Sustainability Initiatives in the Food Retail Sector: Factors for Success

By

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SUBMITTED TO THE MIT SLOAN SCHOOL OF MANAGEMENT IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF SCIENCE IN MANAGEMENT STUDIES AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

JUNE 2016

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Bhanuteja Nadella

Submitted to MIT Sloan School of Management
on May 6, 2016 in Partial fulfillment of the
requirements for the Degree of Master of Science in
Management Studies.

ABSTRACT

The world’s population is expected to reach 9 billion by 2050 and this creates an increased demand for food. Food manufacturers and retailers are scrambling to cater to this growth. However, they are also under constant pressure to manage their business operations more sustainably from external stakeholders such as consumers and governments. Consumers are demanding healthier and more ethically produced food products. Governments are strongly regulating the usage of natural resources such as water and land. These pressures have led many large food manufacturers and retailers to launch sustainability oriented projects and initiatives within their firm. These range from new product development and innovations to reducing environmental footprint of their operations. The outcome of these projects depends on different organizational factors.

This thesis explores the question – What are the factors that contribute towards the success and failure of sustainability-oriented innovation and practices in the food manufacturing and retailing sector? What are the reasons for the positive outcome of a certain type of program/initiative? Based on literature review and semi-structured interviews with change agents in these firms, the thesis outlines different factors that could contribute towards a potentially successful sustainability project or initiative. Leadership & corporate vision, organizational complexities and incentive structures are identified as key reasons why these projects may succeed or fail.

Thesis Supervisor: Jason Jay
Title: Senior Lecturer of MIT Sloan School of Management
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1. Abstract

The world’s population is expected to reach 9 billion by 2050 and this creates an increased demand for food. Food manufacturers and retailers are scrambling to cater to this growth. However, they are also under constant pressure to manage their business operations more sustainably from external stakeholders such as consumers and governments. Consumers are demanding healthier and more ethically produced food products. Governments are strongly regulating the usage of natural resources such as water and land. These pressures have led many large food manufacturers and retailers to launch sustainability oriented projects and initiatives within their firm. These range from new product development and innovations to reducing environmental footprint of their operations. The outcome of these projects depends on different organizational factors.

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2. Acknowledgements

MIT, a place of inspiration and ideas, has given me an amazing opportunity to explore interests and think about problems in a manner that no other place has. It has been an amazing journey from farmlands in my home state to actually thinking about world food systems and the agricultural economy. There are a few people I should thank who piqued my interests and motivated me constantly.

Firstly, I want to thank Jason Jay for being a constant guide and mentor during the ups and downs over the last one year. From having heard about you from Sloan alumni to actually learning about the kind of work you do, I feel like I have gained immense knowledge. You have challenged me at times but that only made me a stronger person, both personally and professionally. I hope to be a strong ambassador of you in the business world.

Next, I want to convey my thanks to other professors who have played an important role in my academic life – Prof. John Sterman and Prof. Hazhir Rahmandad for introducing me to the power of the systems dynamics discipline; Prof. Peter Senge and Wanda Orlikowski for emphasizing the human aspect of driving change through organizations in the L-Lab class.

I also want to thank all my interviewees for the purpose of the thesis. I really appreciate all of them allocating time to talk to me and sharing their insights about their companies. There have been numerous colleagues and fellow students who have supported me in this journey. My fellow research assistants – Sergio Gonzalez, Sarah Nolet and Priyanka Chatterjee, it was a pleasure to work with them.

I want to conclude by thanking my parents and support system who have allowed me to embark on this pursuit of knowledge in an unconventional field.
3. Research question

Constantly increasing global population is placing immense demand for access to food and food supply. Food retailers are major players in the food system and are looking to cater to the rising demand in food. This motivates them to ponder exponential growth in a short time span. However, food retailers are also under pressure to manage their businesses more sustainably from external stakeholders such as consumers and governments.

This forces food retail companies to launch many sustainability centric initiatives in their businesses. These involve a multitude of programs ranging from recycled packaging and reducing energy usage to sourcing healthier food products. These require not only resources in terms of technical, financial and human capital but also have long time horizons to mature and produce return on investment (if they do). Some of these programs succeed and some fail.

The research question that this thesis explores and tries to answer – What are the factors that contribute towards the success or failure of sustainability practices in the food retailing sector?

4. Literature review

The literature review will help us understand the different sustainability initiatives in the US food retail sector. In order to achieve this, one needs to understand the broader landscape of the food retail industry and the key players involved in it. The changes and shifts in the industry are also critical pieces of knowledge that add complexity to the current state of the US retail system. A clear comprehension of these factors will help us understand the different sustainability initiatives in the US food retail industry.

The scope is focused on the US food retail sector because of the maturity of the sector and the availability of data and literature on this topic. Understanding the US food retail system in depth will enable one to translate these findings to other geographies, if contexts are similar and external validity holds. Focusing on the US food retail sector allows for interviews with relevant employees in the companies because of existing relationships with the MIT academic community.

The US food retail industry

The food retail industry refers to two lines of retail channels. Firstly, the chain of supermarket and grocery stores. They make up the largest food retail channel in the United States. Their major lines of food products include fresh and processed meat, canned and frozen fruit, vegetables, dairy products and other food products. As of 2015, this is a $593 billion industry (by revenue) with 68% of products being food related (the remaining constitutes drug & health products, beverages and non-food products) (Hurley 2016).
Competition for this industry arises from alternative retailers. Supercenters such as Walmart and Costco are attracting customers with cost savings and convenience. These warehouse clubs and supercenters are retail chains that sell a general line of grocery products, along with other merchandise products. Walmart and Costco are the largest players in this space with 69.4% and 18.0% market share in a $449.4 billion industry (by revenue). The largest product segment is food and beverages, contributing to 47.1% of the total revenue (Carter 2016).

This thesis refers to food retail industry as a combination of the above two types of retailers. It does include the food service industry such as restaurants, caterers and food delivery services.

