

Selling unattractive food to decrease waste and encourage sustainable consumer behaviour in France: Lessons for Quebec food retailers

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Abstract

Recent studies have revealed that large amounts of food are being wasted. It is estimated that one third of the food produced for human consumption is wasted globally, and that more than 40% of the waste occurs at retail and consumer levels in industrialized countries, such as Canada. In Canada, this waste amounts to \$31 billion worth of food per year, creating negative economic, environmental, and social impacts. Many analysts believe retailers are at the center of the food waste problem since they have both upstream and downstream influences on other actors along the supply chain. An example is a retailer setting strict quality standards for size, shape and appearance of food.

Although there is an increasing number of companies adopting strategies and practices for sustainability, these are often only adopted if financially profitable. There is also a lack of research looking at how companies might positively influence consumers to act sustainably. This research offers to fill these gaps by exploring examples of companies in the food retail sector trying to influence consumers to shift their purchasing behaviour to more sustainable options. Intermarché's Inglorious Fruits and Vegetables (Les fruits et légumes moches) and Les Gueules Cassées offer interesting models to study because they are selling locally grown unattractive fruit and vegetables in traditional food retailers in France at a price on average 30% below conventional produce. These initiatives also focus on educating consumers about food waste and how

misshapen produce offers the same quality, nutritional value and taste as conventional produce.

The purpose of this research is to identify, from industry-led food waste reduction initiatives in France, lessons that can be applied in the Quebec domestic market. The analysis was framed using a triple bottom line approach, looking at whether these business initiatives are financially profitable for the actors involved, good for the environment, and create a positive social impact. The analysis also reviews whether the initiatives can be viable in the long term. The concluding lessons and recommendations for Quebec food retailers are structured using the Efficiency-Substitution-Redesign framework of Hill and MacRae (1996).

The research revealed that both companies were successful in creating strong consumer interest for unattractive food. Intermarché launched the ugly food movement with a well executed marketing campaign, but is having difficulties offering its products on a regular basis because it has set up procurement and financial models that are not sustainable or necessarily food waste reducing. Les Gueules Cassées is growing quite fast by offering different products and helping other countries replicate its model. The model relies on a strong collaboration between the Gueules Cassées collective, producers and consumers.

When replicating these initiatives, if a truly sustainable and health promoting food system is the objective, it will be important for Quebec food retailers to stay true to the values of such a system. They should adopt an

incremental, iterative approach and focus on building mutually supportive relationships with producers and consumers. Flexible contracts with producers should assure that only grade outs are being sold.

Keywords

Food waste, Fruit and vegetables; Grading standards; Business sustainability; Consumer behaviour; Social change; Food retailers; France; Quebec.

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Foreword

This paper was undertaken in partial fulfillment of the requirements for the degree of Master in Environmental Studies (MES) and is the culmination of the three learning components in my Plan of Study (POS): food systems, sustainable business, and consumer behaviour. The purpose of my POS was to explore strategies and best practices for business sustainability in the Food and Beverage sector, and how to engage and educate consumers in order to shift their purchasing behaviour to more sustainable options.

My paper allowed me to investigate how two businesses in France are working towards reducing food waste and encouraging sustainable consumption by selling lower grade and unattractive fruit and vegetables in supermarkets (learning objectives 3.1 & 3.2). Doing a literature review on food waste helped me understand that food retailers occupy a central role in the food waste problem, and as such, there is a big need for them to change their strategies and practices to support a sustainable, equitable and health promoting food system (learning objectives 1.1 & 1.2). My research and discussions with key actors along the food value chain allowed me to become familiar with how the food and agriculture system works in Quebec and France (learning objective 1.1).

By assessing the two cases using triple bottom line theories, I was able to develop my critical thinking skills, as well as gain perspective on the differences between academic frameworks for business sustainability and what businesses are doing in practice (learning objective 2.1). I was also able to further fulfill my learning objective (2.2) of becoming a good and strategic communicator, since I

had to communicate, in oral and written forms, on the subject matter in both English and French.

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Glossary of terms, abbreviations and symbols

APMQ	Association des producteurs maraîchers du Québec (Quebec Produce Growers Association)
\$	Canadian dollar
CFIA	Canadian Food Inspection Agency
cm	Centimeter
CSA	Community Supported Agriculture
€	Euro
EU	European Commission
FAO	Food and Agriculture Organization of the United Nations
kg	Kilogram
mm	Millimeters
MAPAQ	Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (Quebec's Department of Agriculture, Fisheries and Food)
%	Percent
lb	Pound
tonne	Measurement equal to 1,000 kg or 2,204.6 lb
QC	Quebec
UN	United Nations
UNECE	United Nations Economic Commission for Europe
\$ US	US dollar
VCMI	Value Chain Management International

1. Introduction

“The most delicious apples are the odd-shaped ones” – Vandana Shiva¹

Many are concerned by how we will feed a global population of 9 billion by the year 2050. The solution assumed by global thought leaders, such as the United Nations (UN, 2013), the Food and Agriculture Organization of the United Nations (FAO, 2009), and the World Economic Forum (2015), is to produce 50 to 100% more food by 2050. However, it can be argued that the focus should not be on producing more food, but on fixing our current food system because it fails to feed our population and important resources are being wasted. There is food availability in rich countries of 150–200% above what is nutritionally necessary (Stuart, 2009), yet there is still “more than 10% of humanity, almost 800 million people, who are undernourished” (FAO, 2014). In addition, recent studies have demonstrated that large amounts of food are being wasted. It is estimated that one third of the food produced for human consumption is wasted globally, and that more than 40% of the waste occurs at retail and consumer levels in industrialized countries, such as Canada (FAO, 2011). Canada wastes \$31 billion worth of food per year (Gooch & Felfel, 2014) and this creates negative economic, environmental, and social impacts. Many analysts believe retailers are

¹ Quoted at the Food Secure Canada’s eighth national assembly “Waves of change: Sustainable food for all” on November 13th 2014 (Hayes, 2014).

at the center of the food waste problem since they have both upstream and downstream influences on other actors along the supply chain. The solution should be to improve our current food systems so that they are more efficient and effective in reducing food waste and food insecurity (Stuart, 2009). With retailers at the center of the food waste problem, there is a strong case for research exploring solutions to reduce food waste at the industry-level. Although there is an increasing number of companies adopting strategies and practices for sustainability, these are often only adopted if financially profitable (Reinhardt, 1998; Porter & Kramer, 2011). There is also a lack of research looking at how companies are able to influence consumers to act sustainably (Cotte & Trudel, 2010).

This research offers to fill these gaps of knowledge by exploring examples of companies in the food retail sector trying to influence consumers to shift their purchasing behaviour to more sustainable options. Intermarché's Inglorious Fruits and Vegetables (Les fruits et légumes moches) and Les Gueules Cassées offer interesting models to study because they are selling locally grown unattractive fruit and vegetables in traditional food stores in France at a price that is on average 30% below conventional produce. These initiatives also focus on educating consumers about food waste and how misshapen produce has the same quality, nutritional value and taste as conventional produce. The Inglorious Fruits and Vegetables are presented as a private label product led by France's third largest supermarket chain, Intermarché, whereas Les Gueules Cassées is a small company that acts as third-party selling labels to manufacturers, producers

and growers, who then sell their “Gueules Cassées” labeled products to food retailers. They were not the first to launch this idea, but have had the most success in initiating a global movement of consumers demanding unattractive food (or most commonly referred to as “ugly food”). Many lessons can be drawn from these two examples for Quebec food retailers.

Section two of this paper provides important background information on food waste, with a focus on fresh fruit and vegetables rejected due to strict standards governing size, shape and appearance. Literature on business sustainability, consumer behaviour and frameworks for social change are discussed.

Section 3 presents the study’s methodology, including its guiding research objectives, the scope of study, analytical frameworks, how the business initiatives and Quebec were selected, the research design, and the data collection. In fact, the purpose of this research is to identify, from industry-led food waste reduction initiatives in France, lessons that can be applied in the Quebec domestic market. Comparative analysis, interviews and case study techniques were used to evaluate these initiatives. The analysis was framed using a triple bottom line approach, looking at whether these business initiatives are financially profitable for the actors involved, good for the environment, and create a positive social impact. The analysis also reviews whether the initiatives can be viable in the long term.

Sections 4 and 5 present the case studies of Intermarché’s Inglorious Fruits and Vegetables, and Les Gueules Cassées, with information about the

organizations, the brand of the initiatives and the value propositions they offer to different stakeholder groups, the key marketing activities, the internal process (i.e., sourcing the products, the financial structure, the composition of the team), and how the organizations define success.

The analysis and discussion begin in section 6 with the important similarities and distinctions between France and Quebec contexts, followed by the triple bottom line assessment of the organizations, and their strengths and challenges.

The final section 7 provides the concluding lessons and recommendations for Quebec food retailers. These are structured using the Efficiency-Substitution-Redesign (ESR) framework of Hill and MacRae (1996). Limitations of the study and concluding remarks are discussed.

2. Background information

In this first part, background information is provided on food waste, with a focus on fresh fruit and vegetables rejected due to strict standards governing size, shape and appearance. Since food waste creates negative economic, environmental, and social impacts, I thought it was worthwhile to explore how companies might address these. The second part looks at the literature on business sustainability and consumer behaviour, in general and as it relates to the agri-food sector. Frameworks for social change are also explored.

2.1. Food waste

Defining food waste

There exist many ways to understand food waste. Some adopt an economic definition, such as “food or edible material originally meant for human consumption in its entirety or after processing, but is lost along the food chain” (Uzea, Gooch, & Sparling, 2014, p. 10). This definition does not take into account certain agroecological views of material not intended for consumption. An agroecological interpretation of waste sees the food system as a production – consumption – recycle system in the sense that there is no waste, only food for other processes and organisms (Hill, 1985).

