

Chapter 2

Consumer Health

In 2012, New York City Mayor Michael Bloomberg proposed a ban on sugary drinks (e.g., sodas, teas, and energy drinks) larger than 16 oz. in restaurants, delis, sports arenas, movie theaters and food carts.¹ The bold public health decision was made in an effort to curb obesity and diabetes rates in the city, where more than half of the adult population was overweight or obese.² While some lauded the measure for its health-promoting intentions, many others believed that the policy would harm small business profits and too severely limited the freedom of consumers to make their own choices.³ Ultimately, the state's highest court overturned the measure.⁴ Despite the failure of the ban in New York City, the proposition highlighted an increasing focus on the role of foods and beverages—and sugary drinks in particular—in the obesity epidemic.

Coupled with regulatory threats, food and beverage companies also increasingly faced more health-conscious consumers, as well as public health campaigns on the consequences of high-calorie food and drink consumption—and it was clear these

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¹Alice Park, “The New York City Soda Ban, and a Brief History of Bloomberg’s Nudges,” *TIME*, May 31, 2012, <http://healthland.time.com/2012/05/31/bloombergs-soda-ban-and-other-sweeping-health-measures-in-new-york-city/>, accessed December 2015.

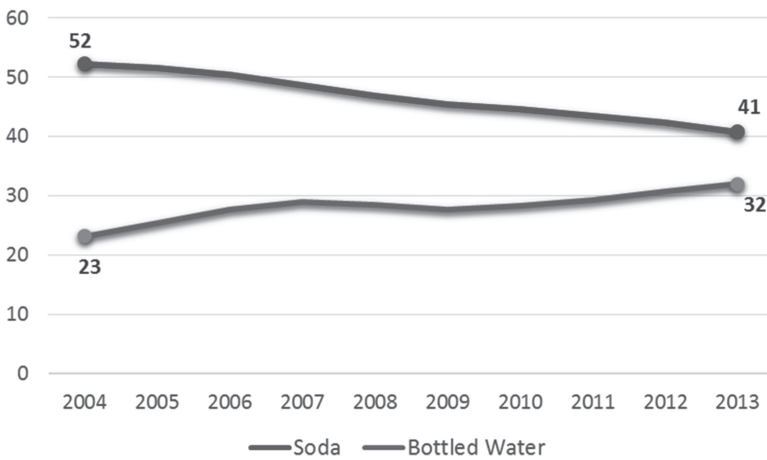
²MICHAEL M. GRYNBAUM, “Health Panel Approves Restriction on Sale of Large Sugary Drinks,” *The New York Times*, September 13, 2012, <http://www.nytimes.com/2012/09/14/nyregion/health-board-approves-bloombergs-soda-ban.html>, accessed December 2015.

³*Ibid.*

⁴MICHAEL M. GRYNBAUM, “New York’s Ban on Big Sodas Is Rejected by Final Court,” *The New York Times*, June 26, 2014, <http://www.nytimes.com/2014/06/27/nyregion/city-loses-final-appeal-on-limiting-sales-of-large-sodas.html>, accessed December 2015.

combined forces were taking effect.⁵ In a study published in 2014, researchers noted that overall caloric intake had declined between 2003 and 2011.⁶ What's more, they discovered that the decline was strongest in children and was disproportionately due to changes in beverage consumption rather than food.⁷ Interestingly, the overall liquid refreshment beverage market had grown between 2010 and 2015, due to growth in bottled water, sports drinks, energy drinks, and teas and coffees.⁸ By 2015, sales of full-calorie soda in the US had gone down by more than 25 % over the previous 20 years.⁹ (See Exhibit 2.1 for US bottled water and soda consumption per capita over time.)

Exhibit 2.1: US Soda and Bottled Water per Capita Consumption (Gallons)



Source: Casewriter's diagram based on market data from "The 2015 Beverage Marketing Directory," Marketing Beverage Corporation, pp. xxi–xxv, accessed February 2016.

Large soft drink companies responded in different ways to these market challenges. In 2015, many public health experts accused The Coca-Cola Company

⁵Rosabeth Kanter, Rakesh Khurana, Rajiv Lal, Eric Baldwin, "PepsiCo, Performance with Purpose, Achieving the Right Global Balance," HBS No. 412-079 (Boston: Harvard Business School Publishing, 2012).

⁶Shu Wen Ng, Meghan M Slining, and Barry M Popkin, "Turning point for US diets? Recessionary effects or behavioral shifts in foods purchased and consumed," *The American Journal of Clinical Nutrition*, 2014; 99:609–16.

⁷Ibid.

⁸Trefis Team Contributor, "Sports Drink Wars In The U.S. To Get Exciting?," *Forbes*, August 18, 2015, accessed at <http://www.forbes.com/sites/greatspeculations/2015/08/18/sports-drink-wars-in-the-u-s-to-get-exciting/#4b29ee257c9f>, accessed January 2016.

⁹Margot Sanger-Katz, "The Decline of 'Big Soda'," *The New York Times*, October, 2, 2015, accessed at <http://www.nytimes.com/2015/10/04/upshot/soda-industry-struggles-as-consumer-tastes-change.html>, accessed December 2015.

(“Coke”) of funding misleading public health research to disguise the role of soft drinks in the obesity epidemic. In particular, a non-profit group called the Global Energy Balance Network (GEBN), which placed a research emphasis on the exercise-related causes of obesity rather than dietary ones, came under fire for accepting over \$1 million in funding from Coke.¹⁰ Following several media articles on the relationship between the nonprofit and Coke, Coke’s chief science and health officer stepped down and GEBN shut down due to lack of funding.^{11,12} Muhtar Kent, CEO of stated in the *Wall Street Journal*, “At Coca-Cola, the way we have engaged the public health and scientific communities to tackle the global obesity epidemic that is plaguing our children, our families and our communities is not working.”¹³

In comparison, PepsiCo Inc. (“Pepsi”) took a longer-term approach, becoming more transparent about its products and seeking new, healthier areas of business. In 2010, it created the Global Nutrition Group, a division of the company which focused on broadening its product portfolio to create healthier options for consumers.¹⁴ In December 2015, Pepsi announced that it would launch a new food and beverage vending machine called “Hello Goodness” in 2016.¹⁵ Pepsi stated that “the vending unit offers good- and better-for-you product choices from the company’s diverse and highly complementary food and beverage portfolio.”¹⁶ (See Exhibit 2.2 for the “Hello Goodness” vending machine.)

¹⁰Nancy Fink Huehnergath, “Emails Reveal How Coca-Cola Shaped The Anti-Obesity Global Energy Balance Network,” *Forbes*, November 24, 2015, <http://www.forbes.com/sites/nancyhuehnergath/2015/11/24/emails-reveal-how-coca-cola-shaped-the-anti-obesity-global-energy-balance-network/>, accessed December 2015.

¹¹ANAHAD O’CONNOR, “Coke’s Chief Scientist, Who Orchestrated Obesity Research, Is Leaving,” *The New York Times*, November 24, 2015, <http://well.blogs.nytimes.com/2015/11/24/cokes-chief-scientist-who-orchestrated-obesity-research-is-leaving/>, accessed December 2015.

¹²ANAHAD O’CONNOR, “Research Group Funded by Coca-Cola to Disband,” *The New York Times*, December 1, 2015, <http://well.blogs.nytimes.com/2015/12/01/research-group-funded-by-coca-cola-to-disband/>, accessed December 2015.

¹³MUHTAR KENT, “Coca-Cola: We’ll Do Better,” *The Wall Street Journal*, August 19, 2015, <http://www.wsj.com/articles/coca-cola-well-do-better-1440024365?cb=logged0.41843579849228263>, accessed December 2015.

¹⁴Rosabeth Kanter, Rakesh Khurana, Rajiv Lal, Eric Baldwin, “PepsiCo, Performance with Purpose, Achieving the Right Global Balance,” HBS No. 412-079 (Boston: Harvard Business School Publishing, 2012).

¹⁵PepsiCo, “PepsiCo’s Hello Goodness™ Vending Initiative Offers Diverse Selection Of Good-And Better-For-You Food And Beverage Products On-The-Go,” *PepsiCo website*, December, 14, 2015, <http://www.pepsico.com/live/pressrelease/pepsicos-hello-goodness-vending-initiative-offers-diverse-selection-of-good>DOUBLEHYPHENand12142015, accessed January 2016.

¹⁶*Ibid.*

Exhibit 2.2: PepsiCo's Hello Goodness™ Vending Machine



Source: PepsiCo, “PepsiCo’s Hello Goodness™ Vending Initiative Offers Diverse Selection Of Good-And Better-For-You Food And Beverage Products On-The-Go,” *PepsiCo website*, December 14, 2015, <http://www.pepsico.com/live/pressrelease/pepsicos-hello-goodness-vending-initiative-offers-diverse-selection-of-good--and12142015>, accessed January 2016.

Pepsi viewed these types of decisions as not only responses to growing public health concerns, but also growth-creating opportunities.¹⁷ Many pointed to Indra Nooyi, Pepsi’s CEO, as the driving force behind such resolutions. A 2015 *Fortune* article on Nooyi stated:

From the start of her tenure she dared to acknowledge what was obvious to everyone outside the business but unutterable to those inside it: Junk food makes people fat and harms their health. Nooyi began emphasizing products that are at least a bit healthier than the traditional chips and soda—a pivot some observers thought could sink the company. Now shoppers are proving her right.¹⁸

¹⁷Rosabeth Kanter, Rakesh Khurana, Rajiv Lal, Eric Baldwin, “PepsiCo, Performance with Purpose, Achieving the Right Global Balance,” HBS No. 412-079 (Boston: Harvard Business School Publishing, 2012).

¹⁸Jennifer Reingold, “PepsiCo’s CEO was right. Now what?,” *FORTUNE*, June 5, 2015, <http://fortune.com/2015/06/05/pepsico-ceo-indra-nooyi/>, accessed December 2015.

Despite Pepsi's efforts to move in a new direction, a quarter of its net revenue remained in soft drinks.¹⁹ The corporation was not immune to criticism either. Many public health professionals condemned the entire industry—and especially its largest players—for thwarting public policy efforts aimed at discouraging consumers from drinking soda.²⁰ Some likened soft drink companies to tobacco companies in the past.²¹

Consumer health meant more than product safety. It included the healthfulness of the products and services the company sold. Cigarette manufacturers complied with product safety standards in the production, manufacturing, and sale of their products; however, these products were still well-documented to be health-harming.²²

The soda industry's experiences highlighted the consumer health challenges that many kinds of corporations faced by 2015. Consumers were demanding greater transparency and healthier products, and, based on inherent qualities of their product or service, some corporations were more vulnerable to consumer health issues. No one expected all corporations to suddenly change their core business offering or strategy; however, as the juxtaposition of Coke and Pepsi highlighted, some corporations developed greater competencies to address consumer health challenges, even in difficult markets.

