long-term working relationships among residents of Samso. Throughout the island, public buildings and private homes connect to centralized heating plants. At these facilities, hay is burned to heat water, which circulates through underground pipes to provide heat and hot water for residents. Development of this technology provided new opportunities for plumbers to install

FIGURE 1-1

Wind turbines on the Danish island of Samso. Credit Erik Refner for *The New York Times*.²



¹ Cardwell, Diane (2015), "Green Inspiration off the Coast of Denmark," (August 27). www.nytimes.com/2015/01/18/business/energy-environment/green-energy-inspiration-from-samso-denmark.html (February 14, 2015).

² Cardwell, "Green Inspiration off the Coast of Denmark."

and service the new heat pump systems. Farmers on the island similarly found a new market that now accounts for 25 percent of hay production on the island.

The *Samsø* success story exemplifies the potential of renewable energy sources. Energy needs are increasingly being met through wind, and it is the fastest-growing sources of energy around the world.³ In 2011, renewable sources of energy supplied approximately 19 percent of global final energy consumption. Renewable energy provides many communities with a clean, local source of electricity rather than imported fossil fuels.

The story of Samsø developing renewable energy is one example of sustainable marketing. In today's economy, each of us has the opportunity to engage in sustainable marketing. When we recycle aluminum cans, we are engaging in one form of sustainable marketing. Similarly, when we buy a hybrid automobile, we are acting with a sustainable approach to marketing. When General Electric invests in wind power, it is engaging in sustainable marketing. When General Motors invests in researching environmentally friendly technologies for the Chinese market, it is also engaged in sustainable marketing.

Each of these examples illustrates conditions under which people or institutions have chosen to act in a manner that is environmentally friendly. Nevertheless, we can each think of situations in which people do not engage in sustainable marketing. Many of us have been litterbugs, and most have on occasion failed to purchase environmentally sound products despite their availability. Similarly, we are aware of situations in which energy companies did not act in the best interests of the environment.

It is because the challenge to sustainable marketing is so great that it is important to study this subject. Indeed, the purpose of this book is to help individuals make informed decisions about choices that influence environmental, economic, and social performance. As we progress, however, we will find that many sustainable decisions are more complicated than they appear. Furthermore, the decision to use an environmentally friendly approach at one stage in a supply chain has environmental implications for another level of the supply chain. For example, compact fluorescent light bulbs use 25 percent of the energy and last 10 times longer than conventional bulbs, but the mercury in these bulbs complicates but the mercury in these bulbs complicates recycling.⁴

ADOPTING A SUSTAINABLE APPROACH TO MARKETING

In order for us to understand sustainable marketing, it is first important to have an appreciation of marketing. The American Marketing Association defines *marketing* as the “the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large.”⁵ This definition recognizes that marketing

³ International Energy Agency (2013), *Technology Roadmap: Wind Energy*, Paris, France; International Energy Agency.

⁴ Hu, Yuanan, and Hefa Cheng (2012), “Mercury Risk from Fluorescent Lamps in China: Current Status and Future Perspective,” *Environment International* 44 (1), 141–150

⁵ <http://ama-academics.communityzero.com/elmar?go=1712138>.

is an organizational function and set of activities undertaken to bring about exchanges of goods, service, or ideas between people. The definition recognizes that marketing is a philosophical orientation to the practice of doing business. This philosophical orientation emphasizes the satisfaction and value that customers, clients, partners, and society realize due to marketing action.

As marketing has evolved, individuals operating in various parts of the field have adopted alternative definitions of sustainable marketing. Marketers have developed sustainable approaches that fundamentally emphasize ecological factors. Consumer researchers, for instance, have focused on the conditions that increase the potential for consumers to act in an ecologically responsible manner,⁶ and they recognize marked variety among consumer interpretations of this responsibility.

Retailers and developers of sustainable products emphasize product offerings that are environmentally friendly.⁷ Thus, products such as organic vegetables, recycled paper, and phosphate-free detergents are referred to as sustainable products. This definition of sustainable marketing emphasizes product offerings that are not harmful to the environment, but it does not address the production processes employed to prepare the products.

Social marketing adopts a different vantage point and defines sustainable marketing as the development and marketing of products designed to minimize negative effects on the physical environment. In contrast to the retailing perspective, the social orientation recognizes the pre-consumption and post-consumption costs to the environment. Thus, automobile manufacturers attempt to raise production efficiency while simultaneously decreasing costs associated with disassembly and reuse after consumption.⁸

These marketing perspectives underscore the relationship with the environment, but they do not address other salient outcomes desired by the firm. Firms that seek to become sustainable should augment these green marketing approaches with broader consideration of the firm's triple bottom line. Organizations increasingly must incorporate the environment into decision making, but this orientation cannot come at the expense of supply chain relationships and financial goals. By contrast, a sustainability-oriented approach incorporates ecological concerns into a more holistic view of marketing.

Our treatment of sustainable marketing is based on the eclectic approach to achieving social, economic, and ecological outcomes. The United Nations is an organization that has led the way in this recognition of the multiple interdependencies among nature, economy, and society. In December 1983, the United Nations commissioned research on development and the environment. The

⁶ Sheth, Jagdish N., Nirmal K. Sethia, and Shanthi Srinivas (2011), "Mindful Consumption: A Customer-Centric Approach to Sustainability," *Journal of the Academy of Marketing Science* 39 (1), 21–39.