A food waste stakeholder map for Canada, from an industry perspective, can be found in Appendix 9.1, which demonstrates the complexity of the food system and how many different actors are involved.

Negative implications of food waste

- Organic waste is a large source of methane emissions, contributing to climate change. Methane is 23 times more potent than CO₂ as a greenhouse gas (FAO, 2011).
- “Alongside the carbon dioxide emissions, food production also produces nitrogen blooms in oceans from fertiliser runoff; methane (a highly potent greenhouse gas) released from livestock farming; and, of course, heavy amounts of water, fuel, and other energy inputs required for farming” (Stuart, 2015, para. 15).

- It is estimated that about half of the water used for producing food also goes to waste, since agriculture is the largest human use of water. (FAO, 2011).
- It is in the best interest of a business to reduce its waste because it can reduce operating costs by 15 to 20 percent and increase profitability by the equivalent of 5 to 11 percent (Waste & Resources Action Program - WRAP, 2014).

How supply chain food waste is generated

The root causes for food waste for each point of the value chain are listed in Appendix 9.2. These segments are: field (split into crop/livestock production, and post-harvest), processing and packaging, distribution and transportation, retail, food service and households. Some of these root causes are weather, inaccurate forecasting, food safety scares, cold chain deficiencies, contamination, grading standards for size and quality, over-production, over-feeding, poor shopping habits (e.g. excess purchases), poor storage, and miscommunication along the supply chain. Many analysts believe retailers are at the center of the food waste problem because they have both upstream and downstream influences on other actors. In other words, they are able to use their economic power to shape behaviours among other actors, leading to heightened levels of food waste.

For example, supermarkets set contracts with producers outlining requirements for supply quantity. Producers need to buy stock from others, at a loss, if they cannot meet the demand of their contracts. Also, because of

unpredictability of the harvest and weather, producers often overproduce to avoid undersupplying in order to not lose contracts (Stuart, 2009, p. 109).

Also, the dominant food culture has lead Canadians to expect that “food should be cheap and bountiful regardless of seasonality” (Koç, Sumner, & Winson, 2012, p. 60). Food availability in rich countries is 150–200% above what is nutritionally necessary (Stuart, 2009). “The extra food is either wasted or is contributing to the global public health crisis we all know about—obesity, type-II diabetes and the host of ailments associated with overconsumption” (Stuart, 2015). The trends likely to drive waste production in the future for developed countries are going to be “produced post-consumer, driven by the low price of food relative to disposable income, consumers' high expectations of food cosmetic standards, and the increasing disconnection between consumers and how food is produced” (Parfitt et al., 2010, p. 3078). Although more and more consumers are making purchasing choices based on ethical, social, economic, and ecological considerations (Johnston et al., 2011; MacRae et al., 2012), there is still a social stigma that fruit and vegetables that are shaped differently than the dominant cosmetically perfect ones, might not deliver the same quality.

Food waste numbers

Global. According to a 2011 report from Food and Agriculture Organization of the United Nations (FAO), “roughly one-third of the edible parts

of food produced for human consumption, gets lost or wasted globally, which is about 1.3 billion ton per year” (p. 4). This translates to \$US 1 trillion of economic costs per year (\$143/person)², 700 billion of environmental costs, and 900 billion of social costs (FAO, 2014c, p. 7). Also, in industrialized countries, “more than 40% of the food losses occur at retail and consumer levels” (FAO, 2011, p. 5).

France. According to the a report by Guillaume Garot (2015), France throws away 17 million tonnes of food per year, which represents 30% of food produced. This translates to an annual cost of food waste of 100 euros³ per person (Garot, 2015, p. 13). For the entire country, the total cost of food waste, not including the cost of environmental damage, is between 12 and 20 billion euros.

Canada. Research by VCMi Canada has revealed that Canada wastes \$31 billion worth of food a year (Gooch & Felfel, 2014). This does not include supplementary costs of labour, energy, transport, inventory, infrastructure, disposal costs, financial, and audits (p. 16). The FAO states that the value of food wasted represents only 29 percent of the true cost of food waste (2014a, p. 19); this would mean that the true quantifiable cost of food waste in Canada is \$107 billion per year. There remain unquantifiable costs of food waste, including “various elements, such as the losses of wetlands, biodiversity of pastures, and

² This translates to approximately 187 Canadian dollars (currency conversion rate of November 1 2015).

³ This translates to approximately 144 Canadian dollars (currency conversion rate of November 1 2015).

the value of fish discarded, as well as the scarcity of essential agricultural inputs and the increase in food prices because of less supply” (Gooch & Felfel, 2014, p. 31). Table 1 shows where the food waste occurred along the value chain from the farm to the consumers in Canada. Almost half of the food waste occurred in the home (47%), once the consumer had purchased the food. The following segments, in order of areas with the most waste produced, include: twenty percent (20%) at the packaging and processing level, ten percent (10%) on the farm (i.e. crop and livestock production, and post-harvest), ten percent (10%) at the retail level, nine percent (9%) in food service, and four percent (4%) of food waste happens at the distribution level.

Table 1

Food waste figures by value chain segment, Canada

<u>Value chain segment</u>	<u>2014 calculations</u>
On farm	10%
Processing	20%
Transport and distribution	4%
Restaurants and hotels	9%
Retail	10%
Consumers	47%
International catering waste	<1%

Note. Adapted from “\$27 billion revisited: The cost of Canada’s annual food waste” by M. V. Gooch and A. Felfel, 2014, p. 12.

Abdulla et al. has found that 44% of food available for consumption is wasted, per person per year (2013, p. 144). Not surprisingly, fresh fruit and vegetables is the food category the most wasted. Uzea, Gooch, and Sparling (2014) also identified fruit and vegetables as a common hot spot for food waste at all points along the supply chain.

Quebec. Food waste research that is specific to the Quebec landscape is limited (Simard Tremblay, 2015). The Quebec Ministry of Agriculture, Fisheries and Food estimated that in 2012 between one-fifth and half of the industry food waste was fit for consumption (Fortin, 2015). Every year, each person in Quebec throws away 183 kilograms of food, which comes to half a kilogram per day (ibid.).

Grading standards for fresh fruit and vegetables

Walking through the produce section of a traditional supermarket, people are often seen sifting through the uniform looking red apples trying to find the glossiest one because they believe it would offer the best quality and taste. Those that have grown their own fruit and vegetables understand that what comes out of the earth does not fit this perfect mold in most cases. Stuart (2009) further explains why this happens:

Most potatoes grown in Europe and America are destined for conglomerates that supply supermarkets and exporters, and thus, before they reach consumers, they must pass a ruthless shape and size test. Despite the energy and money they have put into growing it, potato farmers are forced to discard a portion of their crop. Harvesters leave behind them heaps of reject potatoes: outsized, double lobed, with eyes that seem to wink acknowledgement of the variety of nature that even modern agriculture has failed to quell (p. 99).

After the Second World War, the industrialization of the food system was ramped up with the introduction of the supermarket, global trade, standardization, increased synthetic chemical use, and homogenous food production.

“Centralized distribution systems owned and operated by national retail chain-

store companies favoured a bias toward uniform, standardized fruit and vegetables that could meet narrow cosmetic criteria and taste standards. Only the largest growers could consistently provide this, and they could offer retailers the added benefit of reduced administration costs because the latter could now deal with relatively fewer sellers of fruit and vegetables” (Winson, 2013, p. 164). Global trade has reduced food, such as the apple, to a bland, standardized commodity devoid of nuanced flavour because retailers favour apple varieties that are hard and pretty, but also do well in storage and have enough shelf life to hold their crispness (ibid.). The Retail Council of Canada believes that standards for size and look of fresh fruits and vegetables allow the retailer to know what it is buying and better negotiate with suppliers (Proulx, 2014). Supermarkets make greater profits by selling more expensive ‘high-class’ ranges (Stuart, 2009). For example, Canada Extra Fancy and Canada Fancy apples are what we typically find in the supermarkets and what provide more money to the retailers. Canada Commercial and Canada Hailed apples are lower grades that are usually not offered to the customers in supermarkets in their fresh fruit format. The grades names of the apples specifically used for processing are Canada Commercial Cookers, Canada No. 1 Peelers and Canada No. 2 Peelers. This unfortunately reinforces the current power imbalance between retailers and producers, and even more for the smaller players that might have fewer resources to meet retailer requirements. The Retail Council of Canada was also quick to put the blame on customers for strict cosmetic standards, stating that these are in place because consumers want perfect fruit and vegetables (Proulx, 2014). In Stuart’s

experience (2009), actors in favour of cosmetic standards also say that customers will not buy it because they associate imperfect looking food with bad quality. But this is contested; many believe that retailers are the cause of consumer demand for perfection, using cosmetic criteria originally to gain a competitive advantage in the market place.

In general, private standards are stricter than public standards and are the major source of out-grading (Stuart, 2009; André Plante, Director, Quebec Produce Growers Association, personal correspondence, November 2, 2015). Both Quebec and France allow the sale of out-graded fruit and vegetables, under the condition that they are undamaged (i.e. not diseased or spoiled) and are labelled appropriately to distinguish them from the 'higher' grades. Despite this, the reality is that retailers are still setting strict standards for size, shape and appearance for different reasons that mainly benefit the retailers. In this next section, the regulations around the grading of fresh fruit and vegetables for Quebec and France are explained.