**Changes in the food retail industry**

*Increased consolidation among retailers:*

During the mid 1990s, 27% of the US retail sales were controlled by the top 5 firms. At the turn of the millennium, the top 5 firms controlled almost 50% of the food retail market. This was due to numerous mergers and acquisitions (Wrigley, 2002a).
### Table 1: Leading US food retailers 1992 – 2000 (Wrigley, 2002a)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1</td>
<td>Kroger</td>
<td>22.1</td>
<td>7.7</td>
<td>Kroger</td>
<td>49.2</td>
<td>14.3</td>
<td>Wal-Mart</td>
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<td>154.2</td>
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<tr>
<td>2</td>
<td>American Stores</td>
<td>19.1</td>
<td>6.6</td>
<td>Albertson’s</td>
<td>36.4</td>
<td>12.3</td>
<td>Kroger</td>
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<tr>
<td>3</td>
<td>Safeway</td>
<td>15.2</td>
<td>5.3</td>
<td>Safeway</td>
<td>33.2</td>
<td>9.1</td>
<td>Safeway</td>
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<td>35.0</td>
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<tr>
<td>4</td>
<td>A&amp;P</td>
<td>10.5</td>
<td>3.7</td>
<td>Ahold</td>
<td>27.5</td>
<td>8.3</td>
<td>Supervalue</td>
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<tr>
<td>5</td>
<td>Winn-Dixie</td>
<td>10.3</td>
<td>3.6</td>
<td>Wal-Mart</td>
<td>25.6</td>
<td>6.4</td>
<td>Ahold</td>
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<td></td>
<td></td>
<td>24.1</td>
</tr>
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<td></td>
<td><strong>Total market share</strong></td>
<td><strong>26.90%</strong></td>
<td></td>
<td><strong>Total market share</strong></td>
<td><strong>50.1%</strong></td>
<td></td>
<td><strong>Total market share</strong></td>
</tr>
</tbody>
</table>

One of the notable differences between 1992 and 2000 was the emergence of Wal-Mart in 1990s. The table above takes into account Wal-Mart’s food sales in its supercenters but not in its traditional discount stores and Sam’s Club. The total Wal-Mart sales in 2000 was over $50 billion in revenue (Wrigley, 2002b). From 2005 to 2010, retailers such as Winn-Dixie and A&P have filed for bankruptcy. Discount stores such as Target and Walgreens increased their food offerings. This led to a decline in the food sales of traditional food retailers from 76% in 1999 to 67% in 2009. As of 2009, the top 5 retailers accounted for 60% of the food sales in the US (Wood, 2013).

**The Wal-Mart effect:**

During the mid to late 1990s, the emergence of Wal-Mart was crowding out the small stores (those outside the top 5). Wal-Mart had hoped that by pressurizing these small firms, this would impact the concentration in the industry, thereby allowing it to penetrate metropolitan centers. Among the 100 largest metropolitan locations of which 19 locations had Wal-Mart stores, the market share of the top 4 retailers (excluding Wal-Mart) had decreased after the presence of Wal-Mart nearby (Franklin, 2001).

The increased consolidation of supermarkets and the emergence of Wal-Mart created an industry dynamic where a handful of retailers controlled a majority of the food supply in the US. These retailers placed constant pressure of suppliers to search for cost and scale efficiencies. Many large suppliers are locked into long-terms contracts with these retailers who contribute to 35-55% of the supplier’s business (Wood, 2013). In the case of Wal-Mart, its suppliers have constantly reported significantly lower margins compared to other comparable suppliers (Mottner 2009).

**Changing consumer demands:**

According to the US Department of Labour’s annual survey on consumer expenditure, an average American household spends between 10-12% of annual budget on food expenses. This is third highest after housing and transportation (taxes not included). The mean food expense for a household is US$ 6,887 with the highest being those in the 35-44 years old age category (US$ 8,387). Within the mean food expense, US$ 2,904 is spent on food away from home. This includes restaurants and other food services options (Labour 2015).
Therefore, an average American household spends 58% of its annual food budget on food purchases in retail stores and supermarkets.

A dynamic shift in consumer eating and purchasing habits is happening globally, thereby affecting retailers and their ability to cater to these demands. Conventional value drivers such as taste, convenience and price are playing a decreasing role in decision making. New drivers such as community impact, health and wellness and safety are influencing food purchasing decisions. According to the Deloitte Food Value Equation Analysis & survey (2015), over 50% of consumers are weighing ‘evolving’ drivers over traditional drivers (Deloitte 2016).

<table>
<thead>
<tr>
<th>Driver</th>
<th>What consumers include:</th>
<th>Key consumer insight:</th>
<th>Key industry opportunity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health &amp; Wellness</td>
<td>The definition of Health &amp; Wellness includes nutritional content, organic production, all-natural ingredients and fewer artificial ingredients.</td>
<td>Health &amp; Wellness is the most important and complex of the evolving drivers. Consumers’ considerations are broad and tend to vary at the category level.</td>
<td>Companies must decode and dissect the nuances of consumer preferences around Health &amp; Wellness, and then act quickly to respond.</td>
</tr>
<tr>
<td>Social impact</td>
<td>Social impact includes company attributes such as local sourcing, sustainability, environmental impact, animal welfare, and fair treatment of employees.</td>
<td>The number of consumers reporting strong Social Impact preferences is small, but represents a loud and vocal group that can sway public opinion.</td>
<td>Companies must identify which issues have most opportunity or represent the greatest risk, and when to lead vs. follow.</td>
</tr>
</tbody>
</table>

Table 2: ‘Evolving’ drivers of consumer purchasing decisions (Deloitte 2016).

The main takeaway from these changes is that this is no longer a niche market. Non-traditional drivers are influencing purchasing decisions increasingly. These trends are becoming the new normal for the consumer. This pattern is likely to continue in the same direction, presenting challenges and opportunities for retailers.

Result of the changes:
In short, increased concentration in the food retail space has placed power and leverage in the hands of large retailers. Consumers are making decisions based on non-traditional factors such as health & wellness and social impact, in terms of their food purchases. This creates a situation where consumer demand is moving along a certain trajectory and retailers need to cater to this demand. Failure to cater to the needs of the consumer might be a wasted business opportunity and inhibit the growth of the company. This may also cause the retailers to go out of business gradually.

