

Delivering Value in Retailing



CHAPTER OBJECTIVES

- A. Introduction
- B. The Central Role of Retailing in Supply Cycles
- C. Marketing Sustainable Product Lines
- D. Marketing Sustainable Consumption

A. Introduction

IKEA

In May 2007, IKEA announced plans for premium parking for consumers that drive hybrids or other highly fuel-efficient automobiles to its Canadian store.¹ The company subsequently began providing premium parking at all 11 locations in Canada. The parking spots are located near handicapped and family parking areas at the entrance of IKEA stores. Green signage at ground and eye levels reminds drivers of the preferred spaces. The attractiveness of this idea has prompted the company to bring the idea to its stores in the United States (Figure 9-1).²

The subtle incentive behind this simple parking plan is to reward consumers for acting in a sustainable manner. Founded by Ingvar Kamprad in Agunnaryd,

FIG. 9-1 Reserved Parking for Hybrid Vehicles



Source: © Meghan McCarthy/The Palm Beach Post/Newscom

Sweden in 1943, IKEA's business philosophy is to offer a wide range of products of high-quality design and function at prices that enable the majority of people to afford them. Today IKEA is a leading home furnishings retailer with 285 stores in 37 countries worldwide. Each year, IKEA stores receive more than 631 million visitors.³ IKEA Group has grown into a major retail experience with 128,000 workers and annual sales of more than €21.1 billion.

IKEA's decision to provide premium parking to hybrid vehicles is part of its environmental commitment to finding business solutions that have an overall positive influence on the people and the communities in which the company operates.

Sustainable retailing is at the center of this company's mission and operations.⁴ This commitment is reflected in the firm's management of transportation, supply chains, and product packaging. The hybrid parking arrangement is one facet of transportation. Since hybrid and fuel-efficient cars help the company realize its environmental objectives, IKEA rewards consumers for their commitments via preferred parking and more convenient shopping experiences. The firm also ensures that all stores are located close to public transit for workers and customers. In some markets, the firm even manages a bus system that routes consumers and employees to the store at no cost to the riders. IKEA has shuttle bus routes servicing stores in Richmond, British Columbia, as well as the North York and Etobicoke locations in Ontario. These services have been set up adjacent to central public transit hubs for the convenience of customers.

IKEA's commitment to efficient supply chains is reflected in its transportation and product shipping policies. The company seeks to minimize the route from supplier to customer with as little effect on the environment as possible. The efficiency of product shipping is addressed via the product packaging and the containers. Most IKEA furniture is distributed in flat packs that enable larger quantities to be transported with less environmental impact.⁵ Flat packaging reduces the amount of space required on a pallet. For example, when the Helmer chest of drawers is completely flat packed, the number of products that can be shipped on a single pallet jumps from 6 units to 39. Consequently, carbon dioxide emissions are reduced by 79%.⁶

Getting product and consumers to the store is not the end of this company's commitment to the environment. On the consumption side, the company has many initiatives that include waste minimization and postpurchase packaging. IKEA stores provide collection points for electrical and electronic equipment, discarded packaging, spent batteries, and low-energy bulbs. Where possible, returned products are repaired and used as spare parts or sold at reduced prices.⁷ In addition, the company has a bagging policy that charges consumers for bags as they check out of the store. Consumers quickly learn that they can purchase IKEA bags made of recycled material or bring their own bags with them on the shopping trip. Regardless of which strategy the consumer employs, the environment is served by this policy.

The action of IKEA underscores the sustainability efforts currently being undertaken in the retail sector. Our review of sustainability in retailing begins with a discussion of the central role of retailers in supply cycles. We subsequently examine the sustainability of the product lines offered by retailers. We conclude by addressing the merits of marketing of sustainable consumption at the retail level.

B. The Central Role of Retailing in Supply Cycles

Several factors combine to make retailing the epicenter of the supply cycle in many industries. The first of these factors reflects the change in access to information within the industry. Historically, market research conducted for the retail sector was often completed by manufacturers.⁸ Although the retailer is typically closer to the customer, retailers often lacked the financial and human resources needed to gather market information. The cost to collect data on more than just a small fraction of the products sold in a retail store was infeasible. The **universal product code** (UPC) that was introduced in 1974 changed the way business was conducted. The universal product codes provided retailers with access to market information on product movement, consumer purchasing behavior, and the use of marketing mix variables by manufacturers and retailers.⁹ Consequently, retailers no longer relied on the market research provided by manufacturers to the same degree they once did. The retailers now had available a tool that not only provided them with inventory management capabilities but also enabled them to study consumer demographics, psychographics, and demand elasticity.

