



FACTORS THAT INFLUENCE SUSTAINABLE PRODUCT INNOVATION IN THE CPG INDUSTRY



DISCUSSION PAPER

Dr. Ashish Pujari

Introduction

The consumer packaged goods (CPG) industry makes significant contributions to employment and economic activity in Canada. Not surprisingly, there is also an environmental impact of the CPG industry that is significant with respect to a product's life cycle, energy, emissions, transportation, supply-chain, water, waste, etc. that need continued attention. Not responding to sustainability issues proactively may lead to CPG companies facing significant challenges that could hamper their growth. On the other hand, addressing sustainability challenges strategically can provide significant market opportunities. Various reports and research indicate that sustainability-marketed product introductions in the CPG industry have seen significant growth in recent years. For example, in the US, across all categories (except alcohol and tobacco), sustainability-marketed products had 113.9 billion dollars of sales in 2018 (and 29% more sales in 2018 than in 2013) and account for 16.6% share of market, up from 14.3% in 2013. Further, even with 16.6% of market share held by sustainability-marketed products, more than half (50.1%) of the market growth is coming from these products as well¹. These results are hard evidence that sustainability-marketed products are driving sales and market growth in the CPG industry.

Even though sustainable products are beginning to become mainstream, it is sometimes unclear what it means to be a sustainable product. Broadly speaking, a sustainable product in the CPG industry can be any product that has a low impact on the environment and communities. More specifically, any product that, during its entire life cycle uses less energy and fewer materials, creates less pollution, produces less waste and takes care of its stakeholders (e.g. suppliers and communities), would be considered a sustainable product. Further, food products are considered a sustainable product if they are grown in a more environmentally friendly way than conventionally produced food. Given these considerations, sustainable product innovation is clearly a multi-faceted process, wherein understanding economic, environmental and social aspects is paramount to enabling their integration more effectively. It is also important to note that the CPG industry is varied. While not all products have a significant environmental footprint at each stage of physical product life cycle, nor does the footprint stem from all aspects (material, energy, pollution, waste), almost all products have significant environmental impact in at least one of the stages².

¹ Kronthal-Sacco, Randi and Whelan, Tensie (2019), Sustainable Share IndexTM: Research on IRI Purchasing Data (2013-2018) Centre for Sustainable Business, Stern School of Business, New York University.

² Dangelico, R.M. and Pujari, Devashish (2010), Mainstreaming Green Product Innovation: Why and How Companies Integrate Environmental Sustainability, Journal of Business Ethics, 95(3): 471-486

This discussion paper is based on dialogue and conversation that took place in Toronto on June 4, 2019 as part of the eighth annual Leaders in Sustainable Thinking (LIST) series. LIST, founded by Kruger Products and Canadian Grocer in 2012, is the only forum of its kind. It brings together retailers and CPG manufacturers with the purpose of discussing sustainability goals and challenges, and to find opportunities to collaborate in pursuit of potential solutions. Professor Ashish Pujari, a professor of marketing from DeGroote School of Business, McMaster University, delivered a keynote presentation on sustainable product innovation that sparked a lively discussion.

Participants in this year's roundtable included:

Andrew Telfer, VP Health & Wellness and Industry Relations, Retail Council of Canada

Arthur Sylvestre, Media & Digital Lead, Danone

Carol Patterson, (former) Director of Sustainability, Sobeys

Dave Mastroieni, VP Central Procurement and Facilities Management, Longo's

Fiona O'Brien, Director of Marketing & Sr. Manager of Innovation, Danone

Jennifer Barbazza, Sustainability Manager, Walmart Canada

Jennifer Lambert, Sr. Manager, Sustainability, Loblaw Companies Limited

Michelle Saunders, VP Provincial Affairs & Sustainability, Food and Consumer Products of Canada

Pat Pessotto, VP Merchandising/Procurement, Longo's

Ron Soreanu, VP Public Affairs & Communications, Coca Cola Limited

Steven Sage, VP Sustainability & US Marketing, Kruger Products

Ted Ferguson, President, The Delphi Group

The discussion paper outlines key sustainability challenges facing the the CPG industry as well as strategies to avail market opportunities.