Quebec. A producer growing his fruit and vegetables in Quebec and selling them in the domestic Quebec market needs to follow the *Regulation respecting fresh fruits and vegetables (Règlement sur les fruits et légumes frais, RLRQ, chapter P-29, r.3)*⁴ under the *Food Products Act (Loi sur les produits*

⁴ *Règlement sur les fruits et légumes frais*, RLRQ, chapter P-29, r.3 (in English)
http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/P_29/P29R3_A.HTM

alimentaires, RLRQ, chapter P-29, s. 40)⁵. The *Food Products Act* regulates the safety, grading, packing and marking of fresh fruit and vegetables produced and sold in Quebec. The producer has to respect, for example, Article 3 (do not sell fruit and vegetables whose safety is not assured) and Section 4 (do not use false, inaccurate or misleading information). “The *Regulation respecting fresh fruits and vegetables* is a regulation from 1981 that is being amended because the context has changed, there are new varieties of fruits and vegetables, and new formats and innovative packaging have been marketed by the industry. In general, this regulation is not systematically monitored” (author translation) (Christiane Paquet, MAPAQ, email communication, October 30, 2015). Although the *Regulation respecting fresh fruits and vegetables* has not been removed in Quebec, André Plante, Director of Quebec’s Produce Growers Association (Association des producteurs maraîchers du Québec – APMQ) said that they were told by the government to proceed as if the grading standards were not in effect (André Plante, Director, Quebec Produce Growers Association, personal correspondence, November 2, 2015). Stores, major retailers, as well as producer associations can define quality requirements for fruit and vegetables. For example, the Federation of Quebec Apple Growers (Fédération des producteurs

⁵ *Loi sur les produits alimentaires*, RLRQ, chapter P-29, s. 40 (in English)
http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=/P_29/P29_A.html

de pommes du Québec) and the Association of Quebec Apple Packers (Association des emballeurs de pommes du Québec) have created an identifying logo, “Pommes Qualité Québec”, and established rigorous quality control measures (Christiane Paquet, MAPAQ, email communication, October 30, 2015).

“The recent removal of Ontario’s grading standards was perceived by actors as not having had any significant effect on the generation of waste within their operation, whether positive or negative. The main reason why government grading standards are not considered significant to waste generation is because consumers and retailers continue to impose much more stringent food quality standards” (Siu, 2014, p. 53). “All produce items need to conform to CFIA grading standards. We would fit our Loblaw specific specification within CFIA grading standards. It might be the same or very specific to Loblaw needs depending on the item, but always within CFIA standards” (Dan Branson, Senior Director, Produce, Floral and Garden, Loblaw Brands Limited, Loblaw Co. Ltd., personal correspondence, October 26, 2015).

The *Regulation respecting fresh fruits and vegetables* (under the *Food Products Act*) prohibits the sale of fruit and vegetables that do not meet the classification criteria prescribed by the regulation. “Currently these rules are being revised and MAPAQ, in its strategy to fight against food waste, tolerates the sale of fruit and vegetables that do not meet the classification criteria of the Regulation” (author translation) (Christiane Paquet, MAPAQ, email communication, October 30, 2015). MAPAQ considers out-graded food to be “a fruit or vegetable that, including its shape characteristics, color, quality,

appearance, conservation status, level of maturity and edibility, cannot be classified in a prescribed grading class. These foods can also be disposed of as waste used as industrial byproducts, composted, used to feed animals or processed for the human food supply if their safety is ensured (e.g. out-graded strawberries can be turned into jam)” (author translation) (ibid.).

The quantity of food that is wasted due to retailer requirements varies across fruit and vegetables. There is less waste for apples, for example, because most of these can be sold to the processing industry for juice and applesauce (Proulx, 2014). Industry standards for carrots are very strict. A carrot must be between 6 and 8 inches long, and have a diameter of 1.25 inch and 1.5 inch (Radio-Canada, 2014a). Consequently, more carrots are wasted because of the standard and more limited uses for processed carrots.

France. Being part of the European Union, France needs to follow the *EU Regulation 543/2011⁶ on marketing for fruit and vegetables*. Since July 1 2009, the European Commission, the executive body of the EU, has eliminated a number of marketing standards governing the size and shape for 26 types of fruit and vegetables⁷. Marketing standards remained in place for the following ten fruit and vegetables, which account for 75 percent of the value of EU trade: apples,

⁶ *EU Regulation 543/2011* <http://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:32011R0543>

⁷ These 26 products include, apricots, artichokes, asparagus, aubergines (or eggplant in Canada), avocados, beans, Brussels sprouts, carrots, cauliflower, cherries, courgettes (or zucchini in Canada), cucumbers, cultivated mushrooms, garlic, hazelnuts in shell, headed cabbages, leeks, melons, onions, peas, plums, ribbed celery, spinach, walnuts in shell, watermelons, and chicory.

citrus fruit, kiwifruit, lettuces (i.e., curled-leaved and broad-leaved endives), peaches and nectarines, pears, strawberries, sweet peppers, table grapes, and tomatoes (EU, 2008). Fruit and vegetables not covered by a specific standard must meet the general standard – or the applicable United Nations Economic Commission for Europe (UNECE) standard⁸. The UNECE standard is sometimes less strict than the EU standard, and operators are free to choose which (EC, 2015).

National authorities are allowed to sell all fruit and vegetables, regardless of their size and shape, even for the 10 fruit and vegetables that still need to abide EU marketing standards. The sale is only permitted if they are labelled ‘products intended for processing’ or ‘for animal feed’ or any other equivalent wording. “In practical terms, this means that an apple which does not meet the standard could still be sold in the shop, as long as it were labelled “product intended for processing” or equivalent wording” (EU, 2008, para. 4). When announcing the changes to the EU standards, Mariann Fischer Boel, Commissioner for Agriculture and Rural Development explained that:

This marks a new dawn for the curvy cucumber and the knobbly carrot . . . It's a concrete example of our drive to cut unnecessary red tape. We simply don't need to regulate this sort of thing at EU level. It is far better to leave it to market operators. And in these days of high food prices and general economic difficulties, consumers should be able to choose from the widest range of products possible. It makes no sense to throw perfectly good

⁸ <http://www.unece.org/trade/agr/welcome.html>

products away, just because they are the 'wrong' shape (EU, 2008, para. 2).

Strategies for food recovery and for reducing waste

There exist many strategies for food recovery and for reducing waste. Since reducing waste in one area may in fact create it somewhere else (WRAP, 2011), and because food waste never occurs in isolation, it is important to understand how each point along the supply chain is systematically connected. Gooch & Felfel (2014) recommend addressing food waste earlier along the value chain.

Some of the most commonly referred to strategies for food recovery are those by the United States Environmental Protection Agency (EPA). They state that the best way to deal with surplus food is to reduce it at the source, and the next best would be to feed hungry people. Food that would be discarded because it does not meet cosmetic standards can be seen as surplus food. Retailers and many regulators would believe that using it for commercial purposes, such as selling it to consumers at a discount, is a good way of preventing it from being wasted. The EPA's food recovery hierarchy involves: (1) Source reduction: Reduce the volume of the food wasted; (2) Feed hungry people: Donate extra food to food banks, soup kitchens, and shelters; (3) Feed animals: Divert food scraps to animal feed; (4) Industrial uses: Provide waste oils for rendering and fuel conversions; and food scraps for digestion to recover energy; (5) Composting: Create a nutrient-rich soil amendment; and, (6) Landfill/Incineration: Last resort for disposal. The caveat is that the food charity system becomes dependent on food waste and this can be seen as an easy way

for business to divert their waste instead of making measurable waste reduction efforts.

MacRae et al. (n.d.) suggest a hierarchy that would correct this (p. 17): (1) Edible food for direct human consumption at minimum resource expenditure; (2) Animal feed (and pet food) without human edibles, but includes human inedibles, such as corn cobs, skins, husks; (3) Human and animal inedibles directed to compost and industrial applications, including waxes, leather and other clothing, chemicals, pharmaceuticals, construction materials, plastics, energy, inputs (e.g., compost); and, (4) Sewage sludge and humanure application to farm land to close nutrient and energy loops.

This next section is an overview of what commonly happens to fruit and vegetables that do not meet grading standards, with a focus on what is done in Quebec. These are presented in no particular order of importance.

Donated. A small and regional initiative, Jardins solidaires, was launched the summer of 2014 in the Deux-Montagnes and Mirabel regions in Quebec. They have established partnerships with farmers to collect the fruit and vegetables that do not pass the grading standards and donate it to the Comité d'aide alimentaire des Patriotes, which helps feed food insecure folks (Bennis, 2015). This is, in part, similar to gleaning, to collect what is left in the field after harvest.

Left for waste. In most cases, it is left in the field and wasted, or ends up in organic waste streams (Parfitt, Barthel, & Macnaughton, 2010). Nutrients might be efficiently retained if it is sheet composted.

Processed. A secondary market for grade two produce is the processing sector, to further process the fruit and vegetables into soups, jams, jellies, etc. Farmers make less money selling to this sector than they would have selling fresh produce, even if it is at a discount (Van Der Linde, 2015). In addition, the processing industry has their own grading standards for the type of food products they are looking for. Marc Vincent, president of the Co-operative for apples in Deux-Montagnes, Quebec, also described the difficulties producers are now having in competing with other countries, such as China. "Normally a bushel of apples (19 kilos) is purchased at \$4.20 per unit for the production of juice or puree. In 2013, the price dropped to \$2.90 / bushel and in 2014, growers expect an even lower price. Competition comes mainly from China which sells apple concentrate at a very competitive price" (Proulx, 2014).

Animal feed. Some of the fruit and vegetables that are rejected will be fed to pigs and other livestock, but this is an inefficient way of using food originally grown for humans (Stuart, 2009, p. 99).