Reaction of retailers to industry changes

As the above changes permeate the food retail industry, firms have to formulate strategies and execution plans to adapt. The available host of options can be boiled into 3 areas –
Inaction:
The dynamic shifts that are observed above might be deemed as inconsequential by a retailer. This can lead them towards inaction. As consumers' needs are not met at these retail stores, they will start shopping at specialty food stores. These specialty stores are positioned around natural foods and attract customers who belong to higher income groups. Specialty stores (Whole Foods) have grown faster than traditional retailers in 2009-2012 (average CAGR 12.5%). Moreover, consumers are visiting an average of 2.5 stores for grocery purchases and 9% of shoppers have no one primary store (3 times that of previous years) (FMI 2014). These trends indicate that traditional retailer's inability to cater to consumer demands might allow competition to grow in the form of specialty stores. This might cause a gradual decline in market share of traditional retailers.

Green marketing:
Retailers have always used product marketing to convey the attributes of a product via product placement and promotion campaigns. Food retailers are increasingly using different marketing channels such as social media, mobile marketing to convey brand equity and build a loyal customer base. Marketers are employing different techniques such as green marketing that highlights certain environmental aspects of a product and feeds information to allow consumers to make choices. This technique does not place as much emphasis on traditional marketing mix elements (price, promotion, placement) as it does on environmental features.

This strategy has a very high risk of 'greenwashing'. Wal-Mart itself has been accused of greenwashing on multiple occasions.¹ Consumers are getting increasingly aware of greenwashing and according to a Harris poll, about 60% of Americans agreed that some food products are labelled as organic just to charge more.² This is accentuated by the internet where news of such campaigns spread fast, causing loss of brand and brand equity. Consumers will immediately stop visiting the stores, causing sales to decline.

Philanthropic programs:
Philanthropic activities related to business is the practice of donations and charity that has little or no relation to the core business of the company. involvement in environmental and social programs at a corporate level. Usually, these programs are heavily skewed towards the social responsibility angle. The people benefitting from these programs are not the customers of the retailer. For instance, Tom's shoes were a pioneer in the 'buy one and donate one' philosophy. Warby Parker also follows the same motto; however, they do not donate their second pair but sell it for a subsidized price in the developing world. Much of this success arises from the novelty of the idea and as many companies embark on this model, the innovation wears off and it will not be differentiator any further. The long term financial viability of this model is also in question. But most importantly, philanthropic programs do not solve the root cause of the problem. The actual social impact of this type of giving alleviates the problem and creates an expectation in people's minds (Marquis and Park 2014). For food retail companies, donation and philanthropy has no connection to the

¹ http://gracelinks.org/blog/636/greenwashing-food-how-to-smell-a-rat
core competencies of the business. Moreover, it does not guarantee any increase in consumer retention. Not all customers make their purchasing decision on altruism and social good.

**An emerging option:**
One of the potential ways for traditional retailers to cater to the changing consumer needs is to embed sustainability into their core business operations. This can be done in any department i.e. procurement, store operations, sales and would require a shift in the mindset of the company. Sustainability would become a driving factor in decision making of products and processes. This would result in a product portfolio that engages the consumer on non-traditional decision-making drivers such as environmental impact and health and wellness during food purchases.

**What does sustainability mean to food retail?**

The term ‘sustainability’ is still a confusing term in many industry circles. There is yet to be a consensus on the usage of the word ‘sustainability’. Sustainability has become a buzzword in organizational research and management studies. There have also been cases of misuse of the term ‘sustainability’ by governments, organizations and firms. This arises from the fact that the concept of sustainability is complex and regularly evolving from academic and management research.

Academic literature points to two widely used definitions of sustainability. In 1987, the World Commission on Environment and Development defines sustainability as a ‘concept of development that meets the needs of the present generation without compromising the ability of the future generations to meet their own needs.’ (Mehdi and Bienstock 2013). A working definition of sustainability comprises of three facets – environmental, social and economic (Elkington 1998). The below section explains each of these three components and their relevance to food manufacturers and retailers.

**Environmental:**
Environmental sustainability relates to the ecological footprint of a certain product or service. For a product, three processes are relevant for environmental sustainability – product development, product delivery and post-delivery process. Product development refers to the stage of design and development of a product and the environmental considerations are around material usage and carbon footprint of these materials. For instance, a food manufacturer considering the development of a new product needs to consider the source of the raw materials and their carbon and water footprint. Food processing companies need to take into account the energy usage of their industrial process. During their processes, the amount of natural waste generated needs to kept in check. Product delivery deals with the transport of products and materials and sustainability in this area concerns on environmental impact of the transportation and logistics system. Post-delivery process refers to the value that can be salvaged after the intended use of the product. This stage usually refers to waste management and disposal strategies (Narayananurthy 2015).

For a food manufacturer that is involved in product development, product delivery and post-
delivery process, a sustainability initiative focused on environment will have to touch at least one of these three aspects. For a food retailer that is mainly involved in product delivery and post-delivery process of food, a sustainability initiative in their short term operational landscape will focus on but not be limited to minimizing the environmental impact of transportation and effective management of waste. In the long term, retailers could think about altering their product portfolio towards healthier options depending on supply of these foods and consumer demands.

Social:
Social concerns have always existed in sustainability over the years. However, it is getting increased attention lately because of the focus on a holistic stakeholder approach to decision making.

In the food industry, labour rights, gender issues and working conditions can be classified as social issues. These relate to both food manufacturers and retailers. Projects to improve working conditions in factories are considered social sustainability related projects. In case of retailers who are closer to the consumer than manufacturers, communication of information regarding products, thereby allowing the consumer to make an informed choice, also fall within the purview social sustainability projects (Michael and Michael 2006).

Social aspects of sustainability require a business to go beyond thinking about pure profit for shareholders (Narayananurthy 2015). However, Milton Friedman argued in his famous article on social responsibility in 1970 that a company's sole purpose is to increase its profits to its shareholders (Friedman 1970). Firms can incorporate social responsibility into their operations if they can either decrease costs of operations, minimize risk or increase revenues. Social sustainability in business is a very recent concept and can be used more as a means of cost reduction, rather than profit generation. The relationship between social sustainability and business performance is a relatively new concept and there have been very few documented cases. The Environmental Resources Management (ERM) stated that whilst FTSE 100 companies are 'are making progress in reporting on the social impacts of their activities ... most have yet to demonstrate real performance improvements on key social issues' (McKenzie 2004).