Sustainability Challenges

Pre-competitive Thinking:



Broadly speaking, pre-competitive thinking requires companies to share information, resources and capabilities to solve common sustainability challenges. The focus is on co-operation rather than on competition to find innovative solutions that are then shared in industry before products/services are launched in the marketplace. However, this concept really requires a paradigm shift – realizing that collaboration will help everyone's business. This will need a re-thinking of traditional organizational boundaries, vigorously protected to pursue innovation for attaining intellectual property, and open-up the innovation process for developing sustainable products. Industry-wide pre-competitive thinking will also re-align common interest towards sustainability and move towards a culture of sharing - to share innovations and bring industry and society closer to a sustainable future. For example, the Roundtable on Sustainable Palm Oils brings together competitors such as Unilever and Nestlé to support certification of globally produced palm oil³.

Pre-competitive thinking can manifest in several ways as companies pursue collaboration for sustainable product innovation. This may take the form of a specific task force of multiple organizations within an industry or cross-industry collaborations to solve a particular sustainability challenge or continuing collaborations among the companies for ongoing partnerships that share information and resources. One good example that is already taking shape is the sharing of information on science-based life cycle inventory and analysis for materials for various consumer products. Sharing LCA information and resources benefits all companies. Facing a packaging waste crisis in the cosmetics industry in May 2018, Quantis co-founded the Sustainable Packaging Initiatives for CosmEtics (SPICE) with L'Oréal, bringing together several competing cosmetics brands across the world for a common goal: to develop and publish methodologies, eco-design criteria and data to help decision-making and improve the environmental performance of the entire packaging value chain⁴. Similarly, with Greenpeace's initiative to tackle hazardous chemicals in the highly competitive fashion industry, major players in apparel, outdoor and footwear industries joined hands to establish Zero Discharge of Hazardous Chemicals (ZDHC) and created a joint roadmap to eliminate and reduce chemicals. ZDHC, now an independent non-profit entity with its own board of directors, has 20 apparel brand members including suppliers⁵.

Pre-competitive initiatives have a huge potential to solve sustainability challenges, though it is not easy to navigate these efforts. Companies may find it challenging to trust partners and share intelligence (even for the greater good), some of which may have legal ramifications. It is important to note that companies should be aware of the boundaries of the anti-competitive laws and regulations in the countries in which they operate. In summary, the opportunities for pre-competitive collaboration clearly calls for more multi-stakeholder approaches to innovative collaborations.

³ DiVito, Lori and Sharma, Garima (2016), Collaborating with Competitors to Advance Sustainability- A Guide for Managers, Network for Business Sustainability. Retrieved from: <http://www.nbs.net>

⁴ Farther, Faster, Together: The Value of Pre-Competitive Collaboration, Quantis, June 27, 2018. <https://quantis-intl.com/pre-competitive-collaboration/> (accessed on September 7, 2019).

⁵ DiVito, Lori and Sharma, Garima (2016), Collaborating with Competitors to Advance Sustainability- A Guide for Managers, Network for Business Sustainability. Retrieved from: <http://www.nbs.net>

Sustainable-minded Leadership



There are many examples in the consumer product industry that highlight the importance of sustainable-minded leaders at the top and how they have positively influenced their organization's sustainability path. It is not the rigid top-down organizational structure that makes an organization sustainable, but the leadership's sustainable mindset that engages and encourages full participation throughout the organization, as well as influencing the stakeholders along the value chain. When corporate leadership demonstrates a sustainability mindset through words and actions, more creative sustainable ideas emanate from throughout the organization. For example, in 2009

Loblaw senior decision makers showed leadership and made a public commitment to source all of the retailer's seafood from certified sustainable sources. This was a bold move for accelerating and mainstreaming a sustainable certified seafood market in Canada. By 2014, Loblaw was procuring 93% of the seafood products in core categories with MSC or ASC certification. Loblaw's sustainability leadership not only transformed its own business practices, but also set the trend for the whole industry. This multi-pronged strategy involved working with suppliers, collaborating with WWF-Canada and creating consumer awareness in stores and online⁶.