The second factor that makes retailing central to the supply cycle reflects the increasing market power of selected retailers. The increase in access to information—due to the UPC—has been accompanied by the development of larger retail outlets and the growing concentration of market share among a few retailers.¹⁰ Walmart's development of the superstore echoes the trend toward larger retail outlets. The company's superstores that were introduced in 1988 are roughly 75% larger than their regular store counterparts.¹¹ The retail market share is also edging toward fewer competitors. Walmart is the largest competitor in the United States, Mexico, and Canada, and it controls a large and increasing share of the business done by most every major U.S. consumer-products company.¹² As the share of the market becomes more concentrated among fewer retailers, there is potential for the retailers to gain a lion's share of the profit at the expense of their suppliers. Research suggests, for instance, that Walmart suppliers holding a small share of their respective markets do not perform relatively as well financially when Walmart is one of their primary customers. Large-share suppliers to Walmart, however, perform better than their large-share counterparts reporting other retailers as their primary customers. Thus, suppliers that seek Walmart's broad market reach may derive benefits from using this association if it can be used to strengthen their market positions.¹³

As large companies with substantial visibility associated with large stores in many communities, retailers have become easy targets for concerns about sustainability. For example, Walmart has been attacked for its international environmental record as well as for the treatment of workers and shoppers.¹⁴ The visibility of large retailers makes them easy targets for criticism and results in their receiving a substantial amount of scrutiny in the media. In addition, the focus on these companies provides an opportunity to receive mammoth returns from getting them to reconsider their procurement, processing, and waste disposal systems.

Over the past few years, retailers have begun to recognize that there are appreciable ecological, social, and financial rewards from embracing sustainability. For example, Walmart invited former vice president Al Gore to meet with 800 retail employees at its Bentonville, Arkansas, headquarters in July 2006. Mr. Gore echoed the sentiments of Walmart management when he stated that the company will

illustrate that economic objectives and environmental goals can be reached in tandem. Walmart also vowed to enhance efficiency of its vehicle fleet by 25% over the next three years, eliminate 30% of the energy used in stores, and reduce solid waste from U.S. stores by 25% in three years. The company further invested \$500 million in sustainability projects, and it began developing more sustainability targets. The firm quickly became the world's biggest seller of organic milk and the biggest purchaser of organic cotton.

The Walmart example illustrates how retailers have begun to recognize that they are accountable for the consumption associated with their entire supply chain from the procurement of raw materials to the postconsumer waste. Retailers are quantifying their supply chains' influences on the environment so that they can take action to reduce these influences. In addition, they are seeking third-party certification to ensure that the accuracy of the reporting. Retailers are actively assessing five areas of the supply chain that include:

Energy and climate. The energy and climate concerns refer to the amount of greenhouse gas emissions associated with the supply chain. Given the amount of disparity in wages across the globe, there are some tremendous cost advantages from product processing in emerging economies. For example, cod caught off the coast of Norway is shipped to China, where it is turned into filets and then shipped back to Norway.¹⁵ Although the overall processing cost is lowered under such circumstances, greenhouse gas expenditures are magnified due to this strategy. Retailers that recognize these trade-offs have begun to ask suppliers to report the amount of greenhouse gases produced by suppliers. In addition, they have asked suppliers to set greenhouse gas reduction targets and make these targets available to the public. In some cases, retailers and their suppliers are reporting this information to the Carbon Disclosure Project (CDP). CDP is a nonprofit organization that collects and distributes information designed to motivate investors, corporations, and governments to take action to prevent dangerous climate change. The data collected by CDP provides insight into the strategies used by many of the largest companies in the world to address climate change.¹⁶ For example, Carrefour, the French retailer, employed product life cycle analyses to identify that the most important greenhouse gas emissions occurring in the extraction of raw materials, the production of semifinished and finished goods, and downstream with the use and disposal of products.¹⁷

At the retail level of the supply chain, the three greatest culprits for energy use are lighting, heating/cooling, and equipment.¹⁸ Increasingly, retailers are taking measures to reduce each of these expenditures. Firms are aggressively using alternative lighting sources that include light-emitting diode (LED) technologies.¹⁹ LEDs are very efficient and, unlike compact fluorescent lights, they do not contain mercury. In addition, modern stores are likely to use direct sunlight where possible on the shop floor. In general, one watt of power used in an electronic device creates one watt of heat.²⁰ Thus, for every watt used by a cash register, computer, or other device, two watts of energy are required. The installation of energy-efficient appliances and climate-control products, however, enables retailers to lower their cost of operations at the store level.

Land and soil. The treatment of land and soil throughout the retail supply chain is being assessed by most large retailers. Suppliers increasingly recognize that retailers require adherence to ISO 14000 land requirements or other environmental specifications.²¹

The retailer, rather than its predecessors in the supply chain, is the focus of many discussions about land use. Retailers receive criticism about their own land use and

its relationship to urban sprawl.²² **Urban sprawl** refers to the widespread movement of households and private firms from city centers and inner suburbs to very low-density suburbs.²³ Ten factors endemic to urban sprawl include:²⁴

1. Seemingly unlimited extension of new development
2. Low-density commercial and residential settlements, particularly in new-growth areas
3. *Leapfrog* development that jumps out beyond established settlements
4. Fragmented power over land use distributed among many small localities
5. Private automobile dominance of transportation
6. Absence of centralized planning or control of land uses
7. Widespread strip center commercial development
8. Large fiscal disparities among localities
9. Segregation of types of land uses in different zones
10. Reliance on filtering or trickle-down processes to provide housing to low-income households

Sprawl generates substantial environmental concerns that include increased traffic congestion, large-scale absorption of open space, extensive use of energy for movement, and air pollution.²⁵ Moreover, suburban sprawl concentrates poor households in certain high-poverty neighborhoods. These neighborhoods subsequently suffer from high crime rates, poor-quality public services and public schools, and fiscal resources that are inadequate for the services needed.