Economic:
Economic sustainability is the most elusive and complex of the three components. Research into economic sustainability is lagging behind that of environmental and social sustainability. One definition is 'economic sustainability is the business of staying in business'. Economic sustainability looks at internal and external implications of sustainability such as financial performance, management of intellectual property (brands) and the influence on the wider community (Deborah and MacGillivray 2001). Corporate turnover and governance structures are also an integral part of economic sustainability.

In terms of the relevance of economic sustainability to the food industry, the first step is reporting to an industry standard. The Global Reporting Institute (GRI) is a thorough approach to economic sustainability. Companies reporting according to GRI are considered to be on the path of economic sustainability (Deborah and MacGillivray 2001). At an operational level, securing a constant supply for raw materials is a risk mitigating endeavor. This will ensure that the food manufacturer is not exposed to shocks in the supply chain.
Usage of long lasting or recyclable materials in manufacturing means that these materials can be recycled and integrated back into the production. This will reduce the cost of production. To summarize, economic sustainability is about managing a company in a way that will ensure its survival into future generations. A firm cannot separate economic sustainability from social and environmental sustainability.

One of the most commonly used and comprehensive way of measuring these 3 aspects of sustainability is the triple bottom line approach. The triple bottom line approach advocates that the long term success of a corporation depends on the 3 aspects of sustainability – environmental, social and economic. The 3 aspects are closely interlinked with each other and it would be hard to isolate the effects of one from the other (Elkington 1998).

**Sustainability initiatives in the food retail industry**

The Grocery Manufacturers Association (GMA) is an industry organization that represents 250 food and beverage companies in the United States.\(^3\) It acts as an advocate to further the interests of its member companies and champions initiatives across the industry.

GMA, in association with Deloitte, published a report that highlighted the sustainability initiatives undertaken among American food manufacturers and retailers. Below is a snippet from the report –

![Figure 2: Sustainability Initiatives across the food industry by classification (GMA and Deloitte 2007)](http://www.gmaonline.org/about/)

In the US, the food industry supports and acknowledges that environmental programs are their primary priority and focus. In terms of environmental programs, below are listed common sustainability practices among businesses.

<table>
<thead>
<tr>
<th>Program</th>
<th>Definition</th>
<th>Illustrative Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>Refers to programs that conserve the use of energy or utilize more environmentally-friendly energy sources.</td>
<td>• Energy conservation programs and systems.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Alternative energy use (e.g. wind, solar).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Purchasing alternative energy</td>
</tr>
</tbody>
</table>

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\(^3\) http://www.gmaonline.org/about/
| **Emissions** | Refers to programs that reduce the amount of harmful emissions into the atmosphere, either direct or indirect. Emissions may include: greenhouse gas emissions, ozone depleting substances, air acidification substances. | credits (e.g. wind credits) to offset energy use. |
| **Water** | Refers to programs that either conserve water usage or reduce the amount of water contamination | Water conservation programs  
Rainwater collection  
Wastewater treatment programs and plants  
Water re-use programs  
Innovative product development to reduce the amount of water used in product |
| **Waste Reduction** | Refers to programs that reduce the amount of waste generated or amount of waste going into landfills. Waste may be: hazardous, non-hazardous, solid, composts. | Waste reduction programs  
Waste-re-use programs (e.g. convert waste into energy)  
Waste treatment and management programs |
| **Recycling** | Refers to programs that recycle products and packaging, including paper/corrugate, plastic, glass, metal, electronics, other non-biodegradable materials. | Store or community recycling programs for paper, plastic, glass, metal, etc.  
Use of recycled content in products or packaging  
Initiatives to reduce use of products that need to be recycled (e.g. paperless office) |
| **Biodiversity/Resource Conservation** | Refers to programs that preserve the eco-system and biodiversity of land or ocean, as well as natural resource conservation | Forestry programs  
Re-forestation programs  
Timber sourcing and processing guidelines  
Participation in industry eco-preservation councils such as Forest Stewardship Council, Marine Stewardship Council, etc. |
| **Sustainable Agriculture** | Refers to programs that support sustainable agriculture, including sustainable farming practices, organic farming standards, and proper care of livestock Note: This does not | Standards on sustainable agriculture and organic products, including non-pesticide use and non-GMO products |
include "good for you" or healthy food products

- Standards on proper care of animals, including humane animal treatment, non-use of hormones, antibiotics, etc.
- Providing training or funds to support sustainable/organic farmers

Packaging

Refers to programs that either reduce the amount of packaging used or utilize recyclable or biodegradable packaging

- Packaging reduction initiatives
- Bulk packaging
- Use of recyclable or biodegradable packaging or distribution containers (e.g. pallets, boxes)
- Investments in innovative technology that reduce amount of packaging required or development of biodegradable packaging

Product Content

Refers to programs that reduce the amount of harmful materials or ingredients in products

- Reformulation of products to remove trans fats, sodium, or other potentially hazardous chemicals
- New product development processes that consider Sustainability as a key criterion

Table 3: Sustainability Initiatives – Environment centric (GMA and Deloitte 2007)

To focus specifically on food retailers, only a subset of the above initiatives is applicable to them. Based on the research conducted in the report, retailers have reported that the below issues are a priority and hence, they focus their sustainability efforts on them.

- Energy conservation
- Recycling/Waste Reduction
- Packaging
- Water Conservation
- Emissions

There are different initiatives that retailers could undertake in each of these areas. Let us look at a few that have been launched.

**Energy conservation programs:**

Energy consumption in a retail store can depend on different factors such as type, size, location and energy management systems. Food stores have a significant impact on environment, through direct and indirect emissions. The major portion of direct emissions come from refrigeration (29%) and lighting (23%) (S.A. Tassou 2011). A leading retailer in the US invested $17 million to install LED lighting systems. By rolling out energy efficient technologies, the retailer reduced their energy consumption by 17%, leading to lower operating costs. A leading European retailer invested £100 million to develop clean energy
technologies (solar panels, gasification technologies) for retail stores (GMA and Deloitte 2007).