Further, the examples raised important questions about the future of consumer health. What role should corporations play in promoting health and wellness through their products and services? How should a corporation respond to providing a product that is less healthy than other available options? What responsibility does the consumer have in choosing to use or buy a product or service? What role should schools of public health and medical schools play in educating the public and future medical leaders on the benefits and risks associated with consumer health? How should the government regulate consumer products and services? Should regulation be primarily driven by local or federal authorities? And finally, what role does the government play in setting and enforcing consumer health standards?

¹⁹ Margot Sanger-Katz, "The Decline of 'Big Soda,'" *The New York Times*, October, 2, 2015, accessed at <http://www.nytimes.com/2015/10/04/upshot/soda-industry-struggles-as-consumer-tastes-change.html>, accessed December 2015.

²⁰ Nancy Gagliardi, "Approval Of Soda Tax In Berkeley Is Scary Precedent For Food Industry," *Forbes*, November 5, 2014, <http://www.forbes.com/sites/nancygagliardi/2014/11/05/berkeley-makes-history-on-the-soda-tax/#5c02b0e52e10>, accessed February 2016.

²¹ Margot Sanger-Katz, "The Decline of 'Big Soda,'" *The New York Times*, October, 2, 2015, accessed at <http://www.nytimes.com/2015/10/04/upshot/soda-industry-struggles-as-consumer-tastes-change.html>, accessed December 2015.

²² Centers for Disease Control and Prevention (CDC), "Smoking & Tobacco Use" Health Effects of Cigarette Smoking," *CDC website*, http://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/, accessed December 2015.

Why Corporations Advance Consumer Health

There were many drivers behind corporate investments in consumer health. These included:

Complying with regulation: Consumer safety was a highly regulated arena in many countries. In the US there were several government organizations that monitored the risks of different products and services to consumers, and pursued action against corporations that presented consumer risk (e.g., The Consumer Product Safety Commission, The Federal Trade Commission's Bureau of Consumer Protection, the National Highway Traffic Safety Administration, Bureau of Alcohol, Tobacco, Firearms, and Explosives, the Food and Drug Administration, The Federal Aviation Administration).

Responding to consumer advocacy groups: Consumer advocacy groups were both large and small-scale organizations that worked to protect consumer interests; they established product safety, enforced consumer rights, educated consumers about product or service risks, and compared products²³ (e.g., The Center for Science in the Public Interest, which stated that it "has long sought to educate the public, advocate government policies that are consistent with scientific evidence on health and environmental issues, and counter industry's powerful influence on public opinion and public policies."²⁴).

Protecting consumer trust: Brand trust was one of many factors that influenced equity, sales and market share.²⁵ Consumer trust and confidence were measured globally, as well as by country, industry, and individual company or brand; The Conference Board, Nielsen, Edelman, and the University of Michigan all measured consumer confidence or trust in some capacity.^{26,27,28} Edelman's research on consumer trust suggested that corporations often built and maintained trust through integrity, engagement, products and services, and purpose and operations.²⁹

²³ The Suit Staff, "Understanding Consumer Advocacy Groups," *The Suit Magazine*, May 21, 2015, <http://www.thesuitmagazine.com/law-politics/government/22583-understanding-consumer-advocacy-groups.html>, accessed, December 2015.

²⁴ Center for Science in the Public Interest (CPSI), "About CSPI," *CPSI website*, <http://www.cspinet.org/about/index.html>, accessed December 2015.

²⁵ Nielsen, "TOP 10 TRUSTED BRANDS: WHAT BRANDS DO MALE AND FEMALE CONSUMERS TRUST THE MOST?," *Nielsen: Newswire website*, 08-31-2015 <http://www.nielsen.com/us/en/insights/news/2015/top-10-trusted-brands-what-brands-do-male-and-female-consumers-trust-the-most.html>, accessed December 2015.

²⁶ The Conference Board, "Consumer Confidence Survey," *The Conference Board website* December 29, 2015, <https://www.conference-board.org/data/consumerconfidence.cfm>, accessed December 2015.

²⁷ Edelman, "2015 Edelman Trust Barometer," *Edelman website*, <http://www.edelman.com/insights/intellectual-property/2015-edelman-trust-barometer/>, accessed December 2015.

²⁸ University of Michigan, "Surveys of Consumers: University of Michigan," *University of Michigan website*, <http://www.sca.isr.umich.edu/>, accessed December 2015.

²⁹ Edelman, "Building Trust," *Edelman website*, <http://www.edelman.com/insights/intellectual-property/2015-edelman-trust-barometer/building-trust/>, accessed December 2015.

Avoiding costs and lost revenue: Corporations that produced and sold harmful products to consumers were at risk for incurring significant profit losses. During a recall, businesses faced the costs of managing a recall operation, the lost revenues from the recalled products that they could no longer sell, and weakened brand equity.³⁰ Sales often declined when consumers deemed a product or service as risky.³¹ Businesses were also liable for consumer harm and could face litigation costs associated with defective products.³²

Improving social responsibility: Corporate support of consumer safety and health was also part of broader efforts to become more socially responsible. Corporations pursued social responsibility for a number of reasons, including out of moral obligation, for brand differentiation, and for consumer engagement.³³

Why Corporations Subordinate Consumer Health

Consumer health was not always a top business priority for many reasons; these included:

Conflict with other business objectives: Oftentimes, promoting consumer health came into conflict with other business goals such as creating products that filled consumers' needs and providing value to shareholders. Barring those in the health-care industry (e.g., pharmaceuticals, wearable fitness tracking technology), products and services in other industries were primarily created for consumer needs unrelated to health. This meant that consumer health and safety was not always a primary objective during design and production.

Furthermore, promoting consumer health could conflict with providing value to shareholders. In some industries, adding safety features might raise unit production costs, lowering unit profit margins. Launching new, healthier products that might cannibalize existing, successful products. Achieving a balance was particularly challenging in the food industry, where one growing segment of consumers called for more natural ingredients, while others criticized the recipe changes that modified their favorite comfort foods.³⁴

³⁰ Kathleen Cleeran, "Using advertising and price to mitigate losses in a product-harm crisis," *Kelley School of Business, Indiana University*, 2015, 58, 157–162, p. 160.

³¹ Steven Shavell and A. Mitch Polinsky, "The Uneasy Case for Product Liability" Harvard Law School John M. Olin Center for Law, Economics and Business Discussion Paper Series, 2009, Paper 628, p. 1444, accessed at http://lsr.nellco.org/harvard_olin/628/, accessed December 2015.

³² Steven Shavell and A. Mitch Polinsky, "The Uneasy Case for Product Liability" Harvard Law School John M. Olin Center for Law, Economics and Business Discussion Paper Series, 2009, Paper 628, p. 1444, accessed at http://lsr.nellco.org/harvard_olin/628/, accessed December 2015.

³³ James Epstein-Reeves, "Six Reasons Companies Should Embrace CSR," *Forbes*, February 21, 2012, accessed at <http://www.forbes.com/sites/csr/2012/02/21/six-reasons-companies-should-embrace-csr/>, accessed November 2015.

³⁴ Scheherazade Daneshkhu, "Big Food in Health Drive to keep Market Share," *Financial Times*, April, 26, 2016, <http://www.ft.com/cms/s/0/83f05ea8-08a3-11e6-a623-b84d06a39ec2.html>, accessed May 2016.

In industries such as tobacco and sugar sweetened beverages, advancing consumer health could conflict with providing shareholder value. In some cases, there was a perception that healthier products were or should be more costly, and that only a minority of consumers—even if educated—would make that trade off. In general, younger, educated consumers were more willing to pay a price premium for healthier products and services.³⁵

Lack of regulation and/or enforcement: Regulation and its enforcement were less rigorous in certain locations and industries. Consumers International, an independent global campaigning voice for consumers, had independent consumer organizations from across the globe as members.³⁶ It stated in its 2014 annual survey of member organizations that a majority of its members “viewed existing legislation as ineffective in addressing the key causes of consumer detriment they had identified.”³⁷

Issues in Consumer Health

Regulation and Innovation

Regulations related to consumer safety, as well as the regulatory bodies that existed to enforce them, were created to protect the public from undue risks. In 2015, the US Consumer Product Safety Commission (CPSC) stated its purpose as:

CPSC is charged with protecting the public from unreasonable risks of injury or death associated with the use of the thousands of types of consumer products under the agency’s jurisdiction...CPSC is committed to protecting consumers and families from products that pose a fire, electrical, chemical, or mechanical hazard.³⁸

CPSC had contributed to a reduction in the number of consumer product-related accidents and deaths since its founding.³⁹ However, regulation also had the potential to hamper innovation that might support consumer health. This was an ongoing issue in the automotive industry, where, by 2015, many manufacturers had designed new technological systems to assist drivers and advance safety. These included

³⁵Nielsen, “WE ARE WHAT WE EAT HEALTHY EATING TRENDS AROUND THE WORLD,” *Nielsen Global Health and Wellness Report—January 2015*, <http://www.nielsen.com/content/dam/niensenglobal/eu/nielseninsights/pdfs/Nielsen%20Global%20Health%20and%20Wellness%20Report%20-%20January%202015.pdf>, accessed May 2016.

³⁶Consumers International, “Criteria: Becoming a CI Member,” *Consumers International website*, <http://www.consumersinternational.org/our-members/join-us!/criteria/>, accessed December 2015.

³⁷Consumers International, “State of Consumer Protection Survey: Summary,” 2014–2015, accessed at <http://www.consumersinternational.org/media/1568496/ci-survey-summary-2015-english.pdf>, accessed December 2015.

³⁸United States Consumer Product Safety Commission, “About CPSC,” *CPSC website*, <http://www.cpsc.gov/en/About-CPSC/>, accessed December 2015.

³⁹*Ibid.*

features to detect other cars nearby, brake automatically to avoid pedestrians, and make other automatic movements, such as changing lanes.⁴⁰ While most of these safety features aided drivers of manually-driven cars, the potential for driverless cars was on the horizon—representing a paradigm shift in personal vehicle ownership and operation.

Automakers like Audi and Mercedes-Benz were active in this space, but Google led the way from a software intellectual property and hardware perspective.⁴¹ These new types of vehicles created questions for regulators. In December 2015, the California Department of Motor Vehicles announced draft regulations requiring all driverless cars to have a steering wheel, pedals, and a human driver.⁴² However, some of the driverless cars Google had been testing in California did not have any manual controls (e.g., steering wheels or pedals).⁴³ Google spokesman Johnny Luu said:

In developing vehicles that can take anyone from A to B at the push of a button, we're hoping to transform mobility for millions of people, whether by reducing the 94 % of accidents caused by human error or bringing everyday destinations within reach of those who might otherwise be excluded by their inability to drive a car. Safety is our highest priority and primary motivator as we do this. We're gravely disappointed that California is already writing a ceiling on the potential for fully self-driving cars to help all of us who live here.⁴⁴

While driverless vehicles carried potential benefits for consumer health, there were also concerns about unintended consequences. Because the vehicles would likely be programmed to recognize a pedestrians and avoid hitting them, traffic congestion might increase in busy walking areas, resulting in increased emissions.⁴⁵ Further, because cars would have the ability to travel without a passenger, the total number of rides might increase.⁴⁶ One commentator wrote:

⁴⁰ Jessica Guynn and Marco della Cava, "Google 'disappointed' by proposed restrictions on driverless cars," *USA Today*, December 17, 2015, <http://www.usatoday.com/story/tech/news/2015/12/16/google-disappointed-by-proposed-rules-from-california-dmv/77447672/>, accessed December 2015.