⁷ Lai, Kee-hung, T. C. E. Cheng, and Ailie K. Y. Tang (2012), "Green Retailing: Factors for Success," *California Management Review*, 52(2), 6–31.

⁸ Johnson, M.R., and M.H. Wang (1998), "Economical Evaluation of Disassembly Operations for Recycling, Remanufacturing and Reuse," *International Journal of Production Research*, 36 (12), 3227–3252. Pigosso, Daniela C. A., Evelyn T. Zanette, Américo Guelere Filho, Aldo R. Ometto, and Henrique Rozenfeld, (2010), "Ecodesign Methods Focused on Remanufacturing." *Journal of Cleaner Production* 18, (1), 21–31.

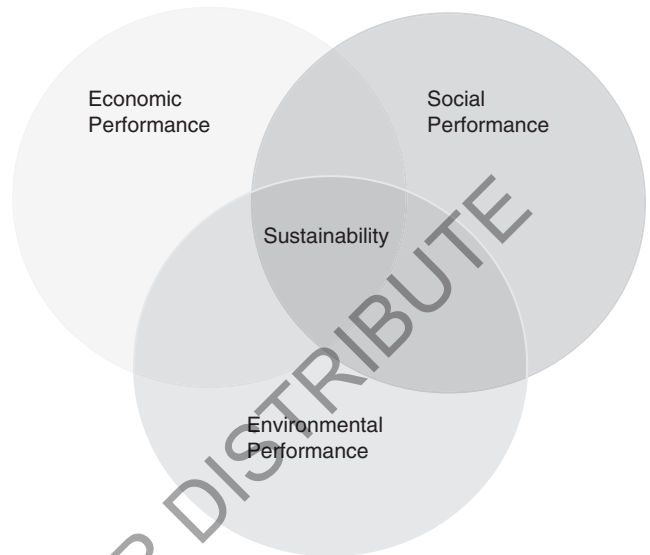
1987 report summarizing this research defined *sustainability* as development that “meets the needs of the present without compromising the ability of future generations to meet their own needs.”⁹ Importantly, this edict recognizes that there are at any time limits on the ability of the biosphere to absorb human activity. There are also limits imposed by the state of technology and social organizations, but both of these factors can be managed and improved to foster economic growth.

Since the publication of this report by the United Nations, industry practice has embraced the notion that sustainability derives from focusing on the *triple bottom line*.¹⁰ Figure 1-2 outlines the pursuit of sustainability. The sustainable organization must generate acceptable levels of economic performance, or it will not survive. It must also nurture social performance in its interaction with customers, suppliers, consumers, and other interest groups. Survival is also contingent on the firm’s ability to achieve acceptable levels of environmental performance throughout the supply cycle from raw material procurement to post-consumption disposal. Figure 1-2 illustrates that these alternative bottom lines are not always compatible. For example, the firm can raise its short-term financial performance by ignoring the costs of waste produced in its manufacturing facilities. The sustainable organization, however, simultaneously works toward achieving heightened performance in the economic, social, and environmental realms.

Samsco and its operations illustrate a developing effort to achieve sustainability through triple bottom-line performance. Samsco and the landowners benefit financially from the sale of renewable energy, and they must develop and maintain working relationships to ensure financial performance. As they nurture these financially rewarding relationships, they are also contributing markedly to the environment by using renewable sources of energy.

We, therefore, define *sustainable marketing* as the study all efforts to consume, produce, distribute, promote, package, and reclaim products in a manner to achieve ecological, economic, and social objectives. The inclusion of “all efforts to consume” recognizes that many entities are involved in sustainable marketing.

FIGURE 1-2
Sustainability and the triple bottom line.¹¹



⁹ Brundtland, Gro (1987), *Our Common Future, The World Commission on Environment and Development*, Oxford University Press, New York, 1987, p.24.

¹⁰ Waddock, Sandra A., Charles Bodwell, and Samuel B. Graves (2002). “The New Business Imperative,” *Academy of Management Executive*, 16 (2), 132–148. Savitz, A. (2012), *The Triple Bottom Line: How Today’s Best-Run Companies Are Achieving Economic, Social and Environmental Success—and How You Can Too*. San Francisco, CA: John Wiley & Sons.

¹¹ Carter, Craig R., and Dale S. Rogers (2008), “A Framework of Sustainable Supply Chain Management: Moving Toward New Theory,” *International Journal of Physical Distribution & Logistics Management* 38(5), 360–387.

Sustainable marketing is not limited to government or nongovernment organizations, nor is it solely an activity undertaken by consumers. Manufacturers, wholesalers, retailers, and services firms each have opportunities to contribute to sustainable marketing. This definition also recognizes the need to consider the production, distribution, and reclamation of products as integrated components of the marketing effort. Efficiency at one stage of this process (e.g., distribution) may offer advantages in the channel, but the goal of sustainable efforts is to limit the total ecological influence associated with consumption. Finally, sustainable marketing must consider the promotional efforts employed to gain consumer support of ecologically-friendly products.

We define *sustainable marketing management* as the process of planning and executing the marketing mix to facilitate consumption, production, distribution, promotion, packaging, and product reclamation in a manner that is sensitive or responsive to ecological, economic, and social concerns. The management of sustainable marketing activity continues to evolve as companies incorporate new thinking about climate change throughout their organizations. Initial sustainable marketing efforts focused on the recycling of products such as aluminum cans and photocopier toner cartridges. Over time, firms have begun to consider ways to *modify inputs* to production that limit the influence of the products on the environment. For example, Staples reduced store operating overhead through centralized controls for lighting, heating, and cooling at its 1500 stores. Staples saved \$6 million over two years by controlling this production input into its value chain.¹² As this Staples' example illustrates, development is at the core of a sustainable marketing approach. The study of sustainable marketing reflects an interest at becoming more aware of the ecological and sustainability issues and consistently working to achieve higher levels of sustainability.