Recycling and waste reduction:
Companies are setting ‘zero waste’ and ‘zero landfill’ as corporate goals. Store recycling programs, consumer recycling programs and recycled content products are ways to achieve these targets. A leading grocery retailer has sold 3.5 million reusable carrier bags. This has reduced the total number of checkout bags by 20 percent. In 2008, Walmart committed to reducing plastic shopping bag waste by 33% per store by 2013 as part of the Clinton Global Initiative (Walmart 2008). Some retailers even require their advertisers to use sustainable printing materials (GMA and Deloitte 2007).

Packaging:
Primary packaging products are the ones designed for retail applications and usually make direct contact with the product being sold. Secondary packaging is the middle layer of packaging, the packaging required to get a product from point A to point B. Secondary packing can be a source of extraneous material use. Using biodegradable packaging material will help reduce footprint. A closed loop recycling program can help retailers reuse packaging materials. Wegmans, a privately held US retail supermarket chain, has moved from wax to non-wax cardboard for poultry products in order to reduce landfills (Wegmans 2007).

Water conservation:
Water saving systems, especially in retailers that serve fresh produce, can help to reduce the water usage in daily operations. Technological upgrades such as low volume aerators and ice removal ramps can help conserve water. In 2015, Kroger has targeted to reduce water usage by 6.2 percent by replacing water-cooled cooling towers with air-cooled cooling towers (Kroger 2015).

Emissions:
The majority of emissions and energy use are for refrigeration purposes. Food retailers represent 39% of all commercial refrigeration usage in the United States. The EPA regulates the emissions of CFCs in the US in accordance with the Montreal Protocol on substances (Davies and Konisky 2000). A leading US retailer replaced its refrigeration system with an upgraded system that eliminated ozone-damaging refrigerants by 90% (GMA and Deloitte 2007). Improvement to fleet vehicles’ fuel efficiency might also be a way to curb emissions. Wegmans plans to improve fuel efficiency by setting speed limits to their transport vans (Wegmans 2007).

Highlighted above are the different types of sustainability initiatives that retailers are launching in accordance with their corporate sustainability goals. These range from energy conservation to recycling and emissions control. As sustainable technologies emerge and evolve, retailers will face uncertainty while navigating these topics. On an operational level, sustainability initiatives require interdisciplinary teams to work effectively in different parts of the business ranging C-suite leaders to business line operators. Implementing sustainability in the core operations of a business requires a significant change in a company’s ethos. One metric of success that can be used to measure the success of these sustainability initiatives is return on investment (ROI) (GMA and Deloitte 2007). Many of the sustainability initiatives
presented above have succeeded in achieving their goals while some have not. Typically, these initiatives are not publicly reported by the company as they are deemed a failure. As more companies are trying to implement sustainability in their business, it is critical to understand the factors that determine the outcome of these programs.

5. Research question

From the literature review presented above, it is clear that food retailers are facing an increasingly informed consumers with changing demands and purchasing habits. The consumer is valuing non-traditional factors such as health & wellness and environmental impact, along with traditional factors such as cost and quality into his/her food habits. It is evident that retailers have started launching environmental sustainability programs within their firms, hoping that this will translate into products that engage with the consumer.

The research question now presents itself – What are the factors that contribute towards the success and failure of sustainability practices in the food retailing sector? What are the reasons for the positive outcome of a certain program? These factors could be internal or external to a firm and may have a varying degree of influence on the outcome of an initiative. A clear understanding of these programs will allow firms to formulate better execution plans, thereby allowing them to achieve a greater success rate.

6. Methodology

Overview:
The methodology is divided into two major sections – literature review and semi-structured interviews. Firstly, an extensive literature review was performed to understand the different sustainability practices in food manufacturers and retailers. This gave me an understanding of the meaning of sustainability to these organizations. It also allowed me to follow the evolution of this industry over time. Recognizing the evolution of the industry was important as it helped to acknowledge the boundaries within which these firms operate today in the business environment. The literature review also presents the different types of sustainability practices that firms engage in and how successful they were. Some reasons for their success and failure are also highlighted.

Interviews:
Secondly, a set of semi-structured interviews were performed with different employees in the firm. These employees were divided into 2 sets depending on their function – sustainability centric or business units. Sustainability centered staff were those whose main corporate function was tied into the sustainability goals of the company. These employees would typically be in the sustainability or compliance or corporate social responsibility division in an organization. The objectives and performances of these employees are measured against the corporate sustainability goals of the firm. They would not have a total understanding of their firms’ sustainability efforts but would have a better understanding than most other staff because these employees are change agents in their organizations. Interviews with these
personnel enabled me to understand the corporate sustainability goals of the company and the different execution plans to achieve these goals. This gave me a good sense of the motivation behind these type of projects and initiatives they launched internally and the eventual outcome of these projects (success or failures).

A second set of interviews were conducted with employees in business units. Two types of business units were targeted – procurement and product development. Some of the internal initiatives were related to purchasing of raw materials and finished food products. A few sustainability projects were launched that targeted the development or improvement of an existing food product. These business operators are executioners of a strategy set forth by the corporate teams. They are 'in the thick of action' and best placed to give inputs about the execution of the sustainability projects. Through these interviews, I understood the reasons for success and failure of certain projects. This is important because the reasons for success or failure might give a window of opportunity to understand how they can be bettered.

Below is a table outlining the types of companies, the interviewee profiles and sample job titles and number of interviews.

<table>
<thead>
<tr>
<th>Organization type</th>
<th>Sample Job titles</th>
<th>No of interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food manufacturers, food retailers</td>
<td>VP, Corporate sustainability</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Director, Sustainability</td>
<td></td>
</tr>
<tr>
<td>Food manufacturers</td>
<td>Manager, Product Development</td>
<td>4</td>
</tr>
<tr>
<td>Food retailers (who make private label products)</td>
<td>Manager, New products</td>
<td></td>
</tr>
<tr>
<td>Food retailers</td>
<td>Manager, Sustainable sourcing</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Buyer, food products (different types i.e. baked goods, fresh produce)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Procurement</td>
<td></td>
</tr>
</tbody>
</table>

*Table 4: Interviewee organization, sample job titles and number of interviews*

**Analysis:**

Upon collecting this information, every sustainability initiative or project was marked based on their type of practice i.e. procurement, product development or operations. Reasons for success or failure were grouped together according to similarity. This gave rise to major reasons for success or failure of sustainability initiatives. To check the coherence of the analysis, two interviews were conducted with industry organizations. A majority of the programs conducted by the industry organizations around sustainability were targeted towards the reasons highlighted from my analysis. This ensures the validity of these reasons to a certain extent.