Three strategies that have emerged as alternatives to urban sprawl involve regional development that selectively permits growth.²⁶ The first strategy involves the development of tightly bounded higher-density development typical of many Western European metropolitan areas. The second strategy involves a loosely drawn growth boundary that permits some development outside the boundary. This strategy raises population densities above sprawl levels and relies on increased use of public transit and carpooling. The third strategy is the development of new outlying communities and green spaces surrounded by tightly drawn urban growth boundaries.

Regardless of the strategy, there are opportunities for retailers to work with state and local government that contribute to development while simultaneously increasing revenues and limiting urban sprawl. Retailers and other citizens that are active participants in the development process can actively work to realize the firm's objectives while reducing their influences on sprawl.²⁷ For example, Subway is a retail franchise that requires very little space and can therefore easily be implemented in existing manufacturing plants, hospitals, and appliance stores.²⁸

Air. The influence of retailing on air quality is assessed at the retail and supply chain levels. At the retail level, a substantial portion of the influence on air quality is associated with the transportation costs involved with getting product to the stores and procuring products within the stores. It is not surprising that air pollution is also related to increases in retailing that accompany sprawl.²⁹ Consequently, retailers interested in enhancing air quality should benefit from working together with government-based planning organizations that seek to develop unified plans for development.

Water. The use of water in the supply chain is gaining increasing interest in several parts of the world. Processors of water within the supply chain are increasingly

being asked to report on their efforts. ISO 14000 standards require firms to report their use of water in the supply chain,³⁰ as water usage is an essential consideration in agriculture and production.

The sale of water at the retail level and the processing of this water are highly contested issues in many markets. The U.S. market share leader at the retail level is private-label products, yet branded products incur much of the scrutiny over water.³¹ In Michigan, for instance, Nestlé is facing environmental challenges for its use of spring water. Pepsi (Aquafina water) and Coca-Cola (Dasani water), however, have already switched to processing of municipal water for the sale of water at the retail level.³²

Community and people. Community and people considerations refer to retailers' responsibility for fair treatment of employees throughout the supply chain, including their own operations. In the supply chain, many retailers have begun to engage in fair trade in their interaction with their trading partners. *Fair trade* refers to a family of principles that include guaranteed minimum floor price for products; safe working conditions and living wages; direct transactions between producer and retailers, community development; and environmentally sustainable farming methods.³³ Fair trade yields reduced debt, more economic options for producers, and increasingly sustainable agricultural practices.³⁴

To varying degrees, retailers are working with their supply chains to enhance the sustainability of the distribution channel. Since 2006, Walmart has substantially enhanced its commitment to sustainability. In 2009, the company developed a supplier survey that focuses on energy and climate, material efficiency, natural resources, and people and community.³⁵ The questions are provided in Figure 9-2. Ultimately, the 100,000 worldwide suppliers to the firm will answer these questions, but initially U.S. suppliers provided answers to each of the criteria. After the survey data has been developed, the company will create a consortium of universities that will collaborate with suppliers, retailers, nongovernmental organizations, and governments to develop a global database of information on the life cycle of products from raw materials to disposal. This data will be shared globally as a common database designed to prompt environmentally competitive efforts by suppliers. The index also has potential to raise product quality, lower products costs, and fuel innovation throughout the supply cycle. The final step of this initiative will involve transforming this sustainability information into a simple rating for consumers.

C. Marketing Sustainable Product Lines

In the previous section, we examined efforts to enhance the sustainability of the upstream supply chain and retail operations. In this section, we examine a number of ways in which the marketer can make sustainable products available at the store level. Our discussion of sustainable product lines focuses on two issues, the incorporation of green technology into the product mix and the appropriate distribution of products. Although retailers are beginning to grapple with these issues, very few empirical studies have been developed that provide insight into these decisions.

Green technology in the product mix. Consider, first, the producer of a product that recognizes that some technologies can be incorporated into the product mix that markedly enhance product sustainability. For example, over the past decade, automobile manufacturers have developed hybrid fuel technologies that significantly lower gas consumption. Firms can elect to market these technologies in existing brands or they

FIG. 9-2 Walmart Supplier Survey**Energy and Climate**

1. Have you measured your corporate greenhouse gas emissions?
2. Have you opted to report your greenhouse gas emissions to the Carbon Disclosure Project?
3. What is your total annual greenhouse gas emissions reported in the most recent year measured?
4. Have you set publicly available greenhouse gas reduction targets? If yes, what are those targets?

Material Efficiency

1. If measured, please report the total amount of solid waste generated from the facilities that produce your product(s) for Wal-Mart for the most recent year measured.
2. Have you set publicly available solid waste reduction targets? If yes, what are those targets?
3. If measured, please report total water use from facilities that produce your product(s) for Wal-Mart for the most recent year measured.
4. Have you set publicly available water use reduction targets? If yes, what are those targets?

Natural Resources

1. Have you established publicly available sustainability purchasing guidelines for your direct suppliers that address issues such as environmental compliance, employment practices and product/ingredient safety?
2. Have you obtained third-party certifications for any of the products that you sell to Wal-Mart?

People and Community

1. Do you know the location of 100% of the facilities that produce your product(s)?
2. Before beginning a business relationship with a manufacturing facility, do you evaluate the quality of, and capacity for, production?
3. Do you have a process for managing social compliance at the manufacturing level?
4. Do you work with your supply base to resolve issues found during social compliance evaluations and also document specific corrections and improvements?
5. Do you invest in community development activities in the markets you source from and/or operate within?