Sold in independent shops. It is common to offer lower grade fruit and vegetables in ethnic grocery stores, but this is on a smaller scale (Association des détaillants en alimentation du Québec, 2014). Plante (APMQ) further explains, "Right now in Quebec, especially fruits and vegetables, there is 'ugly', sold cheaply, in small independent stores. Among the targeted customers: the less fortunate immigrants. They look for these fruits, because they want to sell them at aggressively reduced prices. Their philosophy is that some immigrants

come from countries that are not rich. For them, what is important is that the product is nourishing, not aesthetics” (author translation) (Radio-Canada, 2014a).

Sold to the public at a discount in food retailers. Since March 2014, there has been a push to sell these products to the public at a discount. Table 2 showcases the different unattractive food initiatives in France and Canada. Photos of these initiatives can be found in Appendix 9.3. The first two, Inglorious Fruits and Vegetables and Les Gueules Cassées, are my case study initiatives and will further be explored in the following sections of the paper.

Ugly food movement

The rise in popularity of selling low-grade fruit and vegetables has been referred to as the ugly food movement. Although you can see the beginning of the ugly food movement as early as 2009 with Tristram Stuart’s book *Waste: Uncovering the global food scandal* (UK), it wasn’t until 2014 that ugly food entered mainstream consciousness. That was the year that French supermarket Intermarché launched its Inglorious Fruits and Vegetables campaign. That same year, the Canadian documentary, *Just eat it: A food waste story*, was released (Rustemeyer & Baldwin, 2014). According to the documentary, there is a need for people to revalue food in a new way. This idea of “revaluing our perception of food” is supported by many high profile food professionals such as Dana Cowin, Food and Wine’s editor-in-chief, who delivered a presentation at TEDx Manhattan in March 2015 entitled “How ugly, unloved food can change the world”. She stated that we need to “take what we once thought was ugly and see it as beautiful,” and “by redefining what we believe is desirable in food we can

reduce waste and, at the same time, embrace and eat delicious, nutritious food" (TEDx, 2015). "After noticing the rising popularity of marketing ugly fruits and vegetables at food industry shows, the Sterling-Rise Group, an American ad agency that specializes in culinary communication, declared the movement a top culinary trend for 2015" (Marshall, 2014, para. 4).

The food movement can be broadly defined as the movement against corporate industrial agriculture and the desire to reconnect with food and its production. Food movements are typically led by environmental groups and consumer associations, not governments, industry or producer associations (Murdoch & Miele, 2004). These groups have long pointed to the problems associated with industrialized and globalized production processes, and have gone on to assert alternative modes of production and consumption" (ibid., p. 163). The ugly food movement, although closely related to the local food movement, might not fit within this definition since industry and producer associations launched it.

Table 2 showcases the different unattractive "ugly" food initiatives in France and Canada. Photos of these can be found in Appendix 9.3. The first two, Inglorious Fruits and Vegetables and Les Gueules Cassées will be further explored in the following sections of the paper as case studies. The first to offer unattractive fruit and vegetables at a discount in Canada was Red Hat Co-op in Alberta with a campaign called Misfits with the marketing tagline "The rise of the rejects" (Marshall, 2014). They were sold in 11 Red Coop stores over the month

of November 2014. A start-up called Second Life is also selling baskets of unattractive produce by e-commerce in Montreal (Kucharsky, 2014).

Table 2

Unattractive food initiatives in France and Canada

<u>Brand</u>	<u>Organization</u>	<u>Stores (location)</u>	<u>Year started*</u>	<u>Type of model</u>
Inglorious Fruits and Vegetables (Les fruits et légumes moches)	Les Mousquetaires (a distributor)	Intermarché (France)	2014, March	Led by supermarket
Les Gueules Cassées (“Quoi ma gueule?”)	Sols et Fruits (a producers association)	Monoprix, Leclerc, Franprix, Carrefour, Géant Casino, Casino Supermarché (France)	2014, March	Third-party selling labels to producers who then sell their “Les Gueules Cassées” labelled products to supermarkets
The Misfits	RedHat Co-operative Ltd.	Red Hat Co-op (Alberta, Canada)	2014, November	Private label, led by the Co-op
no name® Naturally Imperfect™	Loblaw Companies Limited	No Frills, Supercenters (Ontario, Canada), Maxi (Quebec, Canada)	2015, March	Led by supermarket
Second Life	Second Life (a small enterprise)	Order online then pick-up at various locations (Montreal, Quebec, Canada)	2015, April	Direct to consumer, “CSA baskets”, intermediary between producers/growers and consumers
Odd-looking Fruit and Vegetables (Les fruits et légumes drôles)	Sobeys	IGA (Quebec, Canada)	2015, August	Led by supermarket

Note. *When products were made available for purchase. From CBC, 2014b; Les Gueules Cassées, 2015a, 2015b; Kucharsky, 2014; Loblaw Companies Limited, 2015; Marshall, 2014; Van Der Linde, 2015.

Loblaw was the first large retailer to launch an unattractive fruit and vegetables initiative in Canada. On March 12 2015, they announced the launch of the no name® Naturally Imperfect™ brand (*Freshness and quality... in all shapes and sizes*), and that apple and potatoes would be sold under this brand in select discount brand stores, such as No Frills and Supercenters in Ontario and

Maxi in Quebec. When asked where they sourced the apples and potatoes sold in Quebec stores, Dan Branson the Senior Director leading the initiative explained that they would “supply Quebec product to Quebec consumers for programs grown in Quebec. If Quebec does not produce the item, we would look to the rest of Canada first and then beyond. We would not supply Ontario or Atlantic apples to Quebec, for example. Quebec has a very strong local industry” (Dan Branson, Senior Director, Produce, Floral and Garden, Loblaw Brands Limited, Loblaw Co. Ltd., personal correspondence, October 26, 2015). The price for these were found to be \$3.98 for a six pound bag of apples and \$1.48 for five pound bag of potatoes, on March 12 2015 in a Supercentre store in Windsor, Ontario (Hill, 2015). The information on the bag of apples is: Canada Commercial - Minimum diameter of 60mm (2 3/8 in) Product of Canada, 6 lb. However, a minimum diameter of 60mm is the standard for all grades of apples (according to Schedule 1, Section 4.b of Fresh Fruit and Vegetable Regulations⁹). “Produce involved in the no name Naturally Imperfect program was previously used in juices, sauces or soups, or may not have been harvested due to their small size. With this program, Loblaw Companies is working to ensure farmers have a market for smaller, misshapen fruit ensuring it does not go to waste” (Loblaw, 2015). Not much information is provided about the success of the Naturally

⁹ http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._285/page-19.html#h-27

Imperfect™ brand since its launch, only that it has been a hit with consumers (Van Der Linde, 2015).

In an interview with La Presse on October 16, 2014, Laurie Fossat, Communications representative for IGA-Sobeys in Quebec mentioned that taking on an initiative selling lower grade produce in stores at a discount “would involve so many huge changes - in logistics, procurement, location in the store - in the medium term, we do not plan to do anything in all 280 IGA . . . It is possible that some of our merchants, who are independent, can try things at the local level. If consumer expectations become very high on this issue, we would need to follow the movement" (Allard, 2014, para. 20). A little less than a year later, Odd-looking Fruit and Vegetables (Les fruits et légumes drôles) were launched with the tagline: They are beautiful on the inside (À l'intérieur, ils sont beaux). For six weeks starting August 12 2015, a half-dozen varieties of Quebec-grown odd-looking fruits and vegetables were sold in the produce sections of all 290 Quebec IGA stores and offered at the IGA online store (IGA, 2015). The six products included cucumbers, carrots, tomatoes, beets, sweet peppers, and apples. These were based on season and availability, and were 30% less expensive on average than the standard produce. They were marketed as offering the same taste and nutritional value as standard produce. IGA also provided recipes and said that they were ideal for making homemade smoothies, juice, compotes, soup, sauces, or marinades during the harvest season. Laurie mentioned that IGA-Sobeys will be revealing results once they are done evaluating this initiative, but that they “are very satisfied: consumer expectations were there and they

proved they were interested in these products” (author translation) (Laurie Fossat, Communications Advisor, Sobeys Québec, personal correspondence, October 28, 2015).

2.2. Sustainable business and consumer behaviour

In this next section, I explore literature on business sustainability, consumer behaviour, and frameworks for social change.

A company showcases best practices in business (or corporate) sustainability when it has successfully created environmental, social and economic value, and has gained a competitive advantage over its peers by re-aligning and/or re-inventing its corporate strategies towards a more sustainable business model (Bansal, 2005). Also commonly known as the “triple bottom line” or a “win-win-win” approach to business which defines sustainability as means of pursuing economic performance, social justice and environmental quality objectives together (Elkington, 1994). A win-win-win strategy simply means that multiple parties, such as the buyer, the seller, and the environment, benefit from a business initiative (ibid.). Corporate social responsibility (CSR) is becoming an outdated term and is evolving to Creating shared value (CSV). Porter and Kramer (2011) introduced the concept of shared value, which “blurs the line between for-profit and nonprofit organizations” (p. 67) and can be defined as “policies and operating practices that enhance the competitiveness of a company while simultaneously advancing the economic and social conditions in the communities in which it operates” (p. 66). They argue that “creating shared value

will be more effective and far more sustainable than the majority of today's corporate efforts . . . Companies will make real strides on the environment, for example, when they treat it as a productivity driver rather than a feel-good response to external pressure" (2011, p. 75). This means that a company should focus on opportunities that leverage its unique resources and expertise to collaborate with the community and create positive social and economic impact. Eccles et al. (2012) also provide a framework on how companies can become sustainable based on having "an established organizational culture that includes strong capabilities for change, a commitment to innovation and high levels of trust" (p. 44).