**7. Insights**

The below insights were drawn from semi-structured interviews of food retailers in the industry. Through these interviews and mini-cases, reasons for the successful outcome of
sustainability programs are identified. The section is structured according to the type of programs – 1) sustainability initiatives in retail operations (packaging, procurement) and 2) sustainability initiatives in product development (innovation, private labels).

Initiatives in retail operations

Packaging

In the cost breakdown of a food product, packaging cost comes second only to cost of labour. 8% of the food dollar goes into packaging. 33% of the total packaging expense is due to cardboard boxes. Food packaging is a major contributor to waste in local communities, despite recycling efforts. In 1993, 23 million tonnes of grocery packaging was generated by the retail industry and that is one-third of the total container and packaging waste in the solid waste stream (Davies and Konisky 2000).

Primary packaging refers to the packaging that consumers take home from retail stores. Secondary packaging refers to the packaging that is used to deliver food products from a warehouse to the retail store. Paper is used as primary and secondary packaging materials. Corrugated cardboard is used as secondary packaging materials.

A corporate sustainability team exists in almost every food retailer in the US. This function is headed by a Vice President or Director who reports to the executive leadership of the firm. The organizational structure of the division usually consists of different employees specializing in different areas such as water and waste management, energy management, sourcing and packaging. The corporate sustainability team’s core responsibility is to set sustainability goals and execute plans to achieve them. The exact description of a sustainability team may vary from retailer to retailer, but resembles the above closely.

Below are 2 cases in which a retailer changed packaging for a product. The examples show the importance of communication channels between a sustainability team and business operators of a firm.

Case 1:

“Consumers want less packaging in tomatoes in retail stores. However, little do they know that less packaging can cause up to 40% wastage in tomatoes due to damage” – Manager, store operations, large US retailer.

A large US retailer had reduced the amount of primary packaging for tomatoes in the fresh produce section. The store hoped that a reduction in primary packaging would appeal to consumers while reducing the daily waste generated by the store. This action was implemented after consumers reported that they would prefer to buy sustainable products and assist the store in its sustainability efforts. The store operators in a specific state implemented this initiative to reduce packaging of tomatoes without communication with the headquarters or marketing divisions. Over the next couple of months, wastage of tomatoes due to damage had increased significantly. In some cases, up to 40% of tomatoes had to be disposed because they were squashed and out of shape. This measure had backfired and the store reverted to the default amount of packaging. The environmental footprint of
growing a tomato and bringing it to market is usually greater than the footprint created by packaging. Therefore, wasting food usually does more damage than additional packaging.

The proposal had failed because of lack of communication and knowledge transfer between a corporate sustainability team and business operators (store managers in this case). The surveys were conducted at a local level (store or region wide) and it was the responsibility of the local managers to respond to those surveys. So, once the store manager received the survey responses, he/she did not have the acumen to translate the responses into actionable outcomes. The consumer indicated 'reduced packaging' because he/she wanted to lower the waste produced at the store. The store manager was unable to think through the entire problem and solution and immediately implemented the easiest solution (removing paper from tomato boxes), without consulting expertise from corporate headquarters. The sustainability agenda was set by a corporate team but they were not responsible for supporting store managers on implementation of a program. This lack of support from corporate headquarters and internal expertise was a reason for the failure of this initiative.

Case 2:

A US food retailer has a vendor supplying frozen pizzas and this relationship between the retailer and supplier was managed by a buyer from the procurement team. The pizza supplier informed the buyer that the unit price would be 10% higher within the next 6 months. The supplier informed the buyer that this was because market price of cardboard packaging had increased and this raised the unit cost of production. The buyer worked with the corporate sustainability team to provide recycled cardboard packaging to the supplier. The price of the cardboard packaging was subsidized to a certain level where the supplier did not have to incur any additional cost and the buyer could procure the finished product at the existing price. This is a successful initiative where the supplier could buy recycled packaging material from its own customer and integrate it into the product, thereby creating a win-win situation for supplier and buyer.

One of the primary reasons for the success of this initiative was the clear line of communication between corporate sustainability team and the business operator, in this case, the buyer in the procurement team. The corporate sustainability team had informed the entire organization of corporate goals related to waste management and recycling. Every employee was aware of this and was advised to keep a lookout for win-win situations related to recycling where the firm could engage its stakeholders. Armed with this information, the buyers could react swiftly and engage suppliers in trying to find solutions to waste management problems. In the above case, once the buyer had communicated the situation to the corporate sustainability team, one expert person on recycling was assigned to work along with the buyer and supplier to find a solution. This person is responsible for working with the retailer's internal recycling department and create cardboard boxes that met the supplier's specifications. The supplier could purchase these boxes directly from the retailer at a mutually agreed price.

Learning:

Clear communication and close collaboration between the corporate sustainability team and business operators is critical when trying to create win-win situations. In the first case, the
store operators could have worked alongside corporate teams to understand consumer needs and carefully plan sustainability programs in their operations. Additional technical expertise also needs to be provided around certain areas that the business operator is not familiar with. A clear channel of communication and support between corporate sustainability teams and business operators will increase the likelihood of the success of these programs.

**Procurement**

A sustainable procurement strategy has to be designed at a corporate level and should contain guidelines for the type of suppliers to build relationships with. All suppliers will be evaluated on quality and cost. Additionally, some firms may evaluate their suppliers on sustainability metrics (economic, social and environmental) and these factors play a role in the final decision of choosing a supplier to buy from.

The annual performance evaluation for procurement teams at large retailers consists of metrics such as quality of product, cost savings, number of missed deliveries among others. In the recent past, a few US retailers (Walmart, Costco) have started integrating sustainability metrics into the evaluation process. This includes questions like ‘how sustainable is your supply chain?’; ‘What are the risks and mitigation plans?’ and ‘Are suppliers measuring their environmental and social impact?’. Walmart uses a sustainability index to measure the performance of its suppliers on different issues and integrates this sustainability index into the annual performance review of the procurement team (Walmart, Walmart Sustainability Index version 1.0 n.d.). This creates a financial incentive for the buyer to work with the supplier and improve his/her sustainability score because that reflects in the annual performance review of the buyer.