Source: *Material Handling Management* (2009) "Wal-Mart's 15 Questions," Wal-Mart.

may develop new brands. In the small-car market, for instance, Toyota introduced the Prius hybrid vehicle in 2000.³⁶ The third generation of the model is now being sold in North America, Europe, and Japan. Toyota also markets hybrid versions of its Highlander, Camry, and Lexus RX 400, yet each of these other models is available in conventional internal combustion engine models as well. In 2008, 66% of all hybrid vehicles sold by the company were Priuses. Although many factors contribute to these numbers, the model that is sold exclusively as a hybrid has sales that exceed all other models combined. Recent research suggests that desire to be seen doing something for the environment is an important motivator among some consumers.³⁷ While purchase of any model illustrates to others that one is concerned about the environment, the clarity of this message is diluted among cars that are sold via both internal combustion and hybrid models. Drivers, for instance, will notice that a fellow motorist is driving a Camry, but the fact that this car is a hybrid will likely go unnoticed. By contrast, motorists necessarily recognize the Prius as a hybrid. Since the commitment to the environment is more visible with the Prius, one might expect that consumers interested in gaining recognition for their purchases would buy a model sold exclusively as a hybrid.

Distribution of sustainable products. A second facet of establishing sustainable product lines at the retail level concerns the distribution of products. Regardless of

FIG. 9-3 Light of Day Organic Teas and Tisanes



Source: © Courtesy of Light of Day Organic Teas, Traverse City, Michigan, USA.

whether a product is sustainable, the level of competition on the grocery shelf is quite large. Retailers stock, on average, more than 45,000 unique products,³⁸ and they are approached with thousands of new products every year. Retailers typically want to carry sufficient numbers of products that enable them to serve customers and generate a profit. Because shelf space is limited, introductions of new products often come at the expense of other products in the merchandise category. New products must be justified by demand so that the cost of carrying inventory for the new brand is relatively low. To be successful in this setting, producers of new branded products need to illustrate that the demand for the new product is substantial. If the demand for the new product and its related profitability are not appreciable, the retailer will not be able to justify adding the new product to the retail product mix.

Consumer demand for products influences the form of distribution sought by producers of sustainable product lines. Consider, for example, a company such as Light of Day Organic Teas and Tisanes of Traverse City, Michigan (Figure 9-3).³⁹ This entrepreneurial firm would like to increase the distribution of its products. The company is an organic, biodynamic producer that incorporates sustainability logic into its supply chain and operations. It also engages in fair trade with its international suppliers of tea and related products. Firms of this type that seek to market their products through grocery stores can pursue one of three paths. They can market their brand through grocers that market predominantly sustainable and organic brands. A second option is to market their branded products through full-line grocers that market products supported and developed with varying levels of sustainability. The third option is to focus on production technologies and serve as a private-label brand for a retailer.

Although large firms may be able to support marketing through all three forms of distribution, young entrepreneurial companies may find it advantageous to

market through just one of these distribution channels. Several advantages accrue to the firm that elects to market branded products through specialty grocery retailers such as Whole Foods and Trader Joe's. The first advantage to marketing through these retail chains is their size. These stores have grown rapidly in the past decade and now represent a significant portion of the retail grocery market. For example, Whole Foods has 275 stores in the United States, Canada, and the United Kingdom, and it has become the world's largest retailer of natural and organic food.⁴⁰ As the 10th largest food and drug store in the United States, Whole Foods employs 54,000 people and ranks 369th on the Fortune 500 list.⁴¹ As the size of these retail chains has increased, the visibility of brands marketed through these locations has also increased.

A second advantage associated with these retail locations is the credibility that affiliation with these retailers brings to the brand. Sustainable operations and natural products are at the heart of the marketing strategy for these retailers, and they prefer to work with producers that share these dispositions toward consumer marketing. For example, Whole Foods is the only multistore retailer in North America that markets the Herve Mons brand of French cheese.⁴² The relationship between these companies was established over a five-year period that preceded the decision to begin marketing Herve Mons products at Whole Foods. Since the retailer has a core mission and values statement that emphasizes green marketing and sustainability, it goes to great lengths to ensure that its suppliers have the same philosophy. Whole Foods found Herve Mons to be an attractive supplier because the company sells high-quality, traditional products that are sustainability developed by farmers in the Normandy region of France. Although the review process for Whole Food was prolonged, the wait was worth it. Consumers at Whole Foods understand the natural and organic emphasis throughout the product mix and are likely to make purchases without engaging much effort to scrutinize the brand.

It is interesting to note the challenge associated with electing to market via the specialty retailers. Although the inclusion of a product in the Whole Foods or Trader Joe's product line immediately brings recognition as a product of some natural, organic, or sustainable character, the brand is surrounded by other products that have similar attributes. The competitive advantage of the product is unlikely to be sustainability because virtually all the competition offers this benefit. The savvy marketer has to illustrate the sustainability of the product, but it cannot rely on this attribute exclusively. In addition, the target market of these specialty stores is likely to be *LOHAS*⁴³ or true blue consumers.⁴⁴ Although these market segments are growing, a substantial portion of the consuming public may not frequent specialty grocery stores.