Increasingly, firms are also recognizing that outputs from the production process should be viewed under scrutiny of climate change as well. Savvy management recognizes that everything coming out of a production facility is a *product, by-product, or waste*.¹³ Sustainable products are recognized nationally or internationally through certification and eco-labeling. For example, the U.S. Environmental Protection Agency provides Energy Star labels for electronics and appliances that are environmentally friendly. In the United States, personal computers account for 3 percent of residential electricity consumption.¹⁴ Adoption of these new personal computers with the EPA's new Energy Star labels would save more than \$1 billion in annual energy costs while reducing annual greenhouse gas emissions by 15 billion pounds—equivalent to the emissions from more than 1.4 million vehicles¹⁵.

Firms also are viewing by-products of production in novel ways. Shell Oil is pumping carbon dioxide, a refinery by-product, into 500 Dutch greenhouses. This action reduces emissions by 325,000 tons per year and saves greenhouses from having to burn millions of cubic meters of gas needed to produce carbon

¹² Varachaver, Nicholas (2004), "How to Kick the Oil Habit," *Fortune*, August 23, 2004.

¹³ Esty, Daniel C., and Andrew S. Winston (2006), *Green to Gold*, New Haven, CT: Yale University Press.

¹⁴ www.eia.gov/analysis/studies/demand/miscelectric/pdf/miscelectric.pdf (February 15, 2015).

¹⁵ www.energystar.gov/products/certified-products/detail/computers (February 15, 2015).

dioxide.¹⁶ The pursuit of waste reduction is a third aspect of the production process undergoing a sustainable transformation. Companies recognize that efforts to constrain waste influence profitability. For example, Fetzner Vineyards took an aggressive approach when it set a goal of zero waste.¹⁷ It has a companywide waste reduction programs that involves recycling of bottles, cardboard, plastic, aluminum, paper, antifreeze, waste oil, fluorescent tubes and glass. The firm has reduced the amount of waste it sends to landfills by 96 percent since 1990.

Each of these activities represent a form of sustainable marketing employed at various points in the supply chain. Increasingly, however, organizations recognize the interdependencies operating throughout an economy. Efforts to control costs and enhance productivity at one stage cannot occur at the expense of other stages.

Sustainability initiatives are being developed to address a host of situations in which effort is focused on current development without repercussions to future generations. The agricultural, manufacturing, and retailing sectors offer different examples of sustainability. In the agricultural sector, Costa Rica is making progress toward production of sustainable bananas. Small-scale producers grow bananas without heavy agrochemical inputs. These locally controlled agricultural systems are supportive of local people, economies, and cultures.¹⁸ In the manufacturing sector, the U.S. Department of Energy and the Aluminum Association have formed a long-established partnership designed to improve technology competitiveness through collaborative planning and research.¹⁹ This private-public partnership seeks to make the industry profitable and ecologically sustainable. In the retail sector, Wal-Mart has publicly committed to employing renewable energy sources and will expand the development of onsite and off-site solar, wind, fuel cells, and other technologies on its properties.²⁰ As part of its effort to gain logistical sustainability, the firm developed a packaging scorecard to monitor supplier performance.²¹

Together these examples from a broad range of industries underscore the common interest in establishing sustainable marketing initiatives. Firms may be hesitant to recognize the long-term merits of sustainable marketing, but they cannot deny the short-run financial incentives established by regulators, trading partners, and consumers.

CONSUMER BENEFITS DERIVED FROM SUSTAINABLE MARKETING

Sustainable marketing has positive influences on multiple participants in the economy. *Consumer, corporations, and the ecological environment* can benefit from sustainable marketing. Consider first the consumer benefits from sustainable marketing.

¹⁶ Deliser, H. (2006), "Gas for the Greenhouse," *Nature* 442, 499PP.

¹⁷ Kadleck, Chrissy (2007), "Calif. Vineyard Cuts Environmental Impact," *Waste News*, 13 (7) 12.

¹⁸ www.awish.net/NA/banana_project.htm.

¹⁹ www.nrel.gov/docs/fy01osti/29340.pdf (February 15, 2015).

²⁰ www.corporatereport.com/walmart/2014/grr/_pdf/Walmart_2014_GRR.pdf (February 15, 2015).

²¹ Falkman, Mary Ann (2007), "Sustainability: The Wal-Mart Way," *Packaging Digest*, 44 (20) 12.

Consumers benefit in several important ways through sustainable marketing. These benefits often influence consumer decision making, and consumers will vary in the extent to which they value these benefits. Initially, consumers benefit from the knowledge that they are doing their part to reduce climate change. These consumers are likely to favor corporate efforts to reduce pollution over efforts to raise corporate profitability.²² A nascent industry is developing that enables consumers to offset adverse effects of their action. For example, TerraPass enables consumers to purchase carbon offsets for their auto, air, or home emissions.²³

Consumers also value the opportunity to be associated with environmentally friendly products and organizations.²⁴ For instance, the Body Shop's retail ambience prompts customer to associate their consumption with an environmentally friendly organization.²⁵

Although sustainable product initiatives may independently convince some consumers to buy, evidence suggests that ecologically based products alone will not be substantial drivers of sales.²⁶ Consumers want ecologically friendly products without sacrificing other valuable features. Current marketing efforts, however, enable some firms to offer sustainable products that provide initial product savings, lower energy costs, and access to new technologies.²⁷ For example, current LED-based television monitors offer substantial savings over the LCD monitors currently being phased out of the product line.²⁸ These new monitors are less expensive and employ the more recent computer display technology. The LED monitors are also more energy efficient over time. Although sustainable products in every industry will not enjoy the technological benefits similar to those for televisions, ecological benefits of products will augment or complement other product features valued by consumers.