Government Policies



Environmental policies at federal and provincial levels can have significant impact on businesses. Recently, the Canadian federal government announced its intention to ban harmful single-use plastics as early as 2021 where supported by scientific evidence and warranted. The government has also announced that it will take other steps to reduce pollution from plastic products and packaging. Working with provinces and territories, the government of Canada plans to introduce standards and targets for companies that manufacture plastic products or sell items with plastic packaging

so they become responsible for their plastic waste⁷. This announcement is compelling manufacturers and retailers to find alternative forms of packaging that move them away from the current make-use-throw model.

Sound government policies have the power to influence industry to adopt effective sustainability strategies. What is needed to further advance those policies is an apolitical stance on sustainability issues. Too often, environmental policies and incentives are prone to change with the change of government, which creates uncertainty for both business as well as customers. Businesses need greater certainty for long-term investment and planning for sustainability-related technology investment, and customers need confidence that incentives will not go away with the change of government. Constantly changing policies and customer incentives hurts the adoption of sustainable products in the marketplace. However, it is more than just sound and consistent environmental policies. Government can also support industry by working on systems thinking with industry leaders to align policies. This would influence the broader market, including customers and manufacturers, to create more attainable change that is less impacted by government changes.

⁶ LoblawsCommitstoSustainableSeafood,October1,2013,CBConline,<https://www.cbc.ca/news/canada/newfoundland-labrador/loblaws-commits-to-sustainable-seafood-1.1874301>(accessed on September 7, 2019); Loblaw's Sustainable Seafood Progress, WWF-Canada, May 8, 2015, <https://blog.wwf.ca/blog/2015/05/08/loblaws-sustainable-seafood-progress/> (accessed on September 7, 2019).

⁷ <https://pm.gc.ca/en/news/news-releases/2019/06/10/canada-ban-harmful-single-use-plastics-and-hold-companies-responsible>(accessed on October 4, 2019). 5

Waste Management



Waste management is one of the biggest challenges facing business and industry. The Recycling Council of Ontario reports that in 2016, approximately 25 million tonnes of non-hazardous waste was sent to disposal across the country, not dissimilar to the figures in 2014. Broken down by source, the Industrial, Commercial, and Institutional (IC&I) or non-residential sector, generated 14.7 million tonnes (59%) of all waste disposed of in 2016, and the residential sector generated 10.2 million tonnes (41%) of waste⁸. Effective waste management requires

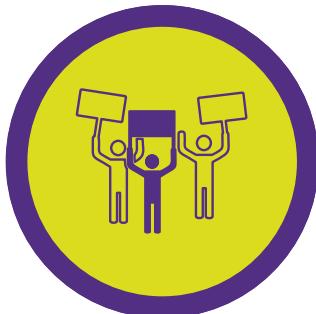
a high level of composting, recycling and upcycling as well as minimum/zero amount of waste going to landfill. However, waste management by the CPG industry can meet stated targets if national, provincial and municipal alignment on what materials can be recycled/composted could be created. This alignment is critical to help manufacturers source appropriate materials and ease consumer confusion. Efforts should be made to align waste management policies of different municipalities as well with regards to what can be recycled and what can be composted. One of the most significant pressures the CPG industry is currently facing relates to plastic use, recycling and disposal. The solution to this challenge will require a multi-stakeholder approach and cross-sector collaborations. Extended Producer Responsibility (EPR), which goes beyond the practice of 'product stewardship', was originated in Europe many years ago. EPR policy essentially puts the responsibility of recycling waste that is recyclable solely on the manufacturers who produce and sell these products. EPR has been a proven success in the province of British Columbia too, with Canada's highest residential recycling rate of 69%. The EPR model in B.C. works on a simple provision - any company that develops, imports or sells a product in B.C. is financially accountable for the recycling of that product⁹. This model has prompted many companies to get together and run this program. This model has a lot of promise, as it provides incentives to innovate in product design, material choice and efficiencies. This program should be looked at across Canada, as full producer responsibility is not required in the rest of the country. Some provinces require producers to pay for part of the recycling program that municipalities operate, but this leads to a lack of agreement between cities on what does or doesn't go into the recycling bin. However, in August 2019, Ontario announced an aggressive timeline for an ERP plan where companies that produce recyclable waste (e.g. plastic bottles, packaging, newsprint, etc.) will take over the operation and entire cost of the province's curbside recycling program by 2025¹⁰. Achieving this timeline will require significant levels of dialogue and partnerships among manufacturers, retailers, cities and policy makers.