The branded alternative to marketing through specialty retailers is marketing via a general grocery merchandiser such as Walmart or Kroger. General grocery merchandisers have always had a strong emphasis on product quality, and in recent years these firms have made substantial investments in sustainable business practices and green marketing. One of the advantages of working with these larger firms is the economies of scale in their operations. For example, Walmart is the largest marketer of organic milk and organic cotton in the world.⁴⁵ Products that are welcomed to the product line of these general-merchandise grocers have greater distribution that in some cases leads to greater sales and revenue.

Several issues complicate the sale of products through these grocers. Products of high sustainability may be placed either in a special part of the store or alongside products in the same category. For example, Kroger stores often feature a healthy foods section that stands outside of the regular offering for a product class. The

product offerings from a company such as Light of Day teas could be sold in either location. Sale of the product in the healthy choice section of the store has some of the advantages and disadvantages of the specialty retail alternative. The products may be seen primarily by LOHAS consumers, and the differential advantage of the product cannot solely reside in the sustainability of its production and distribution. Consequently, labeling should feature advantages associated with product quality, nutrition, or other potential competitive advantages.

If the sustainable product is marketed alongside all products in the class, there is greater potential for it to reach a broader audience. This broader audience that includes the unconcerned and drifter market segments, however, may not appreciate the benefits associated with sustainable operations. Many consumers will also be unwilling to dedicate the time to understand the benefits of the sustainable product. The price-sensitive consumer will often select the product with the lowest sticker price regardless of the product's sustainability. To the extent that sustainable products are more expensive than their alternatives, price-sensitive consumers should be less willing to purchase the sustainable products. In addition, companies run the risk of cannibalizing sales of nonsustainable product offerings by offering sustainable products in the same location. For example, a company that sells organic, sustainably produced and conventionally produced strawberries may witness some cannibalization of sales by offering the products together. Although the increase in sales of the sustainable product is beneficial to the consumer, it could yield lower profits for the firm. The retailer that is interested in maximizing financial and ecological performance will be reluctant to sell these products at the same place in the store.

The third alternative for the entrepreneur is to market the brand as a private-label product. A **private label** refers to a product in which the brand is owned by the retailer or wholesaler rather than by the producer. For example, Kroger offers more than 14,000 private-label products sold in a multitier strategy that includes Private Selection, Private Selection Organics, Naturally Preferred, Kroger brand, Active Lifestyle, Comfort Brand, and Kroger Value brand products.⁴⁶ Whole Foods similarly offers more than 2,150 store-branded products. Sales of private-label brands have been growing rapidly in recent years, and they represent more than 15% of supermarket sales. In some categories, private-label brands have higher unit market share than the top national brands.⁴⁷

The private-label alternative also involves trade-offs for the producer and retailer. Because companies such as Kroger and Whole Foods have hundreds of outlets, the sale of these products enables the producer to operate with economies of scale. Although the producer gains efficient access to a large distribution channel, the identity of the product is entirely associated with the retailer. Over time, retailers can establish specific production criteria that enable them to select the lowest-cost producer of the product. In the absence of a brand or other means by which to distinguish one's product, the producer is subject to greater price scrutiny.

D. Marketing Sustainable Consumption

The need to promote and ensure sustainable use of products is extensive. Our analysis at this juncture addresses two facets of sustainability that are most prominent after a purchase at a retail store. Our treatment of sustainable consumption in retailing, therefore, focuses on postretailing packaging and efforts to reclaim products and restrict component part usage. In both cases, marketers have made tremendous strides to reduce the carbon footprint of the retail sector.

Postretail packaging. We use the term **postretail packaging** to refer to the form of packaging used by the consumer to transport product away from a retail establishment. The amount of this material is substantial. In Massachusetts alone, more than 1.5 billion paper or plastic bags are thrown away every year.⁴⁸ The form of packaging used in retailing varies by the culture and by the form of retailing. In the American grocery store, for example, consumers are accustomed to hearing “Paper or plastic?” at the cash register, and traditionally, consumers bear no direct cost for these bags because the merchandise is packed for them. By contrast, in many parts of Europe, consumers pack their own groceries at the register, and they pay a fee for each bag they purchase.

Postretail packaging is changing in many markets. Consumers are beginning to recognize substantial limits to using either paper or plastic bags. Paper is the traditional packaging material made from a renewable source. Paper, however, consumes more energy and water in its production and further yields higher levels of pollution and more greenhouse gases.⁴⁹ Plastic bags were introduced to the market 30 years ago as a low-cost alternative to paper. The lightweight nature of plastic means that it is less expensive to transport. Plastic is also longer lasting and less expensive. Nevertheless, plastic is rarely recycled, and it is a formidable trap for fish, birds, and other wildlife. For example, while filming a documentary on Midway Island in the Pacific Ocean, Rebecca Hoskins encountered hundreds of albatross carcasses with plastic bags lodged in their stomachs.⁵⁰ When she returned home, she convinced her hometown of Modbury and 80 other English towns to ban plastic bags. Her action led to a reduction in the 200 million bags that litter Britain’s parks and beaches every year.⁵¹

There is a clear trade-off between plastic and paper. Plastic is lighter and less expensive, but it is rarely recycled and a threat to wildlife. By contrast, paper has a larger carbon footprint, and it is heavier and more expensive to produce, but it is more often recycled. Recognizing these trade-offs, consumers, government, and retailers have begun to explore other packaging options. Some consumers have taken this charge on themselves and have begun to use reusable bags. A study conducted by French retailer Carrefour in 2004 indicated that a reusable bag was better for the environment—regardless of the material—so long as the bag was used at least four times.⁵²