⁴¹ Zachary Hamed, "12 Stocks to Buy If You Believe in Driverless Cars," *Forbes*, January 21, 2015, <http://www.forbes.com/sites/zacharyhamed/2015/01/21/driverless-stocks/>, accessed December 2015.

⁴² Jessica Guynn and Marco della Cava, "Google 'disappointed' by proposed restrictions on driverless cars," *USA Today*, December 17, 2015, <http://www.usatoday.com/story/tech/news/2015/12/16/google-disappointed-by-proposed-rules-from-california-dmv/77447672/>, accessed December 2015.

⁴³ BBC News, "Driverless car rules perplexing, says Google," *BBC News*, December 18, 2015, <http://www.bbc.com/news/technology-35131538>, accessed December 2015.

⁴⁴ Jessica Guynn and Marco della Cava, "Google 'disappointed' by proposed restrictions on driverless cars," *USA Today*, December 17, 2015, <http://www.usatoday.com/story/tech/news/2015/12/16/google-disappointed-by-proposed-rules-from-california-dmv/77447672/>, accessed December 2015.

⁴⁵ Drake Bennett, "David Bello: Driverless Tech Could Mean Faster Auto Races," *Bloomberg Businessweek*, April 11, 2016, <http://www.bloomberg.com/features/2016-design/a/david-belo/>, accessed May 2016.

⁴⁶ *Ibid.*

Well, if I'm in my driverless vehicle and I can't find a parking space, I could jump out and just get it to circulate until I'm ready for it. Which would add to congestion. Or I could drive to work in the morning, send the car home, and get it to come back for me in the evening, and then go back in it, so then you've got four journeys instead of two.⁴⁷

Driverless automobiles highlighted the challenges public sector regulators faced as a result of rapidly evolving technology. It was often difficult for the regulators to keep pace with innovation. If they cracked down in an overly heavy-handed fashion, they were not only potentially blocking the very entrepreneurial initiative that was America's competitive advantage, but also potentially halting advancements in consumer health. However, there were genuine concerns that, in some cases, new technologies could also negatively affect consumer health.

Regulatory Responsibility

In some industries, businesses exerted a greater level of self-regulation, while in others, government provided substantial oversight. Corporate self-regulation was sometimes deemed a success, such as in the forestry industry, and other times a failure, as was the case in the tobacco industry.⁴⁸

A 2015 incident involving Volkswagen ("VW"), a German automobile manufacturer, showcased why government-led, regulatory oversight was often necessary. VW installed defeat devices in its diesel car engines that were able to detect when regulators were testing the cars, thus enabling the engines to show a lower emissions result in a controlled, testing situation; when the cars were used regularly by consumers, the engines emitted nitrogen oxide pollutants up to 40 times above US standards.⁴⁹ Though the investigation began in the US, investigations were opened across the world in countries such as the UK, Italy, France, South Korea, Canada and Germany.⁵⁰ The scandal raised consumer health concerns, as environmental conditions were known to affect human health.⁵¹

Regulatory matters could still become complicated in industries where the burden for regulation and enforcement fell squarely to government actors, as there were often multiple levels of regulators and regulatory enforcers (e.g., international, federal, state, and local organizations) and they could conflict. Such was the case with

⁴⁷ Ibid.

⁴⁸ Lisa L. Sharma, MBA, MPH, Stephen P. Teret, JD, MPH, and Kelly D. Brownell, PhD, "The Food Industry and Self-Regulation: Standards to Promote Success and to Avoid Public Health Failures," *Am J Public Health*, 2010 February, 100(2): 240–246.

⁴⁹ Russell Hotten, "Volkswagen: The scandal explained," *BBC News*, December 10, 2015, <http://www.bbc.com/news/business-34324772>, accessed December 2015.

⁵⁰ Russell Hotten, "Volkswagen: The scandal explained," *BBC News*, December 10, 2015, <http://www.bbc.com/news/business-34324772>, accessed December 2015.

⁵¹ Healthy People 2020, "Environmental Health," *HealthyPeople.gov website*, <http://www.healthy-people.gov/2020/topics-objectives/topic/environmental-health>, accessed December 2015.

unmanned aerial systems—more commonly known as drones. Drones were aircraft that did not require a pilot to be present, and could be controlled remotely by the user. What's more, consumer drone sales were increasing rapidly in the US—with some predicting a rise from 1.9 million in 2016 4.3 million by 2020.⁵²

After complaints of drones accidentally hitting people and flying too close to airplanes, discussions about drone safety and appropriate use increased.⁵³ While some advocated for better safety features, such as improved crash-avoidance technology, others advocated for additional regulation.⁵⁴ In the US, federal regulation around drones had been sparse until late in 2015, prompting state and local governments to create their own laws promoting safety.⁵⁵

However, in 2015, the Federal Aviation Administration (FAA) set up the Unmanned Aerial Systems Task Force to create federal safety and use standards for drones.⁵⁶ In the fact sheet it released in December 2015, the agency discussed how the series of different laws in different places could make drone usage more dangerous—a contention that many local governments disagreed with.⁵⁷ Daniel Garodnick, a City Council member in New York City stated, “New York City is different from the cornfields of Iowa. That should be obvious to everyone, but that isn't reflected in F.A.A. rules.”⁵⁸

Unintended Consequences

Many consumer products and services had unintended public health effects. Most products and services outside of the healthcare industry were primarily created to solve a consumer need unrelated to health—and considering potential health risks was not always the first business priority. In August, 2014, public leaders told

⁵² Staff writer, “Drones club,” *The Economist*, April 23, 2016, <http://www.economist.com/news/science-and-technology/21697214-better-technology-and-tougher-enforcement-rules-needed-safe>, accessed May 2016.

⁵³ CECILIA KANG, “Drone Shopping? F.A.A. Rules May Hover Over Holidays,” *The New York Times*, November 23, 2015, <http://www.nytimes.com/2015/11/24/technology/proposed-regulations-for-drones-are-released.html>, accessed December 2015.

⁵⁴ Staff writer, “Drones club,” *The Economist*, April 23, 2016, <http://www.economist.com/news/science-and-technology/21697214-better-technology-and-tougher-enforcement-rules-needed-safe>, accessed May 2016.

⁵⁵ CECILIA KANG, “F.A.A. Drone Laws Start to Clash With Stricter Local Rules,” *The New York Times*, December 27, 2015, <http://www.nytimes.com/2015/12/28/technology/faa-drone-laws-start-to-clash-with-stricter-local-rules.html?ref=business>, accessed December 2015.

⁵⁶ Mark Harris, “Drone regulation is coming in time for Christmas, says FAA taskforce member,” *The Guardian*, November 21, 2015, <http://www.theguardian.com/technology/2015/nov/21/drone-regulation-before-christmas-says-faa-taskforce-member>, accessed December 2015.

⁵⁷ CECILIA KANG, “F.A.A. Drone Laws Start to Clash With Stricter Local Rules,” *The New York Times*, December 27, 2015, <http://www.nytimes.com/2015/12/28/technology/faa-drone-laws-start-to-clash-with-stricter-local-rules.html?ref=business>, accessed December 2015.

⁵⁸ *Ibid.*

residents of Toledo, Ohio to avoid using the tap water after tests revealed pollutants in the water supply.⁵⁹ Algae blooms, caused by warm temperatures, phosphorus, and nitrogen, were growing out of control in nearby Lake Erie and created toxins known to cause neurological deficits in humans.⁶⁰ The nitrogen and phosphorous predominantly came from agricultural fertilizers.⁶¹ Though fertilizers can improve crop yield for farmers, their use had unintentionally left a city without safe drinking water.

Surfacing unintended consequences could be particularly challenging for newer technologies, whose risks were not always fully understood at first. Though headphones were first patented around 1890, modern headphones were not widely used until the late 1970s and early 1980s.⁶² The Sony Walkman, a small, cassette tape player, was the first, affordable personal music player; it entered the US consumer market in 1979 and allowed people to listen to their music through headphones.⁶³ By 2015, one was hard pressed to find an American teenager that listened to their music via cassette tape; however, headphones remained commonplace and were used with smartphones and other personal audio players.

While consumers gained personal enjoyment from music on-the-go, headphones came with the risk of hearing loss, which could have negative consequences on physical and mental health, as well as education and employment.⁶⁴ In 2015, the World Health Organization (WHO) published a press release discussing how 1.1 billion teenagers and young adults were at risk of hearing loss due to the unsafe use of personal audio devices and exposure to damaging levels of sound at noisy entertainment venues (e.g., nightclubs, bars and sporting events).⁶⁵ Dr. Etienne Krug, WHO Director for the Department for Management of Noncommunicable Diseases, Disability, Violence and Injury Prevention stated,

As they go about their daily lives doing what they enjoy, more and more young people are placing themselves at risk of hearing loss. They should be aware that once you lose your hearing, it won't come back. Taking simple preventive actions will allow people to continue to enjoy themselves without putting their hearing at risk.⁶⁶

⁵⁹ Emma Fitzsimmons, "Tap Water Ban for Toledo Residents," *The New York Times*, August 3, 2014, <http://www.nytimes.com/2014/08/04/us/toledo-faces-second-day-of-water-ban.html>, accessed January 2016.

⁶⁰ Jane J. Lee, "Driven by Climate Change, Algae Blooms Behind Ohio Water Scare Are New Normal," *National Geographic*, August 6, 2014, <http://news.nationalgeographic.com/news/2014/08/140804-harmful-algal-bloom-lake-erie-climate-change-science/>, accessed January 2016.

⁶¹ Ibid.

⁶² Jimmy Stamp, "A Partial History of Headphones," *Smithsonian.com*, March 19, 2013, <http://www.smithsonianmag.com/arts-culture/a-partial-history-of-headphones-4693742/?no-ist>, accessed December 2015.

⁶³ Ibid.

⁶⁴ World Health Organization, "1.1 billion people at risk of hearing loss," *WHO Media centre*, February 27, 2015, <http://www.who.int/mediacentre/news/releases/2015/ear-care/en/>, accessed December 2015.

⁶⁵ Ibid.

⁶⁶ Ibid.