It is critical to recognize that the incorporation of product benefits must reflect a genuine value for the relevant-consuming public. Thus, sustainable products must offer customer satisfaction and be cost effective in addition to offering ecological merit. For example, Westinghouse developed an energy efficient refrigerator in 1994 that was 30 percent more efficient than U.S. Department of

²² D'Souza, Clare, Mehdi Taghian, and Rajiv Khosla (2007), "Examination of Environmental Beliefs and Its Impact on the Influence of Price, Quality and Demographic Characteristics with Respect to Green Purchase Intention," *Journal of Targeting, Measurement & Analysis for Marketing*, 15(2), 69–78.

²³ Kotchen, Matthew J. (2009), "Offsetting Green Guilt," *Stanford Social Innovation Review*, 7(2), 26.

²⁴ Lee, Eun Mi, Seong-Yeon Park, Molly I. Rapert, and Christopher L. Newman (2012), "Does Perceived Consumer Fit Matter in Corporate Social Responsibility Issues?" *Journal of Business Research* 65 (11), 1558–1564.

²⁵ Kent T., and D. Stone (2007), "The Body Shop and the Role of Design in Retail Branding," *International Journal of Retail and Distribution Management*, 35 (7), 531–543.

²⁶ Esty, Daniel C., and Andrew S. Winston (2006), *Green to Gold*, New Haven, CT: Yale University Press.

²⁷ *Consumer Reports Buying Guide 2015*.

²⁸ Park, Won Young, Amol Phadke, Nihar Shah, and Virginie Letschert (2013), "Efficiency Improvement Opportunities in TVs: Implications for Market Transformation Programs," *Energy Policy* 59, 361–372.

Energy standards.²⁹ Despite receiving a \$30 million government award for consumer rebates, the elimination of CFC in the coolant system did not offset the price premium associated with the new product.

Sustainable products have a greater likelihood of succeeding, however, when environmental benefits augment consumer value assessments. Most value assessments, regardless of whether the product is sustainable, center on price, quality, and performance. Sustainable attributes rarely stand on their own and must complement other benefits to increase consumer value and ultimately consumption.³⁰ Rechargeable batteries offer convenience benefits that make them more attractive than their single-use counterparts. The reduced landfill benefit augments the convenience benefit to consumers. Although the initial price of rechargeable batteries exceeds the costs of the disposable units, many consumers understand the complete value offered by the multiple-use batteries.

The battery example underscores another benefit to sustainable marketing, and that benefit lies in considering the value of the product throughout its life rather than the absolute initial cost. Auto purchasers who consider the relative lifetime operating costs of a hybrid versus internal combustion engine note marked disparities across brands. Consumers seeking to lower the overall cost of personal transportation must weigh the higher sticker price of the hybrid against the higher operating costs of the conventional engine. Increased fuel prices, longer driving distances, and reduced cost disparities with models using conventional engines are likely taken into consideration when the buyer evaluates the lifetime cost of the hybrid auto.

Developing economies.

Consumers living in nations that have relatively low GDP per capita can also substantially benefit from sustainability. The low income, underdeveloped assets, and economic vulnerability endemic to these economies results in high dependence on the agricultural sector. Inhabitants in these markets, however, face increased exposure to drought, intense storms, floods, and environmental stress that limit the ability to enhance quality of life. Research performed by the United Nations indicates that inhabitants of these countries are much more likely to be affected by natural disasters than inhabitants in high-income countries³¹. Climate change limits agricultural productivity, increases water stress, raises sea levels, negatively transforms ecosystems, and thwarts human health. These factors do not operate in isolation—interactively, they contribute to hunger and poverty in developing markets. Sustainable marketing and production stand to reduce climate change and consequently limit hunger and poverty.

As these developing economies progress, there will be increasing pressure on urban areas. More than half of world's population currently lives in urban areas, and the number is expected to increase over the next few decades. In China, a 13 percent increase in the number of urban inhabitants over the past 10 years has

²⁹ Lee, A. D., and R. Conger (1996), "Market Transformation: Does It Work? The Super Efficient Refrigerator Program," *ACEEE Proceedings* 3.69–3.80.

³⁰ Esty, Daniel C., and Andrew S. Winston (2006), *Green to Gold*, New Haven, CT: Yale University Press.

³¹ Watkins, Kevin (2007/2008), "Team for the Preparation of Human Development Report 2007/2008," *United Nations Development Programme*.

resulted in a majority of citizens now living in cities.³² Since the consumption of resources is a global issue, the extent to which consumers and industries adopt sustainable marketing practices influences the global environment. Marketing sustainable technologies enables firms operating in these countries to leapfrog antiquated operations with efficient and environmentally friendly designs. For example, Nigeria upgraded analog telecommunications products with wireless phone systems and fiber optic technologies.³³ New sustainable technologies enable such economies to bypass antiquated technologies previously employed in mature market economies.