Business sustainability in the food sector

Companies in the agri-food sector face economic advantages and challenges in terms of supply and demand. On one hand, there is a constant demand for their products because people need food to sustain life. In terms of challenges, these non-durable goods have short shelf lives. According to a Food and Staples Retailing industry trend report (Bhandal & Joldersma, 2011), "to attract and retain consumer loyalty, companies must offer a range of products and services that meet diverse tastes, lifestyles and budgets, while meeting increasingly stringent quality, health and safety standards" (p. 2). However, "while the emphasis on health and values grows, price and convenience continue to be the primary drivers of consumer decisions" in the food retailing industry (p. 2). BrandSpark's annual Canadian Shopper Study, surveying 65,000 Canadians in 2014, revealed that consumers want value for their money. In fact, "87% of

Canadians will stock up when their favourite products are on sale, 57% shop at more than one store to get the best deal on different items, 72% say healthier foods generally cost more, and 49% say there aren't enough convenient healthy options" (Canadian Grocer, 2015).

Studies have shown that overconsumption causes social and environmental problems, such as the nutritional degradation of food, increased rates of obesity, the contamination of bodies of water, and many others (Smil, 2004; Winson, 2013). "Given the reality of fast-diminishing resources and increasing consumption . . . consumers and producers must develop a model of sustainable consumption within a global commons" (Joy & Li, 2012, p. 159). A systematic review of the body of knowledge on socially conscious consumerism (Cotte & Trudel, 2010) has identified a lack of research on how companies influence consumers to act sustainably. It must be understood that caloric consumption is not highly elastic to income levels (Andreyeva, Long, & Brownwell, 2010). In order for food retailers to increase their financial bottom line, they have the option to either convince consumers to purchase more items, or increase profit margins by adding value to existing food products so that consumers want to pay more (e.g. as seen with most organic and artisanal food offerings). This is actually one of the failings of a capitalist food system, that the capitalist drive for growth in sales, market share or share price is actually antithetical to a food system that promotes health. In reality, most sustainable business model frameworks by scholars and practitioners advise businesses to only adopt sustainability goals and strategies if it allows for a competitive

advantage that will ultimately increase financial profitability (Reinhardt, 1998; Porter & Kramer, 2011). Also, Upward (2015) found in his research designing strongly sustainable business models that “business models of organizations that claim they are attempting to increase their sustainability do not systemically apply the latest natural and social science knowledge of what constitutes sustainability” (p. 10). Similarly, these elements demonstrate again the weakness of the capitalist model.

Responsible consumerism

The study of consumer behaviour focuses mainly on the buying behaviour of individuals and groups, by looking at the “processes involved when they select, purchase, and use or dispose of products, services, ideas, or experiences to satisfy needs and desires” (Solomon, Dahl, & White, 2014, p. 27). A buyer’s response reflects his/her own characteristics (attitudes, motivation, perceptions, personality, and lifestyle) and can be influenced by external factors such as marketing stimuli (the product, price, place and promotion) and environmental stimuli (economic, technical, political, and cultural) (Sandhusen, 2000, p. 218). As such, companies often target their products and marketing efforts by segmenting consumers along many dimensions, including product usage, demographics (e.g., age and gender) and psychographics (e.g., psychological and lifestyle characteristics) (Solomon, et al., p. 27). Methodologies used by marketers to gather consumer insights include, surveys, focus groups, in-depth interviews, observation, qualitative methods, and experimental approaches

(Solomon et al., p. 28). However, Armstrong (1991) argues that consumer behaviour is very difficult to predict, even for experts in the field.

Consumerism is the “ideological dimension of consumer culture – a culture where commodity acquisition is a primary and perpetual source of meaning – and it is commonly critiqued for . . . enabling unsustainable capitalist expansion” (Koç et al., 2012, p. 382). As mentioned previously, studies have shown that overconsumption causes social and environmental problems, such as the nutritional degradation of food, increased rates of obesity, the contamination of bodies of water, and many others (Smil, 2004; Winson, 2013). In response to this, more and more consumers are making purchasing choices based on ethical, social, economic, and ecological considerations (Johnston et al., 2011; MacRae et al., 2012). People want to know where the food comes from and what happens along the value chain. This group of people may be known as “citizen-consumers”, which Johnston (2008) defines as those voting with their dollars (p. 233), and viewing shopping as an entry point for political engagement (p. 239). Some other factors that influence or impede individuals as responsible consumers are described with Cotte and Trudel’s model of socially conscious consumerism. This model resulted from a systematic review of the literature that looked at “whether consumers are willing to reward firms for their positive sustainability actions either by changing their behaviour (choosing the socially responsible product, choosing it more often, buying more of it) or by paying a price premium” (2010, p. 10). “The findings suggest the average premium for socially conscious products and services is 10%” (p. 16); however, “more studies

find a willingness to change behaviour than find a consumer willingness to pay a premium” (p. 29).

There exist different economic models and frameworks to measure the demand for sustainable food choices, such as neoclassical demand models, choice modelling, and contingent valuation to measure willingness to pay (Boccaletti, 2008). Reinhardt (1998) believes that in order to make a strategy of environmental product differentiation succeed, a business must satisfy three requirements:

- The business must find, or create, a willingness among customers to pay for environmental quality;
- The business must establish credible information about the environmental attributes of its products; and,
- Its innovation must be defensible against imitation by competitors.

One of the issues with willingness to pay studies, during which individuals are asked how much they are willing to pay for sustainable products, is that the answers may not actually reflect reality. In fact, consumer attitudes towards these products are often more positive than their behaviours (Vogel, 2005; Bhattacharya & Sen, 2004; Vermeir & Verbeke, 2006). A study looking at the intention-purchase gap for sustainable food products demonstrated that communication efforts and the provision of information on sustainable and ethical food consumption can raise involvement, perceived availability, and perceived consumer effectiveness (Vermeir & Verbeke, 2006). Other ways that companies can improve their research methods include the following:

Future research should use personality variables, not demographic variables: they predict behaviour better, especially the more closely they are tied to the domain of interest. That is, values and attitudes are more important to whether someone will buy a socially responsible product (and maybe pay more for it) than age, income, etc. (Cotte & Trudel, 2010, p. 7).

When it comes to influencing shoppers to buy more fruit and vegetables, Andreyeva et al. (2010) found that a ten percent reduction in prices combined with an educational campaign would increase sales of fruit and vegetables:

A 10% reduction in the price of fruits and vegetables would increase consumer purchases on average by 7.0% and 5.8%, respectively . . . but changes in prices alone would probably not increase consumption of fruits and vegetables to the levels recommended in [most countries] dietary guidelines. However, price changes combined with public education campaigns and other regulations affecting the food environment in institutional and home settings may have a multiplicative effect that could significantly improve diets, particularly among at-risk population groups (p. 221).

Social change

Going through the literature, I noticed that strategies around behavioural change have also been associated with the concept of social change. Social change is “a systemic transformation, over time, in patterns of thoughts, behaviour, social relationships, institutions and social structure” (Praszkier & Nowak, 2012, p. 37). It has two major goals: to change collective behaviour and to improve society. Stephan, Patterson and Kelly (2013) found four areas of social change: environmental behaviour, health behaviour, civic engagement, and social and economic inclusion (p. 15). External rewards, such as financial incentives, are not necessarily the best way to influence behaviour change

(Arnold & Randall, 2010; Geller, 2001). “Behaviour change is more likely to be lasting when people rationalize that they are changing for their own reasons” (Stephan et al., 2013, p. 34), however there are opportunities for businesses to help create social change. After systemically reviewing the body of evidence on social change¹⁰, Stephan et al. created a framework on how businesses can drive social change and how they should organize themselves to successfully launch a change project. They identified three conditions necessary for an individual or groups to change: motivation (Are the actors motivated to change?), capability (Do the actors have the capabilities to change? That is, do they believe that they can change, and do they know how to change?), and opportunity (Do the actors have the resources and conditions to change?) (p. 18). The framework for creating social change is described below and can also be found in Appendix 9.4. The mechanisms most clearly supported by research are identified with an asterix (*). The mechanisms that business can act on to bring about social change in individuals and groups are (p. 81-82):

- *Motivation-based mechanisms, which motivate actors to change:*

Communicate (e.g., be credible, raise awareness*, provide meaning and

¹⁰ Stephan et al., reviewed academic and practitioner sources on social change published in the past 20 years. They retrieved 10,509 sources (8,054 academic and 2,455 practitioner), which were screened for inclusion. Their review synthesizes evidence on business-driven social change from 123 sources (107 academic and 16 practitioner).

- identity and create emotions, provide prompts and guidelines*); pressure (e.g., use social pressure*, use coercive pressure); and, incentivize (e.g., set goals and elicit pledges*, provide feedback*, reward financially*, reward through image, reputation and recognition*).
- *Opportunity-based mechanisms, which create opportunities for actors to change:* Set up empowering structures and resources (e.g., create inclusive governance structures, create transparency, enable access to resources*); use and build social relationships (e.g., build bridging relationships, build supportive relationships); and, restructure the environment (e.g., change the physical or social context*).
 - *Capability-based mechanisms, which enable actors to change:* Build self-efficacy and confidence; educate to increase knowledge and understanding*; and, train and build skills.

The following organizing practices were identified to successfully run social change projects (p. 81-82):

- *Motivation-based organizing practices, which capture how to motivate project staff and stakeholders to deliver change:* Build a shared project vision and goals; pick low-hanging fruit and create quick wins; and, evaluate and provide feedback.
- *Opportunity-based organizing practices, which capture how to build project resources and opportunities to deliver change:* Create inclusive project governance; build a sustainable project resource base; leverage project relationships; and, innovate to create new opportunities.

- *Capability-based organizing practices, which capture how to develop project capabilities to deliver social change*: Build project credibility; adopt a systems approach (e.g., understand and build on local knowledge and culture, build on existing strengths*, involve relevant stakeholders); show leadership (connect, coordinate, empower); and, develop the project skill base*.