⁸ Recycling Council of Ontario, <https://rco.on.ca/canada-waste-statistics/> (accessed on August 7, 2019)

⁹ <https://www2.gov.bc.ca/gov/content/environment/waste-management/recycling/product-stewardship> (accessed on September 7, 2019); https://globalnews.ca/news/5207352/how-to-fix-canadas-recycling-industry/beta/?utm_expid=kz0UD5JkQOC06yMqxGqECg1&utm_referrer=https%3A%2F%2Fwww.google.com%2F (accessed Sept 7, 2019).

¹⁰ "Industry to take lead on Ontario recycling." *Globe & Mail* [Toronto, Canada], 16 Aug. 2019, https://link.gale.com/apps/doc/A596575458/CPI?u=oocl_mcmaster&sid=CPI&xid=ae4a061d. (accessed 3 Oct. 2019).

NGO Pressure



There is a large number of non-government organizations (NGOs) in Canada that advocate for sustainability initiatives and have a lot of influence on consumers and companies/brands. Consequently, companies face significant pressure from NGOs to improve their sustainability performance in products, processes, emissions, social issues, etc. As the sustainability-oriented product innovation process in companies attempts to integrate issues such as materials sourcing, resource efficiency, packaging, waste minimization, labelling, etc., it is important to understand the value NGOs can bring to this process.

Companies need to explore relationships with NGOs based on trust and transparency, rather than mistrust and secrecy. Corporate-NGO collaboration or partnership is a voluntary agreement and can indeed be very fruitful for both parties if there is open communication and trust between the parties. A well-documented case of collaboration is between Greenpeace and Kimberly-Clark, who became trusted allies to tackle deforestation of boreal forests in Canada after years of conflict between them. This change from hostility to become allies is attributed to having the right people to engage with Greenpeace and having transparent conversation with a genuine desire to achieve a common goal¹¹. An effective collaboration is essentially based on mutual respect and education rather than aggressive actions to achieve the shared goal of change for sustainability. If NGOs are carefully chosen for partnership or collaboration, they can be a complementary resource for the companies, as some NGOs may possess specialized knowledge or competency on specific sustainability challenges in product development. WWF and Unilever partnered for developing standards for sustainable fishing practices that later culminated into MSC, an independent non-profit body that sets the standards and provides certification in the fishing industry. What started as a cross-sector collaboration between WWF and Unilever now positively impacts the fishing industry in around 100 countries (and helped facilitate the Loblaw commitment noted earlier). More recently, in 2018 WWF and Tesco (the largest retailer in the UK) started a very bold four-year collaboration to establish a measure to halve the environmental impact of the average UK shopping basket within 12 months - with goals of eliminating food waste, packaging waste and encouraging consumption of sustainable food¹².

¹¹ Greenpeace and Tissue Giant Kimberly-Clark: From Enemies to Allies, The Guardian, September 8, 2014 (accessed on September 7, 2019)

¹² Tesco and WWF bid to 'halve environmental impact' of UK Groceries, The Guardian, November 16, 2018 (accessed on September 7, 2019).

Systems Thinking



Systems thinking should be a vital part of the sustainability-oriented product innovation process. Broadly speaking, systems thinking is a holistic approach that demonstrates an inter-related, inter-dependent and non-linear set of elements or activities that make a unified whole. Sustainable product innovation should consider the entire physical life cycle of a product, from materials and production to use and discarding in a way that demonstrates connectedness between each stage of the life cycle and inter-relationship with the larger natural eco-system.