In order to influence consumer behavior associated with postretail packaging, government has also intervened. For example, the city of San Francisco became the first U.S. city to ban conventional plastic bags in grocery stores in 2007. Similarly, China banned the distribution of free grocery bags in 2008. In other markets, government has imposed a tax on plastic bags. Ireland, for instance, imposed a tax on plastic bags in 2002 as a means of maintaining the country’s clean, green image. On August 18, 2009, the residents of Seattle, Washington, voted down a referendum that would have required grocers to charge 20 cents for each plastic bag provided at the checkout counter. Stores with annual revenues of less than \$1 million would have kept the bag receipts to cover their costs, while those grossing more would have kept 25% and passed the remainder on to the city for recycling, environmental education, and reusable bags for low-income consumers. Many residents indicated that they opposed the bill as an unnecessary tax rather than a preference for current levels of sustainability in the city.⁵³

Government has also placed restrictions on the type of paper and plastic used in restaurants. This retail industry is entertaining the use of some novel forms of

packaging made from sugar cane, corn, and other replenishable sources. The Federal Trade Commission has set guidelines for the claims manufacturers can make regarding their recycled products. **Biodegradable** materials refers to packaging that will break down and return to nature within a reasonably short time after the usual disposal. **Compostable items**, however, break down organically into humus-like material and return nutrients to the earth.

Retailers have also made strong strides to reduce the amount of postretail packaging. In 2007, IKEA began charging 5 cents for each plastic bag that was used at the checkout counter in North America. The store also enables shoppers to walk away with a reusable blue bag for 59 cents.⁵⁴ The response to this action has been a substantial reduction in the number of single-use bags sold. In 2009, the Canadian branch of the firm was able to phase out the single-use bag completely.⁵⁵ Similarly, the Kroger company in the United States has begun to offer incentives to customers that use reusable bags. Consumers earn discounts on in-store purchases or price discounts on gasoline when they bring reusable bags.⁵⁶

Restaurateurs are also employing new materials to reduce the carbon footprints of their packaging. The dining-in option has been revolutionized through plates and bowls made from plant-based materials that are compostable or biodegradable.⁵⁷ EATware International, for instance, produces a line of 100% biodegradable tableware made from bamboo, sugar cane pulp, water, and cellulose.⁵⁸ The company claims its microwave- and oven-safe plates will decompose in 180 days in a landfill. The Sugar Cane Paper Company combines the residue left over after sugar cane is crushed with 15% recycled paper to make napkins.⁵⁹ Solo similarly offers the Bare collection of hot cups lined with a plant-based polylactic acid resin.⁶⁰ The cups are compostable, made 100% from renewable resources, and range from 8 to 20 ounces. Even plastic silverware has been replaced with ECO Products cutlery made from cornstarch.⁶¹

Together, these examples illustrate the measures that the retailing industry is taking to lower its cost of operations while simultaneously lowering the carbon footprint of its operations.

Reclamation and component restriction. **Reclamation** refers to the responsible collection of products once they no longer offer value to consumers. For example, the Environmental Quality Company provides retailers with means for handling hazardous electronics (including lighting and batteries), pharmaceuticals, and medical waste.⁶² Land and soil considerations also prompt retailers and their suppliers to develop programs that facilitate product reclamation. **Component restriction** refers to limits placed on the ingredients that can be incorporated into a product. For example, asbestos has been banned from new application use in the United States since 1991.⁶³ Since the regulations associated with reclamation and restriction often address the same materials (e.g., iron ore) and end products (e.g., personal computers), these issues are examined in tandem.

The historical perspective on reclamation is the *cradle-to-grave* logic used in the 1980s to ensure that manufacturers and users properly disposed of chemicals and other hazardous materials. This logic has been replaced with a **cradle-to-cradle** perspective that emphasizes recovery, recycling, and reuse.⁶⁴

Some industries face legislation that compels companies to reclaim products and modify components. Automobiles, electronics, and appliances face regulations in several geographic markets, notably the European Union. Firms from America, Japan, and other non-EU countries must adhere to these directives if they wish to conduct business in the EU. Moreover, firms use the mandates of progressive regulation as

preconditions that influence product design, manufacture, and reclamation. Four regulatory acts that influence reclamation and component restrictions include:

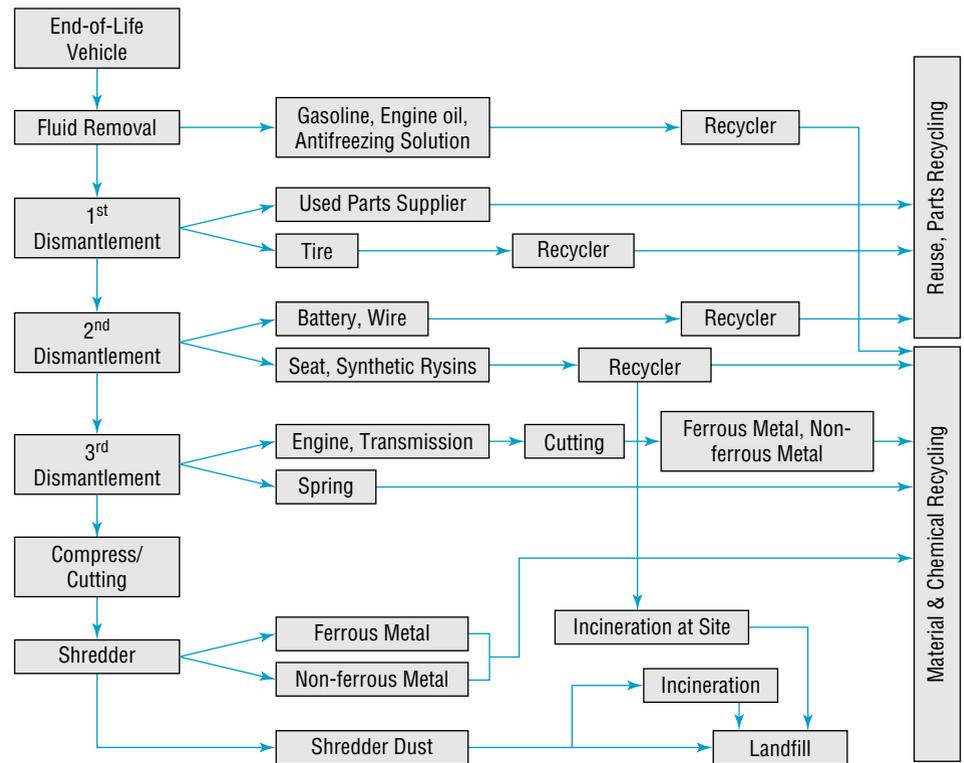
End-of-Life Directive. Established in 2000, the EU's **End-of-Life Directive** requires automotive manufacturers and component suppliers to reclaim auto products.⁶⁵ Specifically, this directive requires all manufacturers to take back and dismantle all motor vehicles for domestic use at the end of their useful lives. Component parts are then either reused or recycled. The goal is for all motor vehicle manufacturers to have a reuse or recyclable content of 85% at the end of their products' useful lives now and move toward 95% by 2015. This directive requires manufacturers and their component manufacturers to innovate and design for disassembly. This requirement can be at odds with the goal of trying to limit carbon emissions and enhance fuel efficiency. Nevertheless, it has also fostered stronger relationships among component producers, manufacturers, disassemblers, and recyclers.⁶⁶ Figure 9-4 illustrates how the various parts of an automobile are reintroduced into the supply chain. This directive has also opened up entrepreneurial opportunities for disassemblers. For example, there are more than 10,000 companies of this type in the United States alone.

Restriction of Hazardous Substances (RoHS). **Restriction of Hazardous Substances (RoHS)** is an EU directive that severely restricts the use of lead, hexavalent chromium, mercury, cadmium, and some flame retardants. RoHS's regulations apply to large and small household appliances, information technology and telecommunications equipment, consumer equipment, electrical and electronic tools, toys, leisure equipment, and other devices.⁶⁷ Compliance with this directive is required for manufacturers, resellers marketing under their own brand names, and importers or exporters of electrical and electronic equipment. The primary implication of RoHS is the need to comply with the directive or face punitive charges. Producers and retailers must therefore request documentation from suppliers regarding supplies, components, subassemblies, and equipment to ensure compliance. Companies can be convicted and fined for failing to comply with the directive and for failing to submit technical documentation.

Waste Electrical and Electronic Equipment Directive (WEEE). **Waste Electrical and Electronic Equipment Directive (WEEE)** is a directive designed to reduce the amount of electronic waste in landfills. It addresses all the products in RoHS, and it further includes medical devices and monitoring and control instruments. WEEE and RoHS were adopted in 2003 and began to take effect in 2005. Adherence to WEEE requires the seller to demonstrate that it will cover the cost of disposal in an environmentally friendly manner.⁶⁸ The producer is also required to educate consumers regarding the recycling and recovery options available to them. Before a new product enters the market, producers are required to provide "do not landfill" labels on each package.

The retailer's role in WEEE administration is substantial given that consumer participation is crucial to the success of this directive. Although producers can set up recovery facilities anywhere, in many cases these collection sites are at retail locations. For example, Best Buy and Staples enable consumers to return used equipment at their stores. In addition, retailers provide incentives to consumers to return used equipment. These incentives include store rebates, coupons, and other store credit. Upon receipt of a product, the retailer sends it to the producer or its affiliate that determines whether recycling, reuse, or disposal is appropriate for the product.

Registration, Evaluation, Authorization and Restriction of Chemical Substances (REACH). **Registration, Evaluation, Authorization and Restriction of Chemical Substances (REACH)** was adopted by the EU in 2006 to provide information

FIG. 9-4
Automobile
Disassembly

Source: Reprinted from *International Journal of Production Economics* 115, 305–315. Kumar, Sameer and Valora Putnam (2008), “Cradle to Cradle: Reverse Logistics Strategies and Opportunities Across Three Industries,” with permission from Elsevier.

on chemicals that are used and to phase out chemicals that pose unacceptable risks.⁶⁹ The health-related consequences of exposure to toxic chemicals are substantial. The incidence of cancer, for instance, is in part related to exposure to toxins.⁷⁰ In the United States alone, the annual cost of treating cancer is over \$210 billion, and this number is increasing at 7% annually.⁷¹ Reductions in the amount of toxic chemicals have the potential to enhance the environment and the quality of life.