Another piece of literature describes five distinct qualities that are needed for organizations to create scalable, sustainable innovations in social change (Christensen et al., 2006). This was designed as a guide for investors to help identify organizations that are innovative, working towards social change, but mainly to identify what would be a good financial investment. Despite the profit-first view of the model, it helps to assess if a business initiative is well setup to be viable in the long term. The five qualities are (p. 101):

1. They create social change through scaling and replication.
2. They meet a need that is either over served (that is, the existing solution is more complex than necessary for many people) or not served at all.
3. The products and services they offer are simpler and cheaper than alternatives, but recipients view them as good enough.
4. They bring in resources, such as donations, grants, volunteer manpower, or intellectual capital, in ways that are initially unattractive to incumbent competitors.

5. They are often ignored, disparaged, or even encouraged by existing players for whom the business model is unprofitable or otherwise unattractive and who therefore avoid or retreat from the market segment.

All in all, frameworks for social change guide companies in changing people's behaviour in order to benefit society and the environment. These have been essential in guiding my methodologies.

3. Methodology and research design

3.1. Research objectives

The purpose of this research was to help understand real-life situations of industry level food waste reduction strategies and implementation. I wanted to find out more about specific elements in their design and delivery that would allow for these initiatives to be sustainable, that is, to be profitable for the actors involved (i.e. organization leading the initiative and the food producers), to be good for the environment by reducing food waste, and to be creating a positive social impact for consumers. It was also important to understand whether these initiatives can be viable in the long term. Ultimately, I framed my analysis and recommendations to determine if these initiatives can be replicated and applied by traditional Quebec food retailers.

My research objectives were as followed:

- Develop cohesive descriptions of both cases.
- Uncover strengths and indicators of success for both cases.
- Uncover challenges and indicators of failure for both cases.

- Evaluate if both business initiatives are sustainable (i.e. good for the financial bottom line, the environment, and society).
- Review whether the initiatives can be viable in the long term.
- Develop findings that are relevant to both cases as well as for other Quebec food retailers that might adopt such a strategy.

3.2. Selection of business initiatives for analysis

I decided to study two examples of French business initiatives that are selling, at a discount, produce that would normally be rejected by supermarkets because they do not meet industry cosmetic and quality standards. These are Inglorious Fruits and Vegetables (Les fruits et légumes moches) by supermarket chain Intermarché, and Les Gueules Cassées by producer group Sols & Fruits. These two were selected to study because they met my evaluative criteria:

- To explore a new initiative. Inglorious Fruits and Vegetables and Les Gueules Cassées were launched in March 2014, a few months before I submitted my research proposal in December 2014. Also, not much research has been done looking at this type of strategy.
- To focus on an industry-led initiative done at the food retailer level that addresses food waste. Intermarché and Les Gueules Cassées have adopted strategies that both address downstream (i.e., by changing consumers' high expectations of food appearance and educating them about food waste) and upstream food waste (i.e., by selling food that would be normally be rejected due to cosmetic standards).

- Business initiatives that take a triple bottom line approach. Both initiatives have described their initiatives as being “win-win-win”. I thought that it would be interesting to dive deeper to reveal if this is actually true.
- To have enough available data and information on each case. There were similar initiatives that were launched prior to Intermarché’s Inglorious Fruits and Vegetables, and Les Gueules Cassées, however the information was not available in English or French. Some of these initiatives include Fruta Feia launched in Portugal and Kromkommer launched in the Netherlands.
- To select an initiative that could be a good model to replicate. Since the successful launches of Inglorious fruits and vegetables and Les Gueules Cassées in March 2014, both initiatives have received great media attention and many similar initiatives have recently been replicated globally, often making reference to these two initiatives as inspiration. I believe it is an exciting time to explore this issue because it is very current. They have also received many awards for innovative business ideas and best marketing campaigns.

3.3. Selection of Quebec

Being a researcher based in Canada, it was important for me to draw lessons back to the Canadian context. I decided to focus on Quebec because it shared similarities with France, such as the same language, a strong identity to nationalism and to the earth. Some of these similarities between the France and Quebec contexts are further explained in section 6.1. Interestingly, during my

research, Quebec has been the Canadian province that has seen the most development of this idea of reducing food waste and offering non-calibrated fruit and vegetables, with Sobeys choosing to launch unattractive food initiatives in Quebec only (refer to table 2 in section 2.1).

3.4. Research design

I used Yin's Case Study Research Design and Methods (2014) to carry out my research. First, I conducted literature reviews on food waste, business sustainability, and consumer behaviour. Second, I collected qualitative and quantitative data to understand the food waste reality globally, in France, in Canada and in Quebec. Data was also collected on the similarities and differences of France and Quebec's regulatory, economic environment, natural and socio-cultural environments. I also gathered information on both initiatives to develop cohesive descriptions of both cases. The literature reviews and the qualitative and quantitative data analysis helped refine the interview questions for the development of the two case studies.

In terms of the design of the case studies, I developed two exploratory cases, inspired by Yin's embedded multiple-case design (Figure 1). In order to meet my research objectives, I modified the design slightly to place both studies within a shared context instead of distinguishing between two separate ones. This shared context is having a business model of selling imperfect food at a discount. My case study design model is illustrated in Figure 2. The second distinction is that I added an extra layer of contextual conditions to analyze in

relation to the cases. This broader context is to determine if these types of business initiatives can be sustainable (e.g. profitable, and good for the environment and society). During the data collection and analysis, I had to take into consideration the differences between the designs of each model, as well as the structural organization and capacities of each businesses. Inglorious Fruits and Vegetables is an example of a product offering led by a large supermarket chain, Intermarché. Sols & Fruits is a small enterprise that acts as an intermediary providing an anti-waste label “Les Gueules Cassées – Quoi ma Gueule?” to producers and manufacturers who then uses their own distribution channels to supply imperfect food to supermarkets.

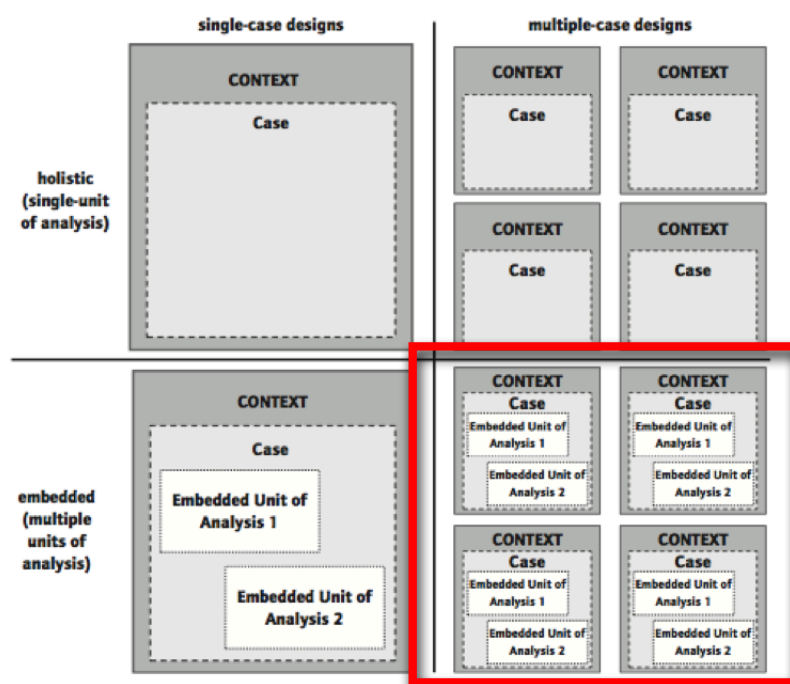


Figure 1. Basic types of design for case studies. From COSMOS Corporation, as cited by Yin, 2014, p. 50.

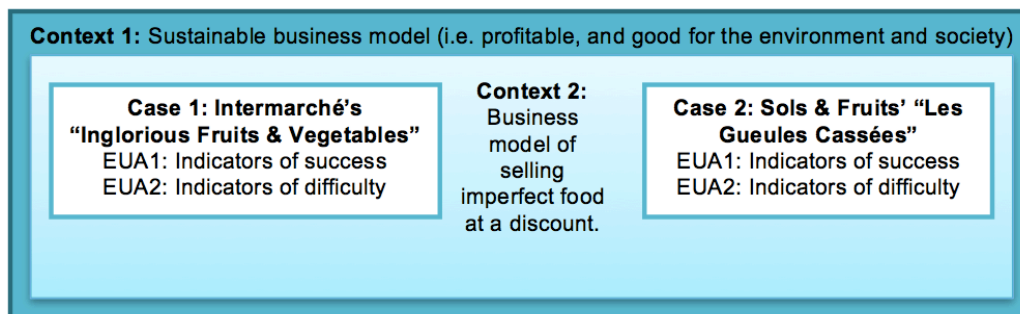


Figure 2: Research design for case studies.

3.5. Analytical frameworks

For the triple bottom line approach, I analyzed both initiatives to determine if they showcased a balance between financial, social, and environmental performance. I also assessed their potential to be viable in the long-term. For each component, I used a variety of theories and frameworks explored in section 2.2, such as Porter and Kramer's (2011) creating shared value framework, Christensen et al. (2006), the five qualities of catalytic innovators for social change, and Eccles et al.'s (2012) framework on how companies can become sustainable; however, Stephan et al. (2013) framework for creating social change is what mostly guides my assessment. Finally, the lessons and recommendations for Quebec retailers are structured using the Hill and MacRae (1996) Efficiency-Substitution-Redesign framework.