Below is a case that highlights the relationship between procurement strategies and sustainability programs.

**Case:**

“It is easier to work with one supplier who supplies 20 tons of peanuts, rather than work with 10 different suppliers, each supplying 2 tons. It allows me to invest time and effort to work alongside with that one supplier to help their sustainability initiatives” – a buyer of peanuts at a large retail firm.

A buyer at a large retail store encountered a situation in which there were multiple suppliers of peanuts in small quantities. To be accurate, there were 10 suppliers, each supplying 2 tons of peanuts. In the past, the procurement procedures of the retailer were decentralized i.e. every regional unit was procuring its own products at a local level. However, as the organization moved to a more centralized procurement process, the number of suppliers provided similar products increased. This is referred to as supply base complexity – what is the ideal number of suppliers for a product?. As the retailer grew in size, the number of suppliers increased drastically but their scale did not. This resulted in a situation where a buyer of peanuts was dealing with 10 different peanut suppliers, each supplying 2 tons. Therefore, the buyer had to work with 10 different suppliers on sustainability programs. Usually, these programs consist of training, knowledge transfers and capacity building on
environmental and social issues.

Eventually, it became very time consuming and exhausting to work with 10 different suppliers. The sustainability programs with suppliers were stopped because they did not produce the desired results. A few months later, the retailer reintroduced supplier sustainability programs, one of the important criteria for being enrolled was scale of the supplier.

Learning:

One of the main reasons for this was identified to be the scale of the supplier. An average buyer at a large retail firm spends between 7 and 10 percent (3 hours in a typical work week of 40 hours) of his/her time working on supplier sustainability programs. Usually, these sustainability programs involve small changes in supplier operations such as energy efficient lamps and more fuel efficient transport vehicles. The effect that these programs have on small suppliers is incomparable to the effect they have on large suppliers. Large suppliers can create more impact by the introduction of such initiatives and produce tangible results such as reduction in energy use and fuel costs. The scale of operations eventually becomes an important factor in the success of a supplier sustainability program.

Initiatives in product development:

Product development initiatives in the food sector have a low degree of innovation and a high rate of failure. Among the products that are newly introduced to the market, 25% are original products. The remaining are extensions of existing product lines. Between 80% – 90% of the food products fail within one year of introduction. There are various factors that influence product success and failure including market conditions, consumer knowledge and retailer involvement (Rudolph 1995).

Product innovation

Incremental innovation is a key function of the R&D department of a food manufacturer. They are constantly tinkering with food formulations and product recipes. The introduction of sustainability into the product development and innovation space is a relatively new phenomenon. Sustainability-oriented innovation (SOI) is an emergent field of study that embeds sustainability elements into different types of innovation (technological, organizational, institutional and social). There are three categories of SOI — sustainability-relevant innovation, sustainability-informed innovation and sustainability-driven innovation. The last two types are aimed at producing an increment or improvement in product, service, technology or business model (Jay and Gerard 2015).

Below are two scenarios of how the right mix of incentives can trigger behavior that will contribute towards a desired outcome, innovation in this case.

Case 1:
“Financial incentives are the best way of changing behavior of organizations and their employees. The moment my annual bonus was linked to the sustainability of my supplier base, I started thinking about it seriously” – a buyer of raw materials for a food manufacturer.

At a US food maker, the product team had decided to reduce the amount of sodium in a soup mix and replace it with the natural flavor (pumpkin seeds). A cross-functional team was established that comprised on procurement, marketing, corporate sustainability and product development. This team was established with the conception of the product till product delivery to market. The product development team had estimated that to replace artificial flavoring with natural pumpkin flavor, they would need to procure an additional 30% of pumpkin seeds. It was the procurement team’s responsibility to accomplish this target. The buyer reached out to the existing suppliers of pumpkin seeds to check availability and capacity. The suppliers reported that they could cater to the additional demand but would have to use extra pesticides and fertilizer to increase yield. They also reported that at such a short notice, it is impossible to understand the consequences of additional pesticides on soil quality. The buyer and the cross-functional team decided that it was best to delay the project until full visibility was achieved on the situation. Eventually, the buyer worked alongside with the supplier to increase yield by means of grain innovation (a high yield variety of pumpkin seeds was used). The project was delayed and was over budget as a result of this. However, the product was eventually introduced into the market and continues to be a high-value product for the retailer.

The incentives for the retailer’s procurement team were multifold. A buyer would be assessed on his business metrics – quality, consistency of product costs, number of missed deliveries. In addition, a buyer was also rated on the environmental impact of his suppliers. When the buyer was assigned to this project, the success of the project was also a deciding factor in his appraisal. Thus, the buyer had two important incentives that influenced his behavior – 1) the environmental impact of his suppliers and 2) the success of the project (soup with less sodium). This created a situation where the buyer and supplier worked together to find an innovative solution.

Case 2:

Similar to the above scenario, a different US soup maker had launched a similar program to remove artificial flavors from their soup mix. The buyer was also evaluated on financial metrics (cost, quality, delivery) and the success of the project. However, environmental impact of the supplier was not included in the buyer’s performance ratings. The buyer did not consider the environmental impact of increasing yield to produce the additional capacity. The new soup mix was launched according to the planned schedule. However, a few months later, the supplier had reported that yield was constantly decreasing as a result of increasing artificial additives to the soil to cater for increased demand. The buyer was unaware of this action as it was outside the purview of his job. Eventually, the product had to be taken off the shelf and replaced with the old product mix until a constant supply of the ingredient could be ensured in the long term.
Learning:

The power of incentives needs to be strong and cohesive to achieve the desired change in behaviour outcome. In the above two cases, the power of incentives can be observed clearly. They can be used to signal corporate intentions and alter behaviour of employees. Incentive mechanisms can be a powerful way to influence the outcome of sustainability programs.