This requires collaboration of different players, including multi-stakeholders. A systems approach to sustainable product innovation will also require an understanding of the principles of circular economy, wherein waste (in other words a by-product) of one product or a product development stage becomes input for another product in the same company or even in a completely different industry. For example, Shaw Industries applies systems thinking for its carpets and flooring products, in an effort to create an alternate system to the make-use-throw model. It reduces the number of raw materials and these materials are continuously disassembled and remanufactured. Shaw also uses a closed-loop system in its production process with regards to water use¹³. Similarly, in the car industry, Ford diverts recycled plastic bottles from landfill and processes them at Ford factories to make floor carpeting and wheel liners in some of their products. Further, Ford uses recycled cotton from scrap cuttings from the making of T-shirts and denim jeans to make interior padding and sound insulation in their cars and trucks. Ford also uses post-industrial and post-consumer recycled PET from water and soda bottles to make seat fabrics in several vehicles it produces¹⁴.

¹³ <https://shawinc.com/2018sustainabilityreport> (accessed on October 4, 2019).

¹⁴ <https://corporate.ford.com/microsites/sustainability-report-2018-19/assets/files/sr17.pdf> (accessed on October 4, 2019).

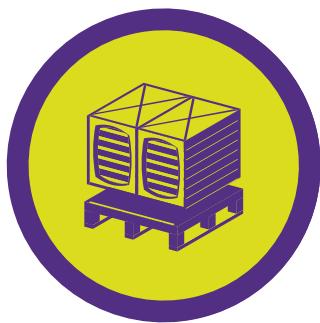
Entrepreneurial Opportunities



One of the interesting trends in the past few years has been an explosion of small brands in the CPG industry, several of them the result of eco-entrepreneurship who largely sell online. Some of these new small brands have seen more growth than incumbent brands as the trend towards sustainability has accelerated. As a result, large CPG companies tend to buy new small brands that are formed out of a sustainability mindset. For example, Unilever acquired Ben & Jerry's in 2000 and successfully maintained its brand values of sustainability, advocacy and CSR. Similarly, when Danone bought out natural and organic yogurt firm Stonyfield Farm, it adopted Stonyfield's practices into its own, leading to reduction in its carbon footprint, connecting with sustainable farmers and other CSR activities. Other examples include buying a 90% stake by The Coca-Cola Company in Innocent Drinks (from UK), Nestlé's acquisition of Sweet Leaf Tea Co. in 2011, Unilever's acquisition of Seventh Generation in 2016 and Clorox buying Burt Bees in 2007.

This is one way of tapping the sustainability opportunity, but this reactive approach is more opportunistic and risky rather than strategic. For every successful small new sustainable brand, there are several entrepreneurial companies that do not make it. One of the reasons could be a lack of network with larger companies with resources. To make sustainable innovation mainstream and meet consumer demand for sustainable products, we need to create opportunities for innovative thinkers to network with big companies and find tangible solutions to sustainability challenges. This will require larger incumbent companies to open up their innovation process and collaborate and help small eco-entrepreneurial ventures with resources with a venture capital mindset right from an early stage. Without outside-of-the-box thinking, sustainable innovation won't reach its full potential. One interesting case to illustrate creative thinking is that of Loblaw's support for an app called Flash Food. The app connects the retailer and consumers by alerting consumers of food nearing expiry date in grocery stores. This app enables consumers to purchase near-expiry food on reduced prices if purchased through the app, as well as prevents food from going to landfill. This collaboration is a big benefit to Loblaw because it reduces the amount of product sent to landfill, and also sends a signal to the industry and consumers that Loblaw is tackling the major issue of food waste.

Supply of Sustainable Materials



Around 90% of the CPG industry's carbon emissions lie in the value chain, leaving it exposed to raw material risks¹⁵. Any new product is as sustainable as the sustainable materials or parts used in the development of that product. For scaling sustainable product innovation throughout the product portfolio, it is crucially important to have an adequate supply of sustainable materials. Whether it is renewable forests, sustainably grown and well managed fish stocks or natural and biodegradable ingredients, without an adequate supply of sustainable materials, company policies and goals are meaningless.