REACH regulation is designed to protect human health and the environment while enhancing innovation and competitiveness. REACH approaches this goal by requiring businesses to register the substances in their products and make public any potential risks from the use of these chemicals. In order to manage REACH, a firm must assess its product portfolio. This assessment should identify products either sourced from or imported into the European Union. The substances contained in these products should then be inventoried. After the firm has inventoried the components of its products, it develops a plan to achieve heightened sustainability by phasing out restricted substances.⁷²

Although the legal requirements associated with reclamation and restriction are substantial, there are marketplace opportunities that arise from these requirements. Several benefits accrue to the firm that adopts this perspective toward reclamation and component restrictions.⁷³ First, there is substantial potential for cost reductions. Because component parts are reused and restored, production costs are lowered. For example, the cost of recycling aluminum is roughly 5% of the cost to refine it from

raw materials. Second, constraining the firm's influence on the environment also enables the firm to manage risk effectively. Because the firm that adheres to regulations has a lower likelihood of facing litigation or marketplace criticism, the overall level of risk is reduced through copious attention to regulations.

A third benefit of reclamation and component restrictions is the brand differentiation that it affords to the firm. Since only brands that adhere to standards can compete, the brands that meet regulatory requirements open themselves to market opportunities unavailable to the competition. The adherence to environmental standards is viewed as favorable by many consumers, and this same track record for sustainability fosters an image that is preferred by some employees and stockholders. Retention of loyal consumers and employees can be achieved through adherence to regulation.

Another inherent benefit to sustainability regulation is that it fosters innovation in the supply chain and in product components. The institution of a new regulation requires the firm to review the complete supply chain for a product. In many cases, firms engage in *reverse logistics* whereby a manufacturer accepts previously shipped products or parts from the point of consumption for recycling, reuse, or disposal.⁷⁴ Firms have developed **close-looped systems** in which manufacturers work with downstream channel partners to ensure the reclamation of products. For example, Ford Motor Company and Alcan established the first closed-loop recycling system for auto aluminum in 2002.⁷⁵ Innovations also accrue in product design as a result of regulation. The firm that can no longer offer a toxic product must find a new solution that meets addresses the product need at a reasonable cost. Thus, regulations also foster innovations in product design.

The final benefit of regulation is that it enables firms to respond to economic realities of supply and demand. Because the supply of landfills is limited, companies that reduce their need for landfills lower their costs of operations. Similarly, the demand for steel and aluminum is strong, yet the supply of raw materials (and costs of refining) provide ample opportunities to recycle these materials. Since the costs of mining and refining bauxite (for aluminum) and iron ore (for steel) are appreciable, there are substantial opportunities to reclaim these products after products have reached the end of their productive lives.

Summary

A. Introduction

The purpose of this chapter has been to underscore the importance of the retailing sector to sustainability. Since by definition retailing addresses the interface between producers and consumers, analysis of retailing offers substantial opportunities to limit the carbon footprint of manufacturers, distributors, retailers, and consumers.

B. The Central Role of Retailing in Supply Cycles

Several factors place retailing at the heart of the supply cycle in many industries. The first of these factors reflects the change in access to information within the

industry. The universal product code provides retailers with access to market information on product movement, consumer purchasing behavior, and the use of marketing mix variables. The increase in access to information has been accompanied by the development of larger retail outlets and the growing concentration of market share among a few retailers. As large companies with substantial visibility operating large stores in many communities, retailers have become easy targets for concerns about sustainability. Retailers are therefore developing solutions that limit their carbon footprints and enhance relationships with communities where they source and sell products.

C. Marketing Sustainable Product Lines

The incorporation of green technology into the product mix and the appropriate distribution of sustainable products are two of the most salient issues facing retailers. Firms can elect to market green technologies in existing brands, or they may develop new brands. When firms have developed new products that incorporate green technologies, they can market these products through specialty retailers, general merchandise retailers, or via private-label arrangements.

D. Marketing Sustainable Consumption

Since a sizeable portion of the greenhouse gases associated with products occurs after their purchase, this chapter also examined sustainable postpurchase practices. The discussion of postretail packaging illustrated limitations to paper and plastic bags and the sustainability related benefits of reusable bags. In addition, retailers have adopted a cradle-to-cradle perspective in which they attempt to reclaim as many products as possible and refrain from using products that have substantial negative influences on the environment.

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Questions

- How has the access to consumer purchasing information changed, and how has this changed the role of retailers?
- Over the past decade, has retailing become more or less important to the supply chain? What factors support your conclusions?
- To what extent is urban sprawl a retailing problem, and how does sprawl influence the carbon footprint of a community?
- Name and describe four ways in which retailers are actively assessing sustainability in supply chains.
- Is the revenue stream of a firm favorably enhanced by incorporating sustainable features into existing brands, or are firms better off to incorporate these features into new brands?
- What are the advantages and disadvantages of promoting sustainable or organic brands in a specialty aisle of the store rather than with other items in a product class?
- Why might a large consumer products company prefer marketing of its branded products to private-label products?
- Regarding shopping bags, which is preferred—paper or plastic?
- What steps can retailers take to increase product reclamation?
- Why should retailers participate in discussions about the components and ingredients in the products they market?

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