Private labels

Private label products are usually manufactured by independent suppliers and sold as private label products in retain chains. In some cases, large retailers have the scale and resources to produce their own products. In some cases, a private label can be extended to different product lines and can constitute a large portion of a retailer’s product portfolio. For instance, the Kirkland Signature label from Costco constitutes of products ranging from canned food and beer to laundry detergent and toilet paper. The Kirkland brand has existed since 20 years and contributes to 20% of Costco’s products. 4

High commoditization of products such as sugar, oil and grains has led to a lack of difference between brands and private label products. As this trend increases among other food products, retailers are recognizing that private label products are increasing in demand. Retailers also believe that they can produce products of similar quality, if not better and compete with brands on price and quality. They believe that this ability arises from two reasons – 1) increased visibility in the supply chain and 2) growing power of retailers in the food system (Burch & Goss, 1999), (Mills 1995).

Below are two cases of retailers introducing private label sustainable food products in their stores. These examples present the process from sourcing stage to market entry and highlight the factors that contribute to the success/failure of the process.

Case 1:

“We tried to introduce a non-GMO, non-canola based cooking oil. I found a small supplier who was willing to work with me. It was just the two of us. The product failed miserably.” – a buyer of food products at a large US retailer.

A small supplier had approached a buyer in a large US retail chain and demonstrated a new cooking oil that was based on non-GMO and non-canola. The buyer was very excited with the opportunity to introduce a new product in the portfolio. After a few trials and quality testing, the product was introduced in stores. However, the sales were extremely poor for the initial three months. The product was priced comparable to olive oil and many consumers opted for olive oil as this was perceived as a healthier option. The non-canola oil is still on the shelves but will be removed from all stores in a few months.

4 http://www.costco.com/kirkland-signature.html
The buyer of oil products at the retail firm was excited for a specific reason – personal interest in sustainable and healthy food products. He decided that he would work with the supplier and not seek any support from the rest of his peers in the procurement division. There was no involvement from other parts of the organization. Marketing had not performed a comprehensive analysis of the product, who was the targeted customer and whether it will work or not. This is an instance of where the introduction of a new product that was a healthier option (non-canola) and also sustainable from an environmental perspective (non-GMO) failed to generate sales revenue.

Case 2:

“Within a span of 2 years, we introduced a new type of coffee beans that was grown and harvested sustainably with Fair Trade certification. It has now become one of our highest selling coffee products” – a membership based US superstore.

A large US superstore wanted to introduce a new type of coffee beans. It worked with the farmers and was able to secure a supply of good quality, sustainably harvested cotton. This created a situation where the farmer was able to get a good price for his coffee and the retailer was able to introduce a product that was higher up on the sustainability ladder than its other existing coffee products. This project was a successful effort of a cross-functional working group that consisted of staff from procurement, corporate sustainability, marketing and supply chain.

A working group was created at the start of the project that was chaired by the corporate sustainability team. This working group comprised of staff from different business functions and also third-party farmers’ union representatives. The group was mandated with the introduction of a new coffee bean that was harvested more sustainably in accordance with labour laws and created minimal environmental impact. Having a working committee comprising of different actors helped create political leverage and nudged the project into the limelight. Executive leadership wanted this project to succeed and were heavily invested in its success. The working group was supported by a cast of technical experts in agriculture. Substantial amount of time was spent working alongside the farmer and understanding the coffee growing process. Technical expertise was provided to the farmer to help him improve the coffee harvest. The marketing folks designed a sound and robust market entry strategy for the product.

Learning:

A collective approach towards change making increases the possibility of the change being implemented successfully. In the case of the cooking oil, it was a buyer-supplier group that was trying to introduce a new product. The lack of political leverage and visibility in the company made it difficult for them to succeed. The lack of collaboration with other business functions (marketing) and third-party partners proved to be a hurdle. In case of the coffee bean, the success of the project was highly attributed to the working group that was created solely for the purpose of this project.
8. Conclusion

In the above scenarios, we have seen different sustainability programs implemented at food retail companies. They range from procurement and packaging to product development and innovation. Corporate sustainability departments in companies are tasked with the conception, launch and tracking of the sustainability programs across the organization. These programs require investment of resources in the form of financial capital, technology and human resources. The time horizon of these programs can vary from short (3-6 months) to a long (1-3 years) and the success of these programs can be measured over that timeline. Some adjustments and drivers can be used to influence the outcome of these programs.

In terms of packaging, clear correspondence needs to happen between corporate sustainability teams and business operators. As packaging in food retail occurs in stores and decisions are made by store managers, they need support and expertise in terms of understanding the sustainability program they launch, the context in which it is launched and the metric to measure success. The creation and dissemination of a clear communication plan and strong relationships with business operators will help the likelihood of success.

Procurement is an important function and buyers in a food retail company are key change agents. They are constantly dealing with suppliers of different scale and type to source healthy products. As the buyers are the key touchpoints with the supply chain, a sustainability program will have to be executed by them. Sustainability programs with suppliers are small changes in business operations and process. Due to this, buyers prefer to work with big suppliers who have the potential to scale these programs and create large impact. When dealing with supplier sustainability programs, scale and size of suppliers are key considerations.

Product innovation can be a key component of a food company, either incremental or disruptive innovation. Product development teams comprise of employees from different functions including R&D, sourcing, manufacturing and marketing. Incentive structures are a useful mechanism to alter behavior of employees. The incentives of different personnel involved in the innovation process need to be aligned to each other. If incentives diverge, the behavior of the people involved will create tensions and create a dysfunctional innovation process. The right mix of incentives (financial or otherwise) can nudge employees to think carefully about their business decisions because they have skin in the game.

As with any change, strong leadership is required. The more people invested in a specific product and more visibility, the higher chances of success. With retailers introducing private labels in commoditized food categories, sustainability is an increasingly common term. It is advisable to have cross-functional working groups that heighten collaboration between different parties i.e. sourcing, product development and marketing. This creates visibility in a company. Successful introduction of private labels will require collaboration and political leverage at various levels of the organization. Not having constant support from senior management can create a power vacuum that will decrease the possibility of success.

Future paths for research could be to understand how these different factors interact with each other and coexist in an organization. It is possible that one factor is an accessory to the other, but further research needs to be conducted.
9. Bibliography