Lobbying

By 2015, businesses spent about \$2.6 billion a year on lobbying activities in the US, causing some to cite concerns that corporate lobbying power could unduly impact policy-making activities to advance corporate interests.⁶⁷ A 2015 article in *The Atlantic* compared that \$2.6 billion a year to what it costs to fund the House of Representatives and the Senate, \$1.18 billion and \$860 million a year respectively, showing that corporations spent more on lobbying than the country did on funding Congress.⁶⁸ The US was not the only country to contend with this issue in recent years. In 2010, David Cameron expressed similar concerns about corporate lobbying activities in the United Kingdom (UK), stating:

We all know how it works. The lunches, the hospitality, the quiet word in your ear, the ex-ministers and ex-advisers for hire, helping big business find the right way to get its way...I believe that secret corporate lobbying, like the expenses scandal, goes to the heart of why people are so fed up with politics. It arouses people's worst fears and suspicions about how our political system works.⁶⁹

Corporate lobbying provided numerous benefits to businesses—from improved market value to fewer regulatory challenges—and many corporations that were dependent on regulatory decisions had a lobbying strategy.⁷⁰ Corporate lobbying did not always lead to abuse, and lobbyists often conducted detailed and specific research for policy makers. One *Business Insider* article stated:

The increasing complexity of policy also makes it more difficult for generalist and generally inexperienced government staffers to maintain an informed understanding of the rules and regulations they are in charge of writing and overseeing. They typically have neither the time to specialize nor the experience to draw on. As a result, staffers must rely more and more on the lobbyists who specialize in particular policy areas. This puts those who can afford to hire the most experienced and policy-literate lobbyists—generally large companies—at the center of the policymaking process.⁷¹

Despite the expertise benefits it provided, corporate lobbying could also negatively impact consumer health. One of the earliest examples of this was in the lead

⁶⁷ Lee Drutman, "How Corporate Lobbyists Conquered American Democracy," *The Atlantic*, April 20, 2015, <http://www.theatlantic.com/business/archive/2015/04/how-corporate-lobbyists-conquered-american-democracy/390822/>, accessed December 2015.

⁶⁸ Ibid.

⁶⁹ Andrew Sparrow, "David Cameron vows to tackle 'secret corporate lobbying'," *The Guardian*, February 8, 2010, <http://www.theguardian.com/politics/2010/feb/08/david-cameron-secret-corporate-lobbying>, accessed December 2015.

⁷⁰ Steven Strauss, "Here's Everything You've Always Wanted To Know About Lobbying For Your Business," *Business Insider*, November 25, 2011, <http://www.businessinsider.com/everything-you-always-wanted-to-know-about-lobbying-2011-11>, accessed December 2015.

⁷¹ New America's Weekly Wonk: Lee Drutman, "How corporations turned into political beasts," *Business Insider*, April 25, 2015, <http://www.businessinsider.com/how-corporations-turned-into-political-beasts-2015-4>, accessed December 2015.

paint industry. Lead paint was commonly used prior to the 1970s.⁷² It posed significant health risks to those who accidentally ingested it—particularly for children who might eat paint chips or get paint dust on their hands or toys. By the 2000s, it was widely accepted that lead paint damaged the brain, kidneys, nerves and blood; it could also cause behavioral problems, learning disabilities, seizures and death.⁷³ However, in the 1950s, when local public health officials in several cities began to realize the damaging effects lead paint could have, lobbyists succeeded in disarming their attempts to restrict its use or warn consumers of its risks.⁷⁴ Consumer use of lead paint was not banned by the federal government until 1978, about two decades after the first actions of local health officials.⁷⁵

Similarly, US food manufacturers invariably lobbied against any new regulations, and even against new, voluntary standards.⁷⁶ In more recent history, many physicians, nutritionists, and public health professionals argued that the US government was overly influenced by the food industry when it developed and released the 2015 Dietary Guidelines for Americans.⁷⁷ The guidelines were important because they not only affected the everyday eating habits of Americans, but they also dictated a wide array of policies and programs (e.g., food label requirements, school lunch decisions, public nutrition programs, and research grants).⁷⁸

The American Cancer Society Cancer Action Network, an arm of the American Cancer Society, released a written statement in response to the guidelines.⁷⁹ The statement applauded the guideline's efforts to reduce sugar consumption, but

⁷²DAVID ROSNER AND GERALD MARKOWITZ, "Why It Took Decades of Blaming Parents Before We Banned Lead Paint," *The Atlantic*, April 22, 2013, <http://www.theatlantic.com/health/archive/2013/04/why-it-took-decades-of-blaming-parents-before-we-banned-lead-paint/275169/>, accessed December 2015.

⁷³U.S. Department of Housing and Urban Development, "About Lead-Based Paint," *HUD.gov website*, http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/healthyhomes/lead, accessed December 2015.

⁷⁴DAVID ROSNER AND GERALD MARKOWITZ, "Why It Took Decades of Blaming Parents Before We Banned Lead Paint," *The Atlantic*, April 22, 2013, <http://www.theatlantic.com/health/archive/2013/04/why-it-took-decades-of-blaming-parents-before-we-banned-lead-paint/275169/>, accessed December 2015.

⁷⁵*Ibid.*

⁷⁶Lyndsey Layton and Dan Eggen, "Industries lobby against voluntary nutrition guidelines for food marketed to kids," *The Washington Post*, July 9, 2011, https://www.washingtonpost.com/politics/industries-lobby-against-voluntary-nutrition-guidelines-for-food-marketed-to-kids/2011/07/08/gIQAZSZu5H_story.html, accessed May 2016.

⁷⁷Markham Heid, "Experts Say Lobbying Skewed the U.S. Dietary Guidelines," *Time*, January 8, 2016, <http://time.com/4130043/lobbying-politics-dietary-guidelines/>, accessed February 2016.

⁷⁸*Ibid.*

⁷⁹American Cancer Society Cancer Action Network, "New Dietary Guidelines Disregard Important Link Between Diet and Cancer; Missed Opportunity to Reduce Death and Suffering," *American Cancer Society Cancer Action Network Media Center*, January 7, 2016, <http://www.acscan.org/content/media-center/new-dietary-guidelines-disregard-important-link-between-diet-and-cancer-missed-opportunity-to-reduce-death-and-suffering/>, accessed February 2016.

expressed frustration with its position on red meat.⁸⁰ It quoted Dr. Richard Wender, chief cancer control officer of the American Cancer Society, who stated, “The science on the link between cancer and diet is extensive. By omitting specific diet recommendations, such as eating less red and processed meat, these guidelines miss a critical and significant opportunity to reduce suffering and death from cancer...”⁸¹

What Is “Healthy”?

By 2015, it was clear that many consumers wanted “healthier” products—especially in the food industry—and some were willing to pay more for them.⁸² However, regulators, corporations, and consumers themselves weren’t always quite sure what that meant—health was complicated. Furthermore, consumer education was often required to change behavior, and it was not uncommon for consumers to find conflicting information about an industry or product. Consider this phenomenon in the food industry. Terms such as “local”, “organic”, “natural”, and “non-GMO” (genetically modified organism) flooded the food market, making the health benefits of each confusing. Furthermore, many of them, including “natural” and “local” did not have federally mandated definitions.^{83,84}

In response to consumer demand for more natural ingredients, many food companies began removing additives from their foods.⁸⁵ However, after Panera Bread announced that it would remove dyes and additives from its food, Michael Jacobson, the Executive Director of the Center for Science in the Public Interest, a consumer advocacy group, stated “But just because something is artificial or its name is hard to pronounce doesn’t mean it’s unsafe. Some of the additives Panera is ditching are perfectly innocuous, such as calcium propionate or sodium lactate—so those moves are more about public relations than public health.”⁸⁶

⁸⁰ Ibid.

⁸¹ Ibid.

⁸² Nancy Gagliardi, “Consumers Want Healthy Foods—And Will Pay More For Them,” *Forbes*, February 18, 2015, <http://www.forbes.com/sites/nancygagliardi/2015/02/18/consumers-want-healthy-foods-and-will-pay-more-for-them/>, accessed December 2015.

⁸³ Food and Drug Administration (FDA), “What is the meaning of ‘natural’ on the label of food?,” *FDA website*, accessed at <http://www.fda.gov/aboutfda/transparency/basics/ucm214868.htm>, accessed January 2016.

⁸⁴ United States Department of Agriculture Economic Research Service, “Local Foods,” *USDA website*, accessed at <http://www.ers.usda.gov/topics/food-markets-prices/local-foods.aspx>, accessed January 2016.

⁸⁵ Christopher Doering, “Consumers demand healthier ingredients,” *USA Today*, April 3, 2015, <http://www.usatoday.com/story/money/business/2015/04/03/companies-respond-to-demand-for-healthier-ingredients/25250867/>, accessed December 2015.

⁸⁶ Michael F. Jacobson, “Panera Removes Dyes, Additives from Foods,” *Center for Science in the Public Interest website*, May 5, 2015, <http://www.cspinet.org/new/201505051.html>, accessed December 2015.

Researchers had found that “organic” food did not necessarily denote better nutritional quality either.⁸⁷ “You can’t use organic as your sole criteria for judging nutritional quality,” Crystal Smith-Spangler, a physician and researcher said.⁸⁸ Vegetables did indeed vary in their nutritional quality, but this was also affected by their genetic variety, the soil quality, the time at which they were picked, and the weather.⁸⁹

By 2016, a large number of foods contained genetically modified ingredients. For example, many seeds were genetically modified for resistance to herbicides.⁹⁰ Though many consumers fought the use of these ingredients and demanded the right to know what was in their food, the U.S. Food and Drug Administration had deemed GMOs safe and the federal government did not require extra labeling for foods that contained such ingredients.⁹¹

While the federal government remained silent on required GMO-labels, in 2016, it appeared likely that some states would pass their own labelling laws. Vermont was poised to require GMO labels for many foods beginning on July 1, 2016. Though the law included exemptions—food in restaurants, as well as meats and cheeses, would not require labels—the law was likely to have far-reaching effects. One article stated:

...[the law] will have nationwide implications. Because food manufacturers may not want to create separate packaging for different regions of the country, or to risk the legal liability if a non-labeled GMO winds up in Vermont, they will probably adjust their supply chains far beyond New England.⁹²

As a result of such concerns, in 2016, Campbell Soup Company (“Campbell’s”), which had previously opposed mandated GMO labelling on food packaging, announced its support for federally-mandated GMO labelling.⁹³ In a statement on its website, Campbell’s President and CEO Denise Morrison reiterated that Campbell’s

⁸⁷ Crystal Smith-Spangler, Margaret L. Brandeau, Grace E. Hunter, J. Clay Bavinger, Maren Pearson, Paul J. Eschbach, Vandana Sundaram, Hau Liu, Patricia Schirmer, Christopher Stave, Ingram Olkin, and Dena M. Bravata, “Are Organic Foods Safer or Healthier Than Conventional Alternatives?: A Systematic Review,” *Ann Intern Med.*, 2012;157(5):348–366.

⁸⁸ Allison Aubrey and Dan Charles, “Why Organic Food May Not Be Healthier For You,” *NPR*, September 4, 2012, <http://www.npr.org/sections/thesalt/2012/09/04/160395259/why-organic-food-may-not-be-healthier-for-you>, December 2015.