CORPORATE BENEFITS DERIVED FROM SUSTAINABLE MARKETING

The strategies, workforce, markets served, products, production processes, and supply chains of firms benefit from adopting sustainability-based strategies.³⁴ Companies incorporate ecological consciousness into their mission statements and *strategy* enhance their images among consumers, employees, investors, insurers, and the general public. As previously outlined, some consumers have strong affinities toward sustainable products, and approaching the market with an ecological focus enhances brand image among these consumers.

Corporate initiatives that emphasize a sustainable orientation to markets have several implications for the *workforce*.³⁵ First, potential employees may decide whether to interview with a firm based on the company's environmental image. For example, Philips has developed a corporate culture that fuses sustainability within a culture that fosters creativity, entrepreneurship, and collaboration. This positioning enables the firm to be an employer choice in labor markets for highly skilled talent.³⁶

The image further influences employee action after hiring.³⁷ General Electric, for instance, engages employees to come up with novel solutions for the environment. The solutions include energy-efficient appliances, compact fluorescent lighting, and wind turbine power. Genzyme, a biotechnology firm, recently moved into a state-of-the-art sustainable building complete with all-glass facades, 18

³² Peng, Xizhe (2011), "China's Demographic History and Future Challenges," *Science* 333 (6042), 581–587.

³³ Tella, Adeyinka, Niran Adetoro, and Paul Adesola Adekunle (2009), "A Case Study of the Global System of Mobile Communication (GSM) in Nigeria," *The Spanish CEPIS Society*, 5 (3), 2–7.

³⁴ Rothenberg, Sandra (2012), "Sustainability through Servicizing," *MIT Sloan Management Review* 48 (2), 83–91.

³⁵ Fox, Adrienne (2007), "Corporate Social Responsibility Pays Off," *HR Magazine*, August, 52 (8) 2.

³⁶ www.philips.com/about/sustainability/oursocialapproach/employee-engagement/index.page (Accessed May 27, 2015).

³⁷ Muros, John P. (2012), "Going after the Green: Expanding Industrial–Organizational Practice to Include Environmental Sustainability," *Industrial and Organizational Psychology* 5 (4), 467–472.

gardens, and conversational seating areas. After the firm moved into the facility, employees reported higher levels of job satisfaction. Moreover, employees reported that their increased sense of pride about Genzyme's commitment to the environment was their number one reason behind the new sense of productivity. Thus, enhanced corporate image augments recruiting, employee engagement in the firm's activities, and productivity.

Sustainable marketing also enables companies to *redefine markets*. General Electric has committed to the need for cleaner, more efficient sources of energy, reduced emissions, and abundant sources of clean water. This commitment resonates throughout its product line and enables channel partners to refine markets. For instance, aircraft technology has enabled GE to develop engines that are 15 percent more fuel efficient than comparable engines used in Boeing and Airbus planes.³⁸

Sustainable business practices can enhance the benefits that products offer to consumers as they can enhance the tools, devices, and knowledge in throughput technology designed to facilitate manufacturing and logistics.³⁹ For example, a hybrid engine is a product innovation, whereas a just-in-time inventory system is a process innovation.

Sustainable products, in many instances, enable manufacturers to differentiate their products while also enabling consumers to take advantage of the latest technological development. The BMW i3, for instance, is distinguished from other products in its class by the fuel efficiency of its electric engine.⁴⁰ The fuel performance of this auto complements the styling and the performance features that attract consumers to the Cooper.

In addition, sustainable marketing prompts manufacturers to reassess the product packaging. Packaging protects products during shipping, enhances product desirability, and offers convenience in product handling. Marketers are pursuing ways to achieve these goals with fewer plastics and other petrochemical products. Procter & Gamble, for example, has reduced the packaging material for the Gillette Fusion ProGlide razor. A plant fiber-based razor tray and recycled polyethylene replace the plastic clamshell plastic, yielding a 57 percent reduction in plastic and a 20 percent weight reduction. Elimination of this packaging decreases the amount of solid waste produced by consumers.⁴¹ An important factor related to packaging is the cost of disposal of the product after consumption. In the personal computer market, manufacturers and retailers have developed programs to recycle e-waste regardless of the producer. Retailer locations collect items at no cost to the consumer and then process the computers for reuse or recycling.⁴²

³⁸ www.gereports.com/post/99568939810/a-short-flight-for-a-jet-a-giant-leap-for-a-jet. (Accessed May 27, 2015).

³⁹ Griffin, A. (1997), "The Effect of Project and Process Characteristics on Product Development Cycle Time," *Journal of Marketing Research*, 34(1), 24–35.

⁴⁰ Ramsbrock, Jens, Roman Vilimek, and Julian Weber (2013), "Exploring Electric Driving Pleasure—The BMW EV Pilot Projects," in *Human-Computer Interaction: Applications and Services*, 621–630. Springer: Berlin Heidelberg, 2013.

⁴¹ Agarwal, Raveesh, and Monica Thiel (2013), "P&G: Providing Sustainable Innovative Products through LCA Worldwide." *South Asian Journal of Business and Management Cases* 2 (1), 85–96.

⁴² Tanskanen, Pia (2013), "Management and Recycling of Electronic Waste," *Acta Materialia*, 61(3), 1001–1011.

Production process benefits.