Financial. For assessing whether the initiatives are financially viable, I looked for any obvious red flags in how the companies set up their financial structure. I used Porter and Kramer's framework of Shared Value Creation (2011) to assess if the companies are also creating value for other stakeholders in the community, like the producers and consumers.

Social. I looked at how the companies interact with the following two stakeholder groups: consumers and producers. Stephan et al.'s (2013) framework for creating social change is used to assess if Les Gueules Cassées and Intermarché are taking the right steps to create social change, that is to drive behavioural change towards sustainable consumption.

Environmental. In the scope of this study, I only looked at where the companies are sourcing their products, if these are actually waste reduction initiatives, and if the initiatives are good for the environment in general. I did not look at the companies' environmental footprint (e.g. carbon emissions of transportation fleet, etc.) because this information was not readily available.

Long-term viability. The focus was to determine if these initiatives have the potential to last. With only 1.5 years having passed since the launch, it will be important to keep in mind how successful the business has been in scaling up their initiative, as explained by Christensen et al. (2006). For example, "just because an organization has come up with a good idea for systemic social change doesn't mean that it will succeed in implementing that change . . . Assess whether the group's business model can allow it to effectively introduce the innovation, scale it up and sustain it" (p. 101). It was also important to look at how successful the organization is in collaborating with other key stakeholder groups, and allowing them to take ownership of the project. In fact, "widespread and long-lasting change occurs when a business works closely with the people whom it is trying to change, letting them help shape the social change effort" (Stephan et al. 2013, p. 70).

Lessons and recommendations. Finally, the lessons and recommendations for Quebec retailers are structured using Hill and MacRae's (1996) Efficiency-Substitution-Redesign (ESR) framework to help transition from conventional to sustainable agriculture. Strategies become more comprehensive as they move along the framework, requiring increasing levels of time and resources for their implementation. Efficiency strategies require less time and resources. They "involve making minor changes to existing practices to help create an environment somewhat more conducive to the desired change. The changes would generally fit within current policy making activities, and would be the fastest to implement and may require minimal additional resources" (MacRae et al., n.d., p. 17). Substitution strategies "focus on the replacement of one practice, characteristic or process by another, or the development of a parallel practice or process in opposition to one identified as inadequate" (ibid.). To reach the final redesign stage, the strategies from the first two stages should be implemented. Redesign strategies take longer to implement and require more resources because they demand fundamental changes in the use of human and physical resources. The strategies should be "based fully on the principles of ecologies, particularly agroecology, organizational ecology, political ecology and social ecology, and are fully elaborated to address complexity" (ibid.).

3.6. Scope of study and data collection

In terms of the scope of my study, I studied the initiatives from the beginning of their launch, March 2014, to the end of October 2015. I focused my

research on the domestic Quebec market; that is, Quebec-grown fresh fruit and vegetables to be sold in Quebec food retailers.

I relied on multiple sources of evidence including: informational interviews, semi-structured interviews, external organizational documents, governmental and non-governmental reports and assessments, public news sources, press releases, and academic publications. Unfortunately, I was not able to gain access to internal organizational documents. As a francophone, and since my research looked at France and Quebec, I was able to include a larger selection of sources of information because some were only available in French.

To develop the case studies, I conducted semi-structured interviews over video (Skype) and telephone, in French, with individuals at each company. I interviewed two Intermarché employees who were key members of the team in charge of Inglorious Fruits and Vegetables. These were Sylvie Cole, External Communications Manager (Responsable de la communication externe) and François-Xavier Trillot, Purchasing Manager, Fruit and Vegetables (Responsable des achats fruits et légumes). I interviewed the Founder of Les Gueules Cassées, Nicolas Chabanne. Unfortunately, due to availability, I was not able to interview a second person from Les Gueules Cassées. Thankfully, Les Gueules Cassées is very transparent in sharing information publicly on its social media and website, and has participated in many radio and video interviews that are publicly available. The interview guide for the case study organizations can be found in Appendix 9.5. I also conducted a semi-structured phone interview with André Plante, Director of Quebec's Produce Growers Association (Association

des producteurs maraîchers du Québec - APMQ) to understand the views of the fruit and vegetables growers on selling of out-graded fresh fruit and vegetables in Quebec. These questions can be found in Appendix 9.6.

In terms of informal interviews, I received further clarification on the Quebec food system and fresh fruit and vegetables standards from MAPAQ and key individuals from both large food retailing chains that have launched unattractive food initiatives in Quebec: Dan Branson, Senior Director, Produce, Floral and Garden, Loblaw Brands Limited, Loblaw Co. Ltd., and Laurie Fossat, Communications Advisor, Sobeys Québec.

I fulfilled York University Research Ethics requirements for human subject involvement in the case study interviews. All research participants have given me consent to disclose their names and the information they have shared.

4. Case study of Intermarché's Inglorious Fruits and Vegetables

4.1. About the organization

Intermarché is the third largest supermarket chain in France. With the tagline “United against an expensive life” (Tous unis contre la vie chère), it can be described as “a bit out of style, rural, du terroir” (author translation)¹¹ (Sylvie Colé, External Communications Manager, Intermarché, personal

¹¹ Sylvie Colé described Intermarché in French as “Ringard, de province et du terroir”.

correspondence, August 24, 2015). Intermarché is part of the large retail group called Les Mousquetaires. Intermarché has 1,800 stores in France and these are divided into several groups: Intermarché Hyper (for the largest stores between 3,200 m² and 6,000 m²), Intermarché Super (around 2,000 m², for most Intermarché stores), Intermarché Express (convenience stores installed in city centers), and Intermarché Contact (convenience stores in rural areas, formerly known as Écomarché). “Intermarché is not an integrated company in the sense that all of our 1,800 stores are independently owned. How it works is that the Head Office offers guiding strategies and ideas, and then the store owner has the choice to follow, to a certain a degree” (author translation) (Sylvie Colé, External Communications Manager, Intermarché, personal correspondence, August 24, 2015). In addition to being a food retailer and distributor, Intermarché is a manufacturer. It is the only French brand to own 64 manufacturing facilities spread throughout France in 12 sectors (cookies, seafood, beef, wine, milk, etc.). This means it has control of the entire chain of production and supply to the marketing of its products for their private labels.

4.2. The brand and its value propositions

The overall marketing message for Inglorious Fruits and Vegetables (Les fruits et légumes moches) is “A glorious fight against food waste” (Une belle idée contre le gaspillage). According to Intermarché’s advertising agency, this is a win-win-win campaign because “consumers get the same quality products for cheaper, the growers get money for products that are usually thrown away and

Intermarché increases its business by selling a brand new line of products” (Marcel, n.d.). Mathieu Delcourt, Head of Advertising at Intermarché, identified the benefits for Intermarché as an improved Corporate Social Responsibility image of the company and an increase in turnover of fresh fruits and vegetables (Sustainable Brands, 2014).

4.3. Timeline of key marketing activities

In response to the European Union declaring 2014 the European Year Against Food Waste and to confirm their commitment to the French National Pact Against Food Waste (further explained in section 5.1 of the Analysis and Discussion), Intermarché launched a campaign called Inglorious Fruits and Vegetables (Les fruits et légumes moches). Advertising agency Marcel helped create an award-winning campaign based in clever, humorous marketing messages and stunning designs. A famous French photographer created a series of images meant to both shock and educate (see figure 3).



Figure 3. Pilot testing and advertising of Intermarché's Inglorious Fruits and Vegetables (TOP Food Lab, 2014).

Pilot testing was done over three days in one store in Provins (40 km South of Paris) to educate customers on food waste and get them to buy produce that is not “cosmetically” appealing. Before the pilot test, Intermarché invested in TV, social media and print advertisement. The program got its own section with the produce offered at a 30% discount. All 600 kilograms of carrots, apples and oranges were sold (Intermarché, n.d.). There was also some trialing and selling of fresh soups and juices made from the Inglorious Fruits and Vegetables to demonstrate to shoppers that even though they did not look perfect, they tasted

just the same. A publicist from Intermarché, Vanessa Robineau, mentioned that the shoppers were still seeking the most beautiful apples among the Inglorious Fruits and Vegetables (Fortin, 2014).

Intermarché captured the pilot testing on video, produced by Marcel, that has since received a great deal of attention worldwide (Vimeo, 2014). The transcript of the video is as follows and describes the initiative:

Fruits and vegetables are facing an absurd situation. On one hand, people are encouraged to eat at least five a day. That's a lot of money for families. On the other, we throw 300 million tons of them away each year. Everything that doesn't fit into the norm, we toss. As the European Union made 2014 "European Year Against Food Waste", Intermarché, third largest supermarket chain in France, decided to rehabilitate the non-calibrated, imperfect fruits and vegetables

So we launched Les fruits et légumes moches, The Inglorious Fruits & Vegetables. Starring the grotesque apple, the ridiculous potato, the hideous orange, the failed lemon, the disfigured eggplant, the ugly carrot, and the unfortunate clementine. Now, you can eat five inglorious fruits and vegetables a day. As good, but 30% cheaper.

How did we do it? We bought from our growers the products that they usually throw away and sold them in stores. They got their own aisle, their own labelling, and their own spot on the sales receipt. For people to realize that they were just as good as the others we designed and distributed Inglorious Soups and Inglorious Fruit Juices...And it worked. Our new kinds of fruits and vegetables were an immediate success. We faced only one problem, being sold out. 1.2 tons average sale per store during the first two days. Plus 24% overall store traffic. This initiative increased awareness about food waste. "Congratulations". "Great idea, we have enough waste already". It created a lot of conversations in social networks. Over 13 million people reached after one month. And had a big impact in the media. Finally, journalists suggested that every supermarket in the country

should do the same. The Inglorious Fruits and Vegetables. A glorious fight against food waste.