⁸⁹ *Ibid.*

⁹⁰ Mary Clare Jalonick, “Food industry pushing halt to labeling of genetically modified items,” *The Boston Globe*, December 9, 2015, <https://www.bostonglobe.com/business/2015/12/08/food-industry-pushing-halt-gmo-labeling-end-year/rtVa7JbI7oQg3UfkhiLINJ/story.html>, accessed December 2015.

⁹¹ *Ibid.*

⁹² JAYSON LUSK, “Can I Get That With Extra GMO?,” *The Wall Street Journal*, April 26, 2016, <http://www.wsj.com/articles/can-i-get-that-with-extra-gmo-1461710531>, accessed May 2016.

⁹³ Campbell Team, “WHY WE SUPPORT MANDATORY NATIONAL GMO LABELING,” *Campbell’s website*, January 7, 2016, accessed at <http://www.campbellsoupcompany.com/news-room/news/2016/01/07/labeling/>, accessed January 2016.

does not dispute the science behind GMOs and believes in their safety; however, she explained that some states had passed their own regulations around GMO labelling on food packaging, leading to a patchwork of state laws across the country.⁹⁴ She stated, “Put simply, although we believe that consumers have the right to know what’s in their food, we also believe that a state-by-state piecemeal approach is incomplete, impractical and costly to implement for food makers. More importantly, it’s confusing to consumers.”⁹⁵

Standards differed in the European Union, where stricter labeling was required for foods that contained GMOs.⁹⁶ The Food Standards Agency, a government department in the UK, stated on its website: “The Agency supports consumer choice. We recognise that some people will want to choose not to buy or eat genetically modified (GM) foods, however carefully they have been assessed for safety.”⁹⁷

How Corporations Pursue Consumer Health

Corporations deliberately pursued consumer health in different ways depending on their product or service, consumers, and their corporate competencies and vulnerabilities. Corporate actions to advance consumer health broke down into five main categories. Some corporations took actions across several areas, while others focused efforts in one category. These categories were:

1. **Enhancing product or service quality:** Companies enhanced product and service quality through innovative design strategies, healthier ingredients and raw materials, improved supply chain management, manufacturing and safety requirements, and redesigned packaging.
2. **Re-evaluating sales and distribution decisions:** Businesses used sales and distribution strategies—such as pricing schemes, directed advertising, and narrow distribution channels—to ensure that the right consumers used products for their intended purposes.
3. **Improving consumer use:** Businesses improved customers’ use of their products through detailed instruction, ongoing customer support, and guidance for appropriate use.
4. **Advocating for improved disposal:** Companies advocated for more sustainable and healthful means of product disposal.
5. **Advancing broader industry standards:** Corporations advanced industry standards to promote consumer health.

⁹⁴ Ibid.

⁹⁵ Ibid.

⁹⁶ Food Standards Agency (FSA), “GM Labelling,” *FSA website* <https://www.food.gov.uk/science/novel/gm/gm-labelling>, accessed December 2015.

⁹⁷ Ibid.

Enhancing Product or Service Quality

Design

One of the most common ways that corporations enhanced the health and safety of their products and services was through product and service design. The Lego Group, a children's toy manufacturer based in Denmark, had \$4.7B in total revenue in 2014, making it one of the leading toy manufacturers in the world.⁹⁸ While Lego produced both physical and digital products, all products were based on the "the physical brick experience," usually requiring children to build the toys themselves from smaller pieces (often bricks).⁹⁹

Its physical toy products, the core of its business, had the potential to be health-promoting and health-harming for children. The toys increased cognitive development and dexterity in young children, which could be considered especially important as many cited concerns that more and more children lacked fine motor skills due to the increased use of tablet computers, smartphones, and other technology for entertainment.¹⁰⁰ However, because many of the toys had a large number of pieces, there were some concerns that children, especially young ones, could ingest the pieces. Despite these concerns, in 2014, Lego had not had any product recalls for the five years prior.¹⁰¹

Its success could be largely attributed to a company-wide focus on safety, which included robust product planning and development. (See Exhibit 2.3 for Lego's Safety Assessment.) On its website, Lego discussed how it began its pursuit of safety early in the design process:

We see product safety as the responsibility not only of product safety specialists, but of all involved in the development process...Product safety specialists interacted with product designers at the earliest opportunity to ensure that every design is thoroughly evaluated and assessed in terms of product safety. Product designers are continuously trained in the principles of product safety to understand how to proactively incorporate safety into their designs.¹⁰²

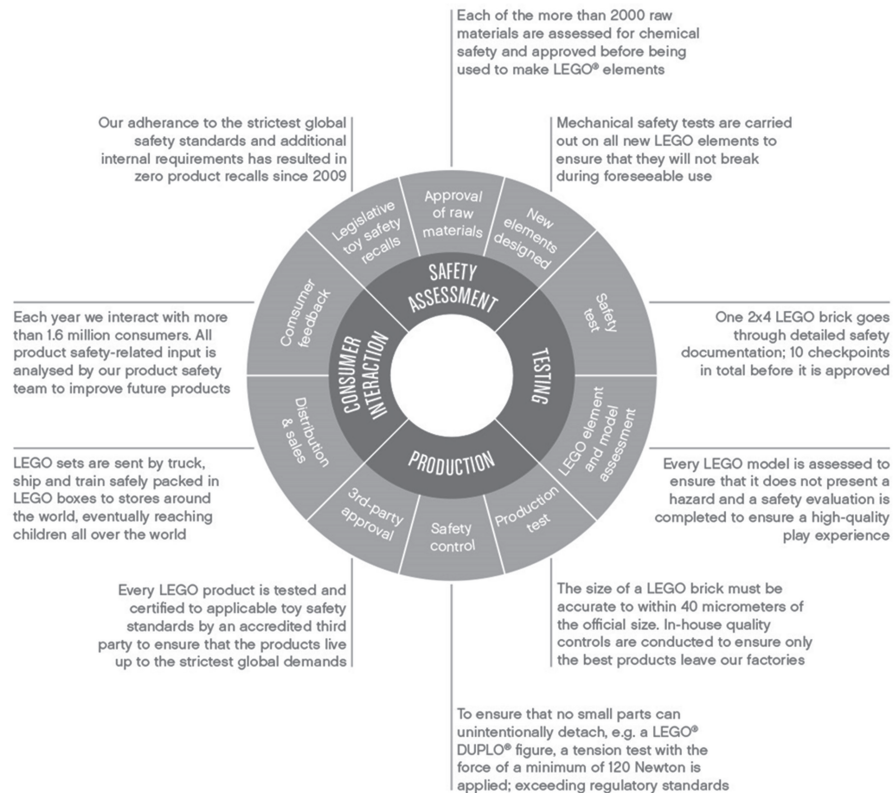
⁹⁸ Richard Milne, "Lego Enters a New Dimension with its Digital Strategy," *Financial Times*, September 27, 2015, <http://www.ft.com/intl/cms/s/0/7fa681e2-635d-11e5-a28b-50226830d644.html#axzz3tqZUMxmy>, accessed December 2015.

⁹⁹ Ibid.

¹⁰⁰ Graeme Paton, "Infants 'unable to use toy building blocks' due to iPad addiction," *The Telegraph*, April 15, 2014, <http://www.telegraph.co.uk/education/educationnews/10767878/Infants-unable-to-use-toy-building-blocks-due-to-iPad-addiction.html>, accessed December 2015.

¹⁰¹ Lego, "SAFE, HIGH-QUALITY PRODUCTS," *Lego website*, <http://www.lego.com/en-us/aboutus/responsibility/responsibilityreport2014/impactofthebrick/safe-high-quality-products>, accessed December 2015.

¹⁰² Ibid.

Exhibit 2.3: The LEGO Group Safety Assessment

Source: Lego, “SAFE, HIGH-QUALITY PRODUCTS,” *Lego website*, <http://www.lego.com/en-us/aboutus/responsibility/responsibilityreport2014/impactofthebrick/safe-high-quality-products>, accessed December 2015.

Improving design to improve safety applied not only to consumer products, but also to services. One service area where this concept had become increasingly important was in hospitals. Though people typically went to hospitals to improve their health when they were ill, hospital stays carried the potential to become health-harming (e.g., hospital-acquired infections, patient falls, and psychological distress).¹⁰³ Patient falls were of particular concern for hospitals, as researchers had found that a patient fall could increase hospital costs by around \$13,000 and length of stay by over 6 days.¹⁰⁴ Research showed that about 30 % of patients who fell were

¹⁰³ Robert Pearl, “4 Ways Hospitals Can Harm You,” *Forbes*, January 24, 2014, <http://www.forbes.com/sites/robertpearl/2014/01/24/4-ways-hospitals-can-harm-you/>, accessed December 2015.

¹⁰⁴ CA Wong, AJ Recktenwald, ML Jones, BM Waterman, ML Bollini, WC Dunagan, “The cost of serious fall-related injuries at three Midwestern hospitals,” *Jt Comm J Qual Patient Saf.*, 2011 Feb;37(2):81–7.

injured and since 2008, the Centers for Medicare and Medicaid Services (CMS) had not reimbursed providers for hospital stays that included a patient fall.¹⁰⁵

In response, hospitals redesigned processes and even altered the physical environment to reduce fall risks. In 2012, the University Medical Center of Princeton at Plainsboro opened an entirely new hospital in New Jersey. The medical center had planned the new hospital for several years prior, and as part of these efforts, it had created “mock up” patient rooms at its old location to test the effects of different room designs. When the medical center opened at the new location in 2012, it incorporated the most effective design changes to promote safety, including several specifically aimed at reducing patient falls (e.g., handrails from patients’ beds to their bathrooms, bathroom doors that opened easily, patient beds that could be lowered to 16 in. off the floor, and a system for contacting nurses if high-risk patients got up without help).¹⁰⁶ Barry Rabner, the president and CEO of Princeton HealthCare System discussed the positive results, stating, “We had clear data on our performance in the old building and have been rigorous in tracking it on an ongoing basis in the new building. And all of the measures have improved materially.”¹⁰⁷

Materials and Ingredients

Many corporations improved the health and safety of their products by using health-promoting materials or ingredients. This trend was evident in the food and beverage industry, where throughout the late 2000s consumers demanded greater transparency and more natural ingredients.¹⁰⁸ Market research in 2014 had shown that more than 60 % of Americans stated that the absence of artificial colors or flavors was important to their food purchase decisions.¹⁰⁹ Many in the industry called this trend a push for a “cleaner label.”¹¹⁰

In 2015, General Mills, a US manufacturer and marketer of branded consumer foods, announced that it planned to phase out artificial flavors from its cereals by 2017.¹¹¹ At the time, General Mills had 20 % of its business in cereal, and was well-

¹⁰⁵ Jennifer Goldsack, Janet Cunningham, Susan Mascioli, “Patient falls: Searching for the elusive ‘silver bullet’,” *Nursing*, July 2014, Volume 44, Issue 7, pp. 61–62.

¹⁰⁶ “How to Design Hospitals With Safety In Mind,” *Hospitals & Health Networks Magazine*, October 14, 2014, <http://www.hhnmag.com/articles/3934-how-to-design-hospitals-with-safety-in-mind>, accessed December 2015.