CPG companies will be well advised to have a sustainable sourcing strategy in place, but this should not be limited to simple statements of intent. This strategy statement must be followed by concrete iterative steps such as closer supply-chain relationships and partnerships. Companies should also develop and update milestones and long-term supply and demand targets to help develop a sustainable supply chain. However, when a category defines what materials are sustainable, manufacturers are at the mercy of adequate supply of that sustainable material. Fibre-based products – toilet paper, paper towel, facial tissue, napkins, etc. – rely on Forest Stewardship Council (FSC) or Sustainable Forestry Initiative (SFI) certifications. Without enough supply of certified fibre, manufacturers cannot fulfill customer demands for eco-certified paper, which may be requirements within their supply chain policies.

It is also important to note that large consumer-facing companies have significant influence on their supply chain, both in terms of number of products and the weight of company directives. Any step towards sustainability initiatives by a large company can have significant impact throughout the industry. For example, in 2009, Wal-Mart launched a sustainability index to rate suppliers on energy and climate, material efficiency, natural resources and people and community. With their hundreds of thousands of suppliers, this initiative created a much bigger impact than would have been possible with smaller, start-up firms with smaller supplier pools. It also sent a signal to the supply chain that demand for more sustainable products was in place.

Consumer Confusion



To gain the trust of consumers, companies regularly opt for voluntary third-party certification (also known as eco-labelling), which is considered critical for marketing and communication. However, in today's eco-labelling scenario, it can also lead to confusion. Consumers are overwhelmed with logos, certifications, brand claims and green labels. There are more than 450 eco-labels for all product categories in the world, and there are 113 eco-labels just in Canada¹⁶. There are multiple eco-labels for a single product category. For example, for seafood products, there are 6 eco-labels. For the organic foods category, there are more than 10 logos/certifications globally.

Consumer confusion as a result of third-party certifications/logos benefits no one. It would serve consumers better if there can be a unified and simpler method of identifying sustainable products within categories.

¹⁵ Scott, Mike, Shoppers want more sustainable products, but brands are struggling to keep up, Forbes, Feb 26, 2019. <https://www.forbes.com/sites/mikescott/2019/02/26/shoppers-want-more-sustainable-products-but-brands-are-struggling-to-keep-up/#573a74c0364a> (accessed August 7, 2019)

¹⁶ Ecolabelindex.com (<http://www.ecolabelindex.com/ecolabels/>) accessed on August 8, 2019.

Academic Programs



Sustainability challenges by nature are multi-disciplinary that require solutions based on our knowledge, or experts from multiple fields and disciplines such as business, economics, science, engineering, entrepreneurship and consumer psychology to name a few. To be able to meet sustainable product innovation challenges, it is important to create congruency between industry needs and academic programs that teach and train young people in universities and colleges. As they enter the workforce, they will bring those forward-thinking ideas and drive necessary change in companies and society. Further, there is a need for a closer collaboration and partnership between universities and industry to tackle complex problems relating to sustainability issues. Whether it is research and development, commercialization of new discovery or understanding consumer preferences, both universities and industry will benefit from working together.

Conclusions

As concerns for environmental degradation, waste generation and climate change accelerate, and consumer demand for sustainable products increases, manufacturers, retailers and suppliers need to evaluate their sustainability approach and consider investing time, resources and talents in developing solutions in collaboration with other players inside and outside of their industries. As sustainability-oriented innovation becomes mainstream, there are new, forward looking trends that will likely capture everyone's attention. First, sustainability-oriented innovation will become more pervasive and more diverse in approaches to find sustainability solutions. Sustainability-oriented innovation will also open up with the aim of crowdsourcing of ideas and opening up of green patents for commercialization. The CPG industry will focus its attention on use of plastics in general, single-use plastics more urgently and packaging. Trends also show that material circularity – having an impact on most of the physical life cycle of products – will become an important part of the product design and development. Design thinking and design for circular economy will take more concrete shape in coming years which will require close partnerships with suppliers and third-parties in the form of competency-based collaborations. This will be widely accepted gradually as more success stories based on the circular model will make a compelling business case. Finally, use of smart technology and big data will be leveraged with regards to consumer behavior during purchase, use (e.g. detergent use in washing machines) and post-purchase (e.g. where does the package end up) in the context of sustainability.