Production processes focus on organizational efforts to produce the highest quality products at the lowest possible cost. Process benefits accrue for handling of products, by-products, and waste. The material costs associated with sustainable manufacturing techniques can be reduced in number of ways. Advanced Composite Structures, for instance, was able to reduce costs, lower facility size, and reduce scrap waste while more than doubling production⁴³. Material costs can also be reduced via just-in-time (JIT) inventory procedures.⁴⁴ JIT enables companies to carry optimal levels of inventory that save space and energy.

By-product considerations also serve as incentives to engage in sustainable production. Over the past 15 years, the chemical industry has developed a green chemistry perspective that seeks to develop products that are benign by design.⁴⁵ Green chemistry focuses on the efficient use of raw materials, the elimination of waste, and the avoidance of toxic or hazardous solvents and reagents and solvents in the manufacture and application of chemical products. The craft beer industry has developed procedures for using the spent grain that is a by-product of the brewing process. The high-protein and fiber-content grain has many applications ranging from biofuel and bioplastics to agricultural uses human food, animal feed, and compost material.⁴⁶

Supply-chain benefits.

Sustainable marketing influences relationships among the firms that make up the channel from raw material mining to consumption. Sustainable strategies that seek to eliminate waste in the supply chain result in firms analyzing truck loading and route planning in the delivery process.⁴⁷ Routing that seeks to eliminate fuel costs can maximize truck capacity utilization and improve customer service.

Increasingly, partners in the supply chain seek the ability to trace products throughout the supply chain. European Union law refers to traceability as “the ability to trace and follow food feed, or food-producing animal or substance intended to be or expected to be incorporated into food or feed, through all stages of production, processing and distribution.”⁴⁸ Companies that adopt sustainable strategies for the production and distribution of food products provide a level of insurance of product quality. The ability to trace components throughout the

⁴³ www.epa.gov/sustainablemanufacturing/case-studies.htm (Accessed June 1, 2015).

⁴⁴ Chan, Hing Kai, Shizhao Yin, and Felix T. S. Chan (2010), “Implementing Just-in-Time Philosophy to Reverse Logistics Systems: A Review,” *International Journal of Production Research* 48 (2), 6293–6313.

⁴⁵ Sheldon, Roger A. (2012), “Fundamentals of Green Chemistry: Efficiency in Reaction Design,” *Chemical Society Reviews* 41 (4), 1437–1451.

⁴⁶ Acacio, Kevin, et al. (2011), “Business Study of Alternatives Uses for Brewers’ Spent Grain (Semester Unknown) IPRO 340.”

⁴⁷ Colicchia, Claudia, Marco Melacini, and Sara Perotti (2011), “Benchmarking Supply Chain Sustainability: Insights from a Field Study.” *Benchmarking: An International Journal* 18 (5), 705–732.

⁴⁸ Canavari, Maurizio, Roberta Centonze, Martin Hingley, and Roberta Spadoni (2010), “Traceability as Part of Competitive Strategy in the Fruit Supply Chain,” *British Food Journal* 112 (2), 171–186.

distribution process is not limited to food as the automotive and computing industries have also adopted forms of traceability.

ECOLOGICAL BENEFITS DERIVED FROM SUSTAINABLE MARKETING

The obvious benefactor of sustainable marketing is the ecological environment. Appendix 1 of this book characterizes current conditions and trends in climate change, air, water, soil conservation, and biodiversity. Sustainable marketing can have an influence on climate change in several substantial ways. Fossil fuel consumption is a major source of greenhouse gases associated with *climate change*. Two leading sources of climate change are the burning of coal for electricity and gasoline burned for automobile transportation. Sustainable marketing initiatives focused on product development strategies reduce the need to rely on these forms of energy. For example, new appliances are designed with fuel efficiencies that markedly reduce energy consumption.

The consumer must incorporate concern for the environment with multiple other considerations. For example, potential consumers of the Chevrolet Volt must reconcile zero fossil fuel consumption with the price differential for this car versus less expensive cars that produce more carbon dioxide. Sustainable marketing initiatives contribute to the environment by incorporating sustainable marketing strategies into superior value propositions for consumers.

Sustainable marketing reduces *air pollution* in multiple ways. For example, New York Mayor Bloomberg called for one-third of the city's taxi fleet to be electric vehicles by 2020. These autos will reduce New York City carbon dioxide emissions by 55,000 tons of CO₂ and decrease total CO₂ emissions from taxis by 18 percent.⁴⁹ Provided the energy comes from renewable sources, this efficiency means fewer emissions and lower air pollution. Similarly, agricultural run-off of fertilizer is a significant source of *water pollution*, but farming methods that eliminate inorganic fertilization reduce the amount of excess nutrients contaminating groundwater.⁵⁰

Soil degradation is a rising concern due in part to contaminants discarded in personal technological components. The need for remediation of pollution without removing soil is an increasingly important issue in industry.⁵¹

A related consequence of environmental change is the number of *endangered species*. Current rates of extinction are estimated to be about 1000 times the likely background rate of extinction.⁵² Their numbers increase every year due to deforestation, development, and climate change. Efforts to develop and consume environmentally friendly products, however, offer the potential to reduce the number of species on the endangered list.

⁴⁹ www.nyc.gov/html/tlc/downloads/pdf/electric_taxi_task_force_report_20131231.pdf (February 15, 2015).

⁵⁰ Schoumans, O. F., et al. (2014), "Mitigation Options to Reduce Phosphorus Losses from the Agricultural Sector and Improve Surface Water Quality: A Review," *Science of the Total Environment* 468, 1255–1266.