¹⁰⁷ *Ibid.*

¹⁰⁸ Christopher Doering, “Consumers demand healthier ingredients,” *USA Today*, April 3, 2015, <http://www.usatoday.com/story/money/business/2015/04/03/companies-respond-to-demand-for-healthier-ingredients/25250867/>, accessed December 2015.

¹⁰⁹ *Ibid.*

¹¹⁰ *Ibid.*

¹¹¹ James Hamblin, “Lucky Charms, the New Superfood,” *The Atlantic*, June 23, 2015, <http://www.theatlantic.com/health/archive/2015/06/general-mills-to-phase-out-artificial-cereal-dyes/396536/>, accessed December 2015.

known for brands such as Lucky Charms and Trix, which had used artificial flavors and ingredients.^{112,113} General Mills president, Jim Murphy, said, “People don’t want colors with numbers in their food anymore.”¹¹⁴ The move was not the first by General Mills to appease health-conscious consumers. In 2014, it had announced that its “Original Cheerios” were GMO-free.¹¹⁵ A large number of other food manufacturers and restaurants, including Subway, Pizza Hut, Panera, and Hershey made similar announcements and vowed to reduce artificial ingredients in their products.¹¹⁶

Artificial ingredients were not the only targets—many corporations also sought to reduce fat and sugar in their products. In 2013, The Dannon Company (“Dannon”) made a 3-year commitment in partnership with The Partnership for a Healthier America (PHA), a nonpartisan nonprofit organization that works with the private sector on mitigating the childhood obesity crisis. Dannon pledged to not only improve the nutrient density of its product portfolio (e.g., increase amount of Vitamin D), but also to reduce the amount of fat and sugar in its products by June, 2016.¹¹⁷ In 2015, Dannon announced that it had reached its goal to reduce the amount of total sugar in its products to 23 g or less per 6-oz serving in all products for children and 70 % of its overall products.¹¹⁸

Some companies went a step further to not only remove harmful ingredients, but to reengineer the core purpose of their products. Nestlé, a food and drink company known for confectionary and frozen dinners, was on a mission to redefine itself as a scientifically driven wellness company.¹¹⁹ In 2016, a *Bloomberg Businessweek* article showcased how the company hoped to soon offer medical treatments—delivered through food.¹²⁰ By 2016, the Nestlé Institute of Health Sciences employed over 160 scientists focused on new product development. Nestlé Health Science, a sub-

¹¹²General Mills, “Company Overview: Making food with passion for 150 years,” *General Mills website*, <https://www.generalmills.com/en/Company/Overview>, accessed December 2015.

¹¹³James Hamblin, “Lucky Charms, the New Superfood,” *The Atlantic*, June 23, 2015, <http://www.theatlantic.com/health/archive/2015/06/general-mills-to-phase-out-artificial-cereal-dyes/396536/>, accessed December 2015.

¹¹⁴*Ibid.*

¹¹⁵Tom Forsythe, “The One and Only Cheerios,” *taste of General Mills blog*, accessed at <http://www.blog.generalmills.com/2014/01/the-one-and-only-cheerios/>, accessed January 2016.

¹¹⁶The Associated Press, “No More Artificial Colors for Trix or Reese’s Puffs,” *The New York Times*, June 22, 2015, <http://www.nytimes.com/2015/06/23/business/no-more-artificial-colors-for-trix-or-reeses-puffs.html>, accessed December 2015.

¹¹⁷Partnership For A Healthier America, “Dannon,” *Partnership For A Healthier America website*, [http://ahealthieramerica.org/our-partners/#Dannon,5578,partner hide](http://ahealthieramerica.org/our-partners/#Dannon,5578,partner%20hide), accessed December 2015.

¹¹⁸PR Newswire, “The Dannon Company Makes Significant Year One Progress Toward Partnership For A Healthier America Commitment,” February 25, 2015, <http://www.prnewswire.com/news-releases/the-dannon-company-makes-significant-year-one-progress-toward-partnership-for-a-healthier-america-commitment-300041131.html>, accessed December 2015.

¹¹⁹Matthew Campbell and Corinne Gretler, “Nestlé Wants to Sell You Both Sugary Snacks and Diabetes Pills,” *Bloomberg Businessweek*, May 5, 2016, <http://www.bloomberg.com/news/features/2016-05-05/nestl-s-sugar-empire-is-on-a-health-kick>, accessed May 2016.

¹²⁰*Ibid.*

sidiary with more than 3000 employees, commercialized these new, healthier products.¹²¹ Some would likely require a prescription, while others would be sold over-the-counter.¹²² Though questions remained regarding the regulation of such products, *Bloomberg Businessweek* wrote:

If this vision is realized, a visit to the family doctor in a decade's time might end with a prescription for a tasty Nestlé shake for heart trouble or a recommendation for an FDA-approved tea to strengthen aging joints. The company would expand from the vending machine and supermarket to the pharmacy, doctor's office, and hospital. At the same time, it would keep its core food and sweets businesses. In other words, Nestlé would sell a problem with one hand and a remedy with the other.¹²³

Supply Chain Management

In the food industry, many companies increased vigilance around supply chain management due to consumer and regulator concerns around contaminants in food—especially as food industries matured in emerging markets and the food supply chain globalized.¹²⁴ In 2015, Dr. Margaret Chan, Director-General of the World Health Organization (WHO), stated:

Food production has been industrialized and its trade and distribution have been globalized. These changes introduce multiple new opportunities for food to become contaminated with harmful bacteria, viruses, parasites, or chemicals. A local food safety problem can rapidly become an international emergency. Investigation of an outbreak of foodborne disease is vastly more complicated when a single plate or package of food contains ingredients from multiple countries.¹²⁵

Consumer concerns around food safety were not new; however, they had increased throughout the late 2000s due to several high-profile food recalls and a new consumer focus on understanding ingredients and potential allergens (e.g., gluten, dairy) in foods.¹²⁶ In 2007, regulators recalled pet food when 14 pets died from food contaminated with melamine that had been manufactured in China.¹²⁷ Melamine also contaminated milk products in China in 2008, killing six infants and making more than 300,000 ill.¹²⁸ In addition, many consumers sought confirmation

¹²¹ Ibid.

¹²² Ibid.

¹²³ Ibid.

¹²⁴ John A. Quelch and Margaret L. Rodriguez, "Mérieux NutriSciences: Marketing Food Safety," HBS No. 516-024 (Boston: Harvard Business School Publishing, 2015).

¹²⁵ World Health Organization, "World Health Day 2015: From farm to plate, make food safe," *WHO website: Media centre*, April 2, 2015, <http://www.who.int/mediacentre/news/releases/2015/food-safety/en/>, accessed December 2015.

¹²⁶ John A. Quelch and Margaret L. Rodriguez, "Mérieux NutriSciences: Marketing Food Safety," HBS No. 516-024 (Boston: Harvard Business School Publishing, 2015).

¹²⁷ Ibid.

¹²⁸ Ibid.

of “authenticity” from their food—that is, what they were eating was what they thought they were eating. In 2013, the media reported that frozen burgers from UK retailer, Tesco, labelled as beef contained horse meat.¹²⁹

However, it wasn’t only global supply chains that presented challenges; sometimes, using more local ingredients also created issues. Chipotle Mexican Grill Inc. (“Chipotle”), a fast-casual Mexican restaurant, prided itself on fresh ingredients and producing “food with integrity.”¹³⁰ Unlike many other fast-food chains, it used local ingredients and fresh produce.¹³¹ However, in 2015, several disease outbreaks showcased that scaling the local food movement could be difficult and even detrimental to public health. It experienced an *E. coli* outbreak in nine states, sickening over 50 people in total.¹³² In a separate incident, more than 140 Boston College students caught the norovirus after eating at a Chipotle near their campus.¹³³ The chain was forced to reevaluate its use of local ingredients—especially fresh produce. Following these incidents, media reports stated that Chipotle was expected to lower its use of locally-sourced ingredients and centralize the preparation of most vegetables.¹³⁴ Many were quick to point out that Chipotle was moving its practices in the same direction as many of the other fast-food companies that it had previously criticized.¹³⁵

Safety Testing

Corporations across many kinds of industries pursued consumer health through enhanced manufacturing processes and product testing. For many of the same reasons that they invested in supply chain management, food and beverage companies also pursued enhanced safety testing. Regulators in the US supported growth in food testing and quality assurance. The FDA stated that it passed the Food Safety

¹²⁹ Felicity Lawrence, “Horsemeat scandal: where did the 29 % horse in your Tesco burger come from?,” *The Guardian*, October 22, 2013, <http://www.theguardian.com/uk-news/2013/oct/22/horsemeat-scandal-guardian-investigation-public-secrecy>, accessed December 2015.

¹³⁰ Chipotle, “Food with Integrity,” *Chipotle website*, <https://www.chipotle.com/food-with-integrity>, accessed December 2015.

¹³¹ Julie Jargon, “Chipotle Pulls Back on Local Ingredients,” *The Wall Street Journal*, December 15, 2015, <http://www.wsj.com/articles/chipotle-heads-back-to-the-test-kitchen-1450205438>, accessed December 2015.

¹³² Ibid.

¹³³ Kristi Palma, “Everything you need to know about norovirus, the illness afflicting Boston College students,” *Boston.com*, December 10, 2015, <http://www.boston.com/health/2015/12/10/everything-you-need-know-about-norovirus-the-illness-afflicting-boston-college-students/u2SdZ-NUKSk6rgZKyqA53VI/story.html>, accessed December 2015.

¹³⁴ Julie Jargon, “Chipotle Pulls Back on Local Ingredients,” *The Wall Street Journal*, December 15, 2015, <http://www.wsj.com/articles/chipotle-heads-back-to-the-test-kitchen-1450205438>, accessed December 2015.

¹³⁵ Ibid.

Modernization Act (FSMA)—the most extensive reform in food safety laws in 70 years—in 2011 to “ensure the US food supply [was] safe by shifting the focus from responding to contamination to preventing it.”¹³⁶

Because of this, the global food testing market was poised to grow; it was roughly \$3.5 billion in 2014 and was projected to reach \$4.6 billion by 2018.¹³⁷ Companies that invested in food testing included food manufacturers, retailers (e.g., grocery and drug stores), and restaurants; while some of these corporations kept such testing in-house, increasingly, many others opted to outsource these responsibilities to food safety and testing companies.¹³⁸

While implementing safety testing was a crucial first step in promoting consumer safety, safety testing on its own was not enough—businesses also needed adequate reporting protocols for safety issues identified during the testing process. In February 2014, General Motors (“GM”) issued recalls for over 2 million cars that had faulty ignition switches, causing the car’s engine to shut off while still in motion and disabling air bags from deploying.¹³⁹ Interestingly, GM admitted that several employees knew about the problem—it was first identified in 2001.¹⁴⁰ In 2004, GM engineers had suggested a solution to the faulty switch, but executives decided against implementing it due to concerns around the lead time required, cost and effectiveness.¹⁴¹

This inadequate level of reporting had disastrous consequences. Reports estimated that the defect caused over 120 deaths and 275 injuries.¹⁴² In 2014, the National Highway Traffic Safety Administration (NHTSA) required GM to pay a \$35 million civil penalty for its delayed reporting of the defect.¹⁴³ In 2015, GM paid \$900 million to settle federal charges and another \$575 million to settle civil lawsuits.¹⁴⁴ GM’s CEO Mary Barra said, “I have said many times I wish I could turn

¹³⁶U.S. Food and Drug Administration, “FDA Food Safety Modernization Act (FSMA),” *FDA website*, <http://www.fda.gov/Food/GuidanceRegulation/FSMA/>, accessed December 2015.