⁵¹ Liu, Jun, et al. (2015), "Ecological Effects of Combined Pollution Associated with E-Waste Recycling on the Composition and Diversity of Soil Microbial Communities," *Environmental Science and Technology* 49 (11), 6438–6447.

⁵² Pimm, S. L., et al. (2014), "The Biodiversity of Species and Their Rates of Extinction, Distribution, and Protection," *Science* 344 (6187), 1246752.1–1246752.10.

HOW THIS TEXT IS ORGANIZED TO HELP UNDERSTAND SUSTAINABLE MARKETING

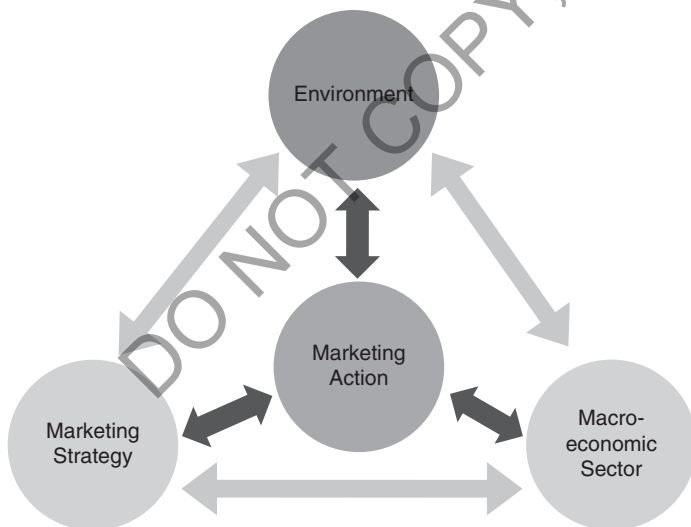
The goal of this text is to drive marketing decision making toward action that is sensitive to the ecological, social, and economic outcomes associated with triple bottom-line performance. Our general model of the context surrounding marketing action is provided in Figure 1-3. Marketing action is at the core of this model, and it is surrounded by environmental considerations, industrial activity, and marketing strategy. We define *marketing action* as any behavior associated with the procurement, purchasing, sales, consumption, and post-consumption of product offerings. Note that all this marketing action reflects situations in which there is some sort of exchange between two parties. The purchase of a cup of coffee in a reusable thermos, for instance, involves the exchange of currency for a beverage. Both entities that are involved in exchange activity are driven by the desire to increase value. The value of an exchange can be expressed in terms of the three related outcomes. To varying degrees, exchange activity provides economic, social, and environmental value. The coffee consumer, for example, may identify economic and environmental value from purchasing coffee in a reusable container, whereas the ambiance and service offered by the restaurant employees may yield social value to the consumer. It is not only meaningful to consider the triple bottom line of the consumer, but it is increasingly essential for companies to recognize that they must pay attention to economic, social, and environmental value of their product offerings.⁵³

The definition of marketing action is broadly defined to include all action associated with sourcing environmentally sensitive products as well as the activity endemic to using and discarding products.

Thus, this definition encompasses all action associated with the supply chain from the procurement of raw materials to the post-consumption treatment of products that have outlived their utility. For example, marketing action includes Pepsi's efforts to incorporate clean water into the syrups it sells to local bottlers in India. It also incorporates all the effort to make this product available for sale in the country, and it further includes all efforts to reuse or recycle the packaging of the product.

Importantly, the marketing action undertaken in a supply chain is influenced by and influences three factors. First, the action undertaken by individuals is influenced by the environment. The environment refers to physical and social context that provide the potential for marketing activity to occur. In the

FIGURE 1-3
Factors surrounding marketing action.



⁵³ Peters, Glen (1999), *Waltzing with the Raptors*, New York: John Wiley. Elkington, John (1998), *Cannibals with Forks*, Gabriola Island, BC: New Society Publishers.

remainder of Part I, we examine the relationship between corporate strategy and the environment. Chapter 2 provides a framework for incorporating sustainable into marketing planning and strategy. In Chapter 3, we examine the relationship between sustainable marketing and corporate social responsibility.

In Part II, we examine facets of marketing strategy designed to promote sustainability. The central factor in the pursuit of sustainability is the value that market offerings provide to consumers. Sustainable value emerges from analysis of the economic, relational, and ecological returns sought in a market. Consequently, each chapter in our discussion of sustainable promotion and value enhancement focuses on strategies that generate value. Chapter 4 provides a perspective on the processes by which consumers understand and recognize sustainable value. In Chapter 5, we outline specific strategies designed to influence action throughout the consumption process. Chapter 6 outlines a process for analyzing target markets. Promotional efforts by which firms communicate value are examined in Chapter 7. Chapter 8 illustrates how firms signal value via brands and labeling.