¹³⁷John A. Quelch and Margaret L. Rodriguez, “Mérieux NutriSciences: Marketing Food Safety,” HBS No. 516-024 (Boston: Harvard Business School Publishing, 2015).

¹³⁸*Ibid.*

¹³⁹Tanya Basu, “Timeline: A History Of GM’s Ignition Switch Defect,” *NPR*, March 31, 2014, <http://www.npr.org/2014/03/31/297158876/timeline-a-history-of-gms-ignition-switch-defect>, accessed December 2015.

¹⁴⁰*Ibid.*

¹⁴¹Christopher Jensen, “In General Motors Recalls, Inaction and Trail of Fatal Crashes,” *The New York Times*, March 2, 2014, <http://www.nytimes.com/2014/03/03/business/in-general-motors-recalls-inaction-and-trail-of-fatal-crashes.html>, accessed December 2015.

¹⁴²Jeff Glor, “GM CEO: ‘I wish I could turn back the clock’,” *CBS News*, September 17, 2015, <http://www.cbsnews.com/news/gm-ceo-i-wish-i-could-turn-back-the-clock/>, accessed December 2015.

¹⁴³Tanya Basu, “Timeline: A History Of GM’s Ignition Switch Defect,” *NPR*, March 31, 2014, <http://www.npr.org/2014/03/31/297158876/timeline-a-history-of-gms-ignition-switch-defect>, accessed December 2015.

¹⁴⁴Jeff Glor, “GM CEO: ‘I wish I could turn back the clock’,” *CBS News*, September 17, 2015, <http://www.cbsnews.com/news/gm-ceo-i-wish-i-could-turn-back-the-clock/>, accessed December 2015.

back the clock. If we could we would but the only thing we can do is make sure we respond in the right way and we have done that in the case and we continue to do so in everything.”¹⁴⁵

Packaging

Packaging—the means by which a product was stored, shipped, and sold—could change its health effects on consumers. While some packaging decisions were purely made for aesthetic reasons, packaging was also sometimes used to control serving size or dose, promote safety (e.g., tamper-proof packaging), or preserve freshness (e.g., controlled atmosphere packaging).

Many food and beverage companies changed their packaging to control serving sizes. Some in the beverage industry created smaller bottles or cans to appeal to consumers looking for healthier options. Regan Ebert, the senior vice president for marketing at Dr. Pepper Snapple Group said, “There’s consumers out there that don’t want to consume too much. [The small cans] do a good job of solving that need for consumers.”¹⁴⁶

Other industries also utilized innovations in packaging to promote consumer health. In 2012, single-load laundry detergent pods hit the market.¹⁴⁷ The pods were often small and filled with brightly colored detergent, with a thin outer layer that dissolved when wet. However, this appearance closely resembled candy, causing many children, and some seniors with dementia, to ingest the pods.¹⁴⁸ (See Exhibit 2.4 for a picture of a laundry pod.) By mid-2015, more than 33,000 children aged five and under in the US had been exposed to the contents of laundry packets since 2012.¹⁴⁹ Though some children became so ill after ingestion that they required intubation and more intensive care, the most common reactions were vomiting, lethargy, irritated eyes, and coughing or choking.¹⁵⁰

¹⁴⁵ Ibid.

¹⁴⁶ Margot Sanger-Katz, “The Decline of Big Soda,” *The New York Times*, October, 4, 2015, <http://www.nytimes.com/2015/10/04/upshot/soda-industry-struggles-as-consumer-tastes-change.html>, accessed December 2015.

¹⁴⁷ Catherine Saint Louis, “Detergent Pods Pose Risk to Children, Study Finds,” *The New York Times*, November 10, 2014, <http://www.nytimes.com/2014/11/10/health/detergent-pods-pose-risk-to-children-study-finds.html>, accessed December 2015.

¹⁴⁸ Serena Ng, “Detergent Makers to Add Bitter Substance to Laundry Pods,” *The Wall Street Journal*, June 30, 2015, <http://www.wsj.com/articles/laundry-pod-makers-take-steps-to-prevent-accidental-ingestion-1435692400>, accessed December 2015.

¹⁴⁹ Ibid.

¹⁵⁰ Catherine Saint Louis, “Detergent Pods Pose Risk to Children, Study Finds,” *The New York Times*, November 10, 2014, <http://www.nytimes.com/2014/11/10/health/detergent-pods-pose-risk-to-children-study-finds.html>, accessed December 2015.

Exhibit 2.4: Laundry Pod

Source: Casewriter.

In response, manufacturers made more secure closures and opaque packaging so that the contents were not visible; however, despite these efforts the accidental poisonings continued.¹⁵¹ In 2015, European regulators required laundry pod manufacturers to use an aversive agent on the outside of the pods to make them taste bitter.¹⁵² Procter & Gamble Co. (“P&G”), which not only operated in European markets, but also sold over 75 % of the laundry pods bought in the US, announced that it would also add a bitter-tasting substance to laundry pods sold in the US.¹⁵³ P&G also redesigned the packets to withstand the squeezing pressure of children, as well as delay release of the liquid detergent if ingested.¹⁵⁴ Although US regulators did not require the measures, as regulators in Europe did, the U.S. Consumer Product Safety Commission provided input into the standards and reported that it was monitoring the new safety measures for effectiveness.¹⁵⁵

¹⁵¹ Serena Ng, “Detergent Makers to Add Bitter Substance to Laundry Pods,” *The Wall Street Journal*, June 30, 2015, <http://www.wsj.com/articles/laundry-pod-makers-take-steps-to-prevent-accidental-ingestion-1435692400>, accessed December 2015.

¹⁵² Ibid.

¹⁵³ Ibid.

¹⁵⁴ Ibid.

¹⁵⁵ Ibid.

Re-evaluating Sales and Distribution Decisions

Corporations also used pricing, advertising, and distribution strategies to promote public health. Some corporations considered pricing strategies that included selling health-promoting products for lower prices in developing markets. Others used narrow or controlled distribution channels to ensure consumers accessed products appropriately. However, these kinds of decisions could also detract from consumer health. For example, some large food companies used pricing and distribution decisions to market unhealthy foods to young consumers, like children and teens.¹⁵⁶

Colgate-Palmolive Company (“Colgate”), a leading provider of oral care products, considered such strategies in 2013 when it launched a new anti-cavity toothpaste, the Colgate® Maximum Cavity Protection™ plus Sugar Acid Neutralizer™.¹⁵⁷ In both developing and industrialized countries, cavities had remained a significant public health threat, and the new toothpaste formulation was clinically proven to reduce and prevent cavities more effectively than toothpaste with only fluoride.¹⁵⁸ Initially, Colgate created the product for sale in emerging markets, where it wanted to ensure that consumers could access it.¹⁵⁹ As the product launched, Colgate sought a balance between an affordable launch price to ensure an improved public health benefit and enough of a premium price over existing options to drive both credibility and profitability.¹⁶⁰

Luvo, a food company that produced healthy frozen meals, improved marketing efficiency by leveraging its social media presence; then diverted the saved marketing dollars into improved product quality. To aid brand promotion, the company recruited several well-known brand ambassadors, including an Olympic swimmer and NFL quarterback to promote its products and serve as investors.¹⁶¹ Ultimately, the company aimed to produce meals that were not only safe, minimally processed, low in sodium and sugar, with 1–3 servings of vegetables, but also affordable.¹⁶² Despite a declining frozen food industry, the company had grown quickly and its products were sold in over 5000 grocery stores as of September, 2015.¹⁶³

¹⁵⁶ KJ DELL’ANTONIA, More Research Suggests Fast-Food Advertising Works on Children,” *The New York Times*, October 30, 2015, <http://parenting.blogs.nytimes.com/2015/10/30/more-research-suggests-fast-food-advertising-works-on-children/>, accessed May 2016.

¹⁵⁷ John A. Quelch and Margaret L. Rodriguez, “Colgate-Palmolive Company: Marketing Anti-Cavity Toothpaste,” HBS No. 515-050 (Boston: Harvard Business School Publishing, 2015).

¹⁵⁸ Ibid.

¹⁵⁹ Ibid.

¹⁶⁰ Ibid.

¹⁶¹ Staff Writer, “How Luvo Is Bringing The Heat To Frozen Foods,” *Fast Company*, September 14, 2015, <http://www.fastcompany.com/3050162/most-innovative-companies/how-luvo-is-bringing-the-heat-to-frozen-foods>, accessed May 2016.

¹⁶² Luvo, “Our Story: Nutrition,” *Luvo Website*, <http://luvoinc.com/our-story/nutrition/#E6Qyyb3hQ0EYBYgX.97>, accessed May 2016.

¹⁶³ Staff Writer, “How Luvo Is Bringing The Heat To Frozen Foods,” *Fast Company*, September 14, 2015, <http://www.fastcompany.com/3050162/most-innovative-companies/how-luvo-is-bringing-the-heat-to-frozen-foods>, accessed May 2016.

Many businesses took precautions to ensure that the right consumers accessed their products, making advertising and distribution decisions that promoted consumer health. A product could be safe or health-promoting for some individuals and health-harming for others. For example, in the medical marijuana industry, the drug could be a great benefit to those individuals with chronic pain; however, adolescent use of marijuana had been shown to cause several harmful long term outcomes.¹⁶⁴ Therefore, proper distribution channels were a necessity. Research in 2015 had shown that adolescent use of marijuana did not increase significantly after a state passed a medical marijuana law, meaning that just because a state had laws legalizing the medical usage of marijuana, teens were not using it more frequently.¹⁶⁵

Improving Consumer Use

Many corporations sought to improve on how consumers used their products and services. To improve consumer use, corporations provided services such as detailed instructions or ongoing customer support. In 2016, Mars, a chocolate manufacturer, went a step further and began guiding the use of its products—advising consumers to eat some of its less healthy food products only once a week.¹⁶⁶ This strategy differed from that of other food manufacturers that opted to switch the ingredients in their products to healthier options. Because food companies could face significant backlash from unhappy customers when they changed their recipes—especially if they weren’t transparent about it—encouraging reduced consumption with the same recipes offered an alternative strategy.¹⁶⁷ While some commended the company’s efforts, others argued that food manufacturers had a responsibility to move consumer taste preferences towards healthier options.¹⁶⁸

David Katz, the founding director of the Yale-Griffin Prevention Research Center, stated, “Taste buds prefer what they are used to. Food companies have played a central role in getting American taste buds used to ...junk... but the process can be reverse engineered.”¹⁶⁹

¹⁶⁴Deborah S Hasin, Prof Melanie Wall, Katherine M Keyes, Magdalena Cerdá, Prof John Schulenberg, Prof Patrick M O’Malley, Prof Sandro Galea, Prof Rosalie Pacula, Tianshu Feng, “Medical marijuana laws and adolescent marijuana use in the USA from 1991 to 2014: results from annual, repeated cross-sectional surveys,” *The Lancet*, July 2015, Volume 2, No. 7, pp. 601–608.