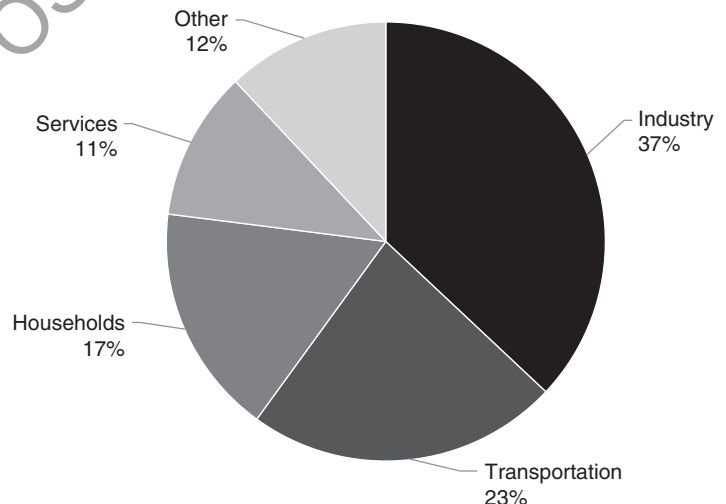
In Part III, we focus on the firm's effort to provide value. Chapter 9 provides an overview of the mechanisms by which the firm proclaims value via its pricing strategy. The set of processes by which the firm produces value are addressed in the analysis of supply cycles in Chapter 10 whereas the central role of retailing is addressed in Chapter 11. In Chapter 12, we explore the pursuit of value via innovation. The marketing of services is examined in Chapter 13.

In Part IV, we address procedures by which firms monitor and report the pursuit of value. Chapter 14 addresses sustainability reporting and the Global Reporting Initiative (GRI).

In the appendices, we examine the macroeconomic issues related to energy consumption. Appendix 1 examines influences of consumption on the ecological environment, and Appendix 2 addresses legal and administrative regulations designed to influence sustainable consumption. Across the globe, energy consumption and greenhouse gas emissions are associated with four industrial contexts: manufacturing, households, services, and transportation (See Figure 1-4). Consequently, Appendices A3–A6 address the major sources and uses of energy for each of these industrial contexts. Appendix A7 provides a brief overview of ISO14000.

FIGURE 1-4

Global total final energy consumption by sector in 2014.⁵⁴



⁵⁴ International Energy Agency (2016), *Key World Energy Trends—International Energy Agency*, Paris: International Energy Agency.

SUMMARY

Introduction to Sustainable Marketing

The purpose of this chapter has been to introduce the study of sustainable marketing. We defined sustainable marketing as the study of all efforts to consume, produce, distribute, promote, package, and reclaim products in a manner that is sensitive or responsive to ecological concerns. We described an incremental process by which firms evolve in their efforts to pursue sustainable marketing, and we subsequently defined sustainability as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Firms pursue sustainability via a triple bottom-line perspective focused on achieving economic, relational, and ecological outcomes.

Adopting a Sustainable Approach to Marketing

Adopting a sustainable approach requires that one adopt a strategy that focuses on securing the ecological, social, and economical returns associated with triple bottom-line performance. Sustainable marketing is approached when the firm adopts an orientation that seeks to examine all efforts to consume, produce, distribute, promote, package, and reclaim products in a manner to achieve ecological, economic, and social objectives.

Consumer Benefits of Sustainable Marketing

Consumers benefit in several important ways through sustainable marketing. They benefit from the knowledge that they are doing their part to reduce climate change. Sustainable marketing also provides consumers with the opportunity to be associated with environmentally friendly products and organizations. Sustainable products are more likely to succeed when the environmental benefits augment consumer value assessments. Emerging economies have potential to curb hunger and poverty by engaging in sustainable marketing.

Corporate Benefits that Accrue from Sustainable Marketing

In addition to the need for consumers and government to understand sustainable marketing, we characterized multiple benefits that accrue to firms that employ sustainably oriented marketing strategies. Corporate initiatives that emphasize a sustainable orientation to markets increase the likelihood of employing and retaining marketing talent. Sustainable marketing also enables companies to redefine markets, enhance the benefits that products offer to consumers, and differentiate their products. Production processes and supply chains also can enjoy heightened efficiency from sustainable production and distribution strategies.

Ecological Benefits Derived from Sustainable Marketing

Sustainable marketing can have an influence on climate change in several substantial ways. Sustainable marketing initiatives in product development reduce the amount of greenhouse gases produced by the firm. Sustainability reduces air and pollution, and it can help reduce the number of endangered plant and animal species.

How This Text Is Organized to Help Understand Sustainable Marketing

This book seeks to outline the relationship among marketing strategy, marketing action, macroeconomic sectors, and the environment. In Part I, we examine the relationship between corporate strategy and the environment. Part II examines facets of marketing strategy designed to promote sustainability, whereas Part III focuses on the firm's effort to provide value. The final section of the book examines procedures by which firms monitor and report the pursuit of value.

KEY TERMS

marketing
sustainable marketing

sustainable marketing
management

sustainability
triple bottom line

DISCUSSION QUESTIONS

1. What is the difference between green marketing and sustainable marketing?
2. Is sustainable marketing something done solely by corporations, or can anyone engage in sustainable marketing?
3. Think about a local grocery store operating in your community. To what extent do they consume, produce, distribute, promote, package, and reclaim products in a manner that is sensitive or responsive to ecological, economic, and social concerns?
4. An entrepreneur claims not to focus on sustainability because attention to such matters results in poorer financial performance. How might one address such a statement?
5. Provide some examples of how consumers might act in a sustainable manner that meets the needs of the present without compromising the ability of future generations to meet their needs. How does this perspective influence how people shop, consume, and dispose of the things they buy?
6. Provide examples of companies that have acted in a sustainable manner whereby they met the needs of the present without compromising the ability of future generations?
7. How might individuals and companies based in emerging economies benefit from the study of sustainable marketing?
8. If sustainable marketing draws attention to the way things are consumed, then how is the study of sustainable marketing relevant to production and supply chains?
9. Why is sustainable marketing relevant to supply chain managers?
10. Since everyone cares about the environment, shouldn't every marketing campaign focus on sustainability?