¹⁶⁵Ibid.

¹⁶⁶Scheherazade Daneshkhu, “Big Food in Health Drive to keep Market Share,” *Financial Times*, April, 26, 2016, <http://www.ft.com/cms/s/0/83f05ea8-08a3-11e6-a623-b84d06a39ec2.html>, accessed May 2016.

¹⁶⁷Ibid.

¹⁶⁸Ibid.

¹⁶⁹Ibid.

23andMe, a personal genomics company that offered direct-to-consumer genetic testing, also faced serious challenges in the area of appropriate consumer use.¹⁷⁰ In order to achieve FDA-approval for its genetic tests and wellness reports, the company had to certify that it could convey this complicated, genetic information at a very basic reading level to consumers.¹⁷¹ Because consumers might make health decisions based on the information, creating a foundational consumer understanding of genetics had become a critical part of the company's mission.

Advocating for Improved Disposal

Other businesses sought more healthful ways for consumers to dispose of products. As environmental conditions affected health, ensuring that consumers were able to recycle products contributed to consumer health.¹⁷² Therefore, some corporations began to consider not only how consumers could appropriately use their products, but also how they could properly dispose of them.

Hewlett-Packard Company ("HP"), which provided computer hardware and software solutions, had developed extensive recycling and remanufacturing programs to reduce the environmental impact of product disposal. In 2015, it offered take-back programs in 73 countries and territories.¹⁷³ HP stated, "We are committed to helping our customers recycle responsibly, recovering 2.8 billion pounds of products since 1987." It also used "closed loop" recycled plastic in more than 75 % of its ink cartridges, meaning that the ink cartridges contained 50–70 % recycled plastic. HP also had remanufacturing programs, which aimed to refurbish hardware, thus reducing the environmental impact of disposal.¹⁷⁴

While individual corporations created programs to promote recycling and appropriate disposal, recycling rates also varied across the world due to local recycling laws. For example, in the early 1990s, Germany passed an expansive recycling law.¹⁷⁵ A 1992 *Harvard Business Review* article on the topic stated:

Germany's packaging ordinance, passed in April 1991, is probably the most ambitious environmental legislation any nation has ever attempted. It obliges retailers to take back

¹⁷⁰ 23andMe, "Reports," *23andMe website*, <https://www.23andme.com/service/>, accessed May 2016.

¹⁷¹ Ibid.

¹⁷² Healthy People 2020, "Environmental Health," *HealthyPeople.gov website*, <http://www.healthy-people.gov/2020/topics-objectives/topic/environmental-health>, accessed December 2015.

¹⁷³ HP, "Reuse & recycling at HP," *HP website: Sustainability*, <http://www8.hp.com/us/en/hp-information/environment/recycling-reuse.html>, accessed December 2015.

¹⁷⁴ HP, "Reuse & recycling at HP," *HP website: Sustainability*, <http://www8.hp.com/us/en/hp-information/environment/recycling-reuse.html>, accessed December 2015.

¹⁷⁵ Eliot Brown, "Germans Have a Burning Need for More Garbage," *The Wall Street Journal*, October 19, 2015, accessed at <http://www.wsj.com/articles/germans-have-a-burning-need-for-more-garbage-1445306936>, accessed January 2016.

packaging from customers, manufacturers to retrieve it from retailers, and packaging companies to reclaim it from manufacturers.¹⁷⁶

By 2015, Germany had one of the highest recycling rate worldwide—recycling around 65 % of household trash.¹⁷⁷ In 2013, about 34 % of waste in the US was recycled.¹⁷⁸

Advancing Industry Standards

Many corporations advanced standards in their respective industries to promote consumer health. When a corporation shaped regulation to create a higher safety or health standard, it not only shaped its own destiny, but also often forced other companies in its industry to consider similar changes. In February 2014, CVS Caremark (“CVS”) announced that it would stop selling tobacco products in its stores by October, 2014. To explain the decision, Larry Merlo, President and CEO of CVS, wrote:

By removing tobacco products from our retail shelves, we will better serve our patients, clients and health care providers while positioning CVS Caremark for future growth as a health care company. Cigarettes and tobacco products have no place in a setting where health care is delivered. This is the right thing to do.¹⁷⁹

The move to take tobacco off its shelves was not only a boon for public health, it was also strategic for CVS. As part of the initiative, CVS ran an anti-smoking campaign, thus enabling the company to project a positive image to consumers and market anti-smoking aids.^{180,181} The decision also allowed CVS to create better partnerships with local health systems and refocused its efforts on its core business—prescriptions.¹⁸² Also in 2014, CVS announced that it would be changing its name

¹⁷⁶Frances Cairncross, “How Europe’s Companies Reposition to Recycle,” *Harvard Business Review*, March–April 1992, accessed at <https://hbr.org/1992/03/how-europes-companies-reposition-to-recycle>, accessed January 2016.

¹⁷⁷Eliot Brown, “Germans Have a Burning Need for More Garbage,” *The Wall Street Journal*, October 19, 2015, accessed at <http://www.wsj.com/articles/germans-have-a-burning-need-for-more-garbage-1445306936>, accessed January 2016.

¹⁷⁸United States Environmental Protection Agency, “Advancing Sustainable Materials Management,” June 2015, accessed at http://www3.epa.gov/epawaste/nonhaz/municipal/pubs/2013_advncng_smm_fs.pdf, accessed January 2016.

¹⁷⁹CVS Health, “Message from Larry Merlo, President and CEO,” *CVS Health website*, February 5, 2014, <https://www.cvshealth.com/newsroom/message-larry-merlo>, accessed December 2015.

¹⁸⁰Kyle Stock, “The Strategy Behind CVS’s No-Smoking Campaign,” *Bloomberg Business*, February 5, 2014, <http://www.bloomberg.com/bw/articles/2014-02-05/the-strategy-behind-cvss-no-smoking-campaign>, accessed January 2016.

¹⁸¹CVS Health, “Stop Smoking,” *CVS website*, <http://www.cvs.com/shop/health-medicine/stop-smoking/N-3tZ13ljqZ2k>, accessed January 2016.

¹⁸²Kyle Stock, “The Strategy Behind CVS’s No-Smoking Campaign,” *Bloomberg Business*, February 5, 2014, <http://www.bloomberg.com/bw/articles/2014-02-05/the-strategy-behind-cvss-no-smoking-campaign>, accessed January 2016.

from “CVS Caremark” to “CVS Health” to reflect a broader commitment to its role in healthcare provision and innovation.¹⁸³ An article in *The New York Times* stated, “Its stand against smoking has allowed CVS to make alliances with health care providers and rebrand itself fully as a health care company. But with smoking rates on a steady decline, and cigarettes sales slumping, CVS also saw that future profits lie not with Big Tobacco but in health and wellness.”¹⁸⁴

This suggested that, resulting from better partnerships with health systems and increased prescription sales, total profit implications of the decision might be positive in the long-term. In February 2015, CVS positively announced that net revenues in the fourth quarter of 2014 increased 12.9 % to a record \$37.1 billion.¹⁸⁵ However, in August 2015, CVS announced that while prescription sales continued to rise and second quarter year-over-year net revenue increased 7 %, general merchandise, same-store sales had fallen nearly 8 % the previous quarter.^{186,187} CVS blamed that decline on the tobacco ban.¹⁸⁸

To evaluate the public health impact of their decision to halt tobacco sales, the CVS Health Research Institute conducted a study the following year.¹⁸⁹ The study compared cigarette pack sales in states where CVS had a 15 % or greater share of the retail pharmacy market to states where its market share was less significant; it found an additional one percent decrease in cigarette sales in states where CVS had greater market share. The study also showed a 4 % increase in nicotine patch purchases in the states with greater CVS market share, signaling an increased consumer desire to quit smoking.¹⁹⁰ Though the results were modest, the decision to remove cigarettes from the shelves seemed to positively impact consumer health.

¹⁸³ CVS Health, “Our New Name,” *CVS Health website*, September 3, 2014, <http://www.cvshealth.com/newsroom/our-new-name>, accessed December 2015.

¹⁸⁴ Hiroko Tabuchi, “How CVS Quit Smoking and Grew Into a Health Care Giant,” *The New York Times*, July 11, 2015, <http://www.nytimes.com/2015/07/12/business/how-cvs-quit-smoking-and-grew-into-a-health-care-giant.html>, accessed January 2016.

¹⁸⁵ CVS Health, “CVS Health Reports Strong Profit Growth For Full Year 2014; Fourth Quarter Adjusted EPS At High End Of Company’s Expectations,” *CVS website*, February 10, 2015, accessed at <http://www.cvshealth.com/content/cvs-health-reports-strong-profit-growth-full-year-2014-fourth-quarter-adjusted-eps-high-end>, accessed January 2016.

¹⁸⁶ CVS Health, “CVS Health Reports Record Second Quarter Results,” *CVS website*, August 4, 2015, accessed at <http://www.cvshealth.com/content/cvs-health-reports-record-second-quarter-results>, accessed January 2016.

¹⁸⁷ Matt Egan, “CVS banned tobacco. Now its sales are hurting,” *CNN Money*, August 4, 2015, <http://money.cnn.com/2015/08/04/investing/cvs-earnings-cigarettes/>, accessed December 2015.

¹⁸⁸ *Ibid.*

¹⁸⁹ CVS Health, “CVS Health Marks First Anniversary of Tobacco Removal With New Data on Decision’s Impact, Extends Commitment to Creating Tobacco-Free Generation,” *Press release: CVS Health website*, September 3, 2015, <https://www.cvshealth.com/content/cvs-health-marks-first-anniversary-tobacco-removal-new-data-decision%E2%80%99s-impact-extends>, accessed December 2015.

¹⁹⁰ *Ibid.*

Conclusion

Through their products and services, businesses had profound impacts on consumer health. This case has assessed the reasons why some corporations took efforts to improve consumer health, as well as the methods by which they did so. There were many consumer health questions that remained.

Discussion Questions on Consumer Health

1. What level of responsibility should corporations have for providing consumer safety? Given that consumers have, and often want, freedom of choice, how much of this responsibility should fall to consumers? How much responsibility should fall to governments or other regulators?
2. To what degree should corporations or trade organizations influence policy and regulation standards? Are they overly influential today?
3. How should corporations forecast unintended public health consequences of new technologies (e.g., ear damage or hearing loss from headphones, carpal tunnel syndrome from keyboards)?

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