An overview of the timeline of the key marketing activities is found in Table

3. In sync with Waste Reduction week, during one week in October 2014 and then again in 2015, all 1,800 Intermarché stores across France sold Inglorious Fruits and Vegetables. National commercials were also broadcasted. They collaborated with a food truck to offer different treats made from Inglorious Fruits and Vegetables.

Table 3

Timeline of key marketing activities for Inglorious Fruits and Vegetables

<u>Time period</u>	<u>Description of activity</u>
March 2014	<ul style="list-style-type: none"> - Pilot testing in one store in Provins over three days selling apples, oranges, clementines, lemons, and carrots. - Stand serving orange juice and carrot soup.
October 2014	<ul style="list-style-type: none"> - Sold in all 1,800 Intermarché stores in France over Waste Reduction week. - Launched television commercials in France. - Collaborated with food truck.
February 2015	<ul style="list-style-type: none"> - Social media contest launched to create a calendar and give taglines to different Inglorious Fruits and Vegetables.
October 2015	<ul style="list-style-type: none"> - Sold in all 1,800 stores for Waste Reduction week, similar marketing initiatives as last year's.
November 3-8 2015	<ul style="list-style-type: none"> - Inglorious cookies sold over a week.

Note. Adapted from Sustainable Brands, 2014; Intermarché, n.d., 2015a, 2015b; Lavabre, 2015

Intermarché decided to use their capacity as manufacturers to produce cookies that they claimed offered the same nutritional value as the non-damaged ones (see figure 4). These were sold over a week in early November 2015.



Figure 4. Inglorious cookies (Les Biscuits Moches) (Intermarché, 2015a).

4.4. Internal process

Sourcing and finances. To source the Inglorious Fruits and Vegetables, Intermarché would order from a central department and then these would be delivered to Intermarché stores. The fresh fruit and vegetable available at the central department were those suitable to be sold in stores (grade 1) and lower grades destined to be processed. Intermarché paid a premium over the price of processors, so that producers have an incentive to sell their out-graded fruit and vegetables to Intermarché for the “Inglorious Fruits & Vegetables” instead of going to processing. “A kilogram of ‘inglorious’ carrots will be paid more than a kilogram of carrots on its way to be processed” (author translation) (François-Xavier Trillot, Purchasing Manager, Fruit and Vegetables, Intermarché, personal correspondence, August 24, 2015). Other reasons for this price premium were because the produce was washed before being sold in the stores and smaller quantities were requested from suppliers (10 kilograms to 20 kilograms). “Typically, a better price can be negotiated when the products are bought by the

tonne but Intermarché did not need to have that much produce for their Inglorious Fruits and Vegetables campaign” (author translation) (François-Xavier Trillot, Purchasing Manager, Fruit and Vegetables, Intermarché, personal correspondence, August 24, 2015).

The profit margin is low for Intermarché because it is offering a premium to the producers (over the price they would get from selling it to processors) and then selling it at a reduced cost to consumers. This makes it difficult for Intermarché to scale up the campaign from random points of sale to permanent points of sale in all stores. They are doing it this way because it was easiest for them to use their established system and they had to respect their contracts with their producers and suppliers.

The campaign was launched without knowing if the consumers would adopt it. Intermarché invested about 20 000 euros for the marketing campaign for the pilot test at Provins, which Colé explained is not a big marketing budget (Sylvie Colé, External Communications Manager, Intermarché, personal correspondence, August 24, 2015). The goal for 2015, as mentioned by Delcourt, was to have a regular, dedicated spot to sell Inglorious Fruit and Vegetables all year round in all 1,800 stores (Sustainable Brands, 2014). However, for many reasons, this goal was not achieved. The main one was that the pricing structure and internal economic model means Intermarché is incurring most of the costs (Sylvie Colé, External Communications, Intermarché, personal correspondence, August 24, 2015). Even if there is a high consumer demand for the products, which was driven by the successful pilot test and video, it is economically difficult

for Intermarché to offer the products permanently at all of their stores if they continue with the same internal pricing structure.

Team. The team working on the Inglorious Fruits and Vegetables is comprised of key members from the Marketing department such as Mathieu Delcourt, Head of Advertising, and Sylvie Colé, External Communications, and François-Xavier Trillot, Purchasing Manager for Fruit and Vegetables. Delcourt stated that he is not a sustainability expert (Sustainable Brands, 2014). They also worked closely with their external advertising agency, Marcel, and collaborated with the owners of the Intermarché stores.

4.5. How the organization defines success

The idea for Inglorious Fruits and Vegetables was born in the marketing department of Intermarché with the collaboration of their external agency, Marcel, when they were visioning ideas for the year 2014. It was difficult convincing executives at Intermarché to go forward with the idea (Sylvie Colé, External Communications Manager, Intermarché, personal correspondence, August 24, 2015). Delcourt explained that before launching the idea, professional buyers told Intermarché that they would have difficulty finding products and that producers would be mad when they saw this idea (Sustainable Brands, 2014).

Despite this initial backlash, the team feels quite happy with the success of Inglorious Fruits and Vegetables. Being seen as the first mover in this space and having a well executed campaign was the key to success. Delcourt explained that an aspect of this success was the internal communication

campaign to get employees excited and proud about the Inglorious Fruits and Vegetables offering (Sustainable Brands, 2014).

Some statistics (Marcel, 2015):

- 300% increase of mentions of Intermarché social networks during the first week after the pre-test.
- Most shared article in the history of LSA (Number one professional French retailer magazine).
- Received more than 24 awards for the campaign.

5. Case study of Les Gueules Cassées

5.1. About the organization

Renan Evan and Nicolas Chabanne, based in Hennebont, created Sols & Fruits in 2012, a group of producers offering a label "Taste and heritage" (Goût et patrimoine") for fruits and vegetables that sold at higher prices because of high quality and taste. They also created the collective Les Gueules Cassées and it acts as a third party, working with food producers by selling them labels of "Les Gueules Cassées".

5.2. The brand and its value propositions

Les Gueules Cassées began by selling at a 30% discount, fruit and vegetables that had small defects in shape, appearance or size. Now in addition to the label for produce, they offer two other "anti-waste" solutions like discounted products from other food categories (e.g. cereal and cheese), and 50% off labels

for products approaching their use-by date. These are further explained in the following section.

Some of the marketing taglines include:

- Too good to waste! (Bons à consommer, pas à jeter !)
- A little less pretty but exquisite! (Un peu moins jolies mais exquis !)
- Taste just as good and costs less. Together, lets reduce food waste.

(Aussi bon et moins cher. Ensemble limitons le gaspillage alimentaire.)

They also share stories on the packaging about the products in order to be transparent about where the food comes from and to educate shoppers about the reason for the different shape. The text on the label of figure 5 reads: “I am a natural, round strawberry of the Clery variety. I grew a bit faster than my friends but I have the same taste and nutritional qualities as them!” (author translation) (Les Gueules Cassées, 2014).



Figure 5. Les Gueules Cassées' with “Quoi ma Gueule?” label (Les Gueules Cassées, 2014).

The value propositions of their brand are: “consumers fight food waste and save money, charity associations receive support for their work, and producers, manufacturers and retailers sell products instead of throwing them away” (Ugly Mugs, 2015).

5.3. Timeline of key marketing activities

An overview of the timeline of the key marketing activities is found in Table 4.

Table 4

Timeline of key marketing activities for Les Gueules Cassées

<u>Time period</u>	<u>Description of activity</u>
2012	Website created.
March 2014	Pretest done in one store with apricots only. Marketing on the product was text only “I’m a bit different but very good”; no label was created at this point.
April 2014	Launch of the label. Used primarily for fruit and vegetables such as: strawberries, apples, cherries, etc.
April 2015	Close to date expiry labels “stop anti-gaspi”.
April 2015	“Les Gueules Cassées” branded cereal sold in stores.
May 2015	“Les Gueules Cassées” branded Camembert cheese sold at more than 200 Carrefour stores in France.
October 2015	Expanded to other non-food categories, such as knives with minor cosmetic defects.

Note. Adapted from CBC, 2014a; Les Gueules Cassées, 2015a, 2015b; Delvallée, 2015b; Shamengo, 2015.

Contrary to popular belief and statements from Intermarché, Les Gueules Cassées was not a response to Intermarché’s success with its Inglorious Fruits and Vegetables (Delvallée, 2015a; Nicolas Chabanne, Founder, Les Gueules Cassées, personal correspondence, October 16, 2015). Chabanne explained that “in 2012, they launched the Gueules Cassées website, then called ‘And if we stopped throwing away fruits and vegetables?’. The purpose was to share their

thinking with consumer associations (like the CLCV), producers, and the prominent food retail store banners” (author translation) (Buffard, 2015, para. 2).

The initiative began with a group of fruit and vegetable producers who wanted to end the waste of apples, apricots, cherries, strawberries, and pears, which were victims of minor flaws in their appearance. Working closely with producers of Sols & Fruits, an apricot producer approached Chabanne with a dilemma; the producer had apricots that were perfectly fine to eat but they were not accepted because they had minor defects in shape and size. Chabanne and the apricot producer did a pretest at one store in March 2014 by selling apricots with a simple tagline “I’m a bit different but very good”. However, this initial strategy did not work very well.

They decided to improve the marketing with a label designed by Chabanne’s cousin. Once they added the label to the fruit and vegetables, then things moved quite fast. This was driven by food producers and manufacturers reaching out to Les Gueules Cassées to help them reduce food waste and start a new revenue stream. There were also opportunities outside of fruit and vegetables. Les Gueules Cassées was approached by a cereal manufacturer (see figure 5) and another opportunity came by a Camembert cheese maker in Normandie who had to throw away perfectly good cheese (see figure 6). It was decided to sell these in stores, at a discount, under the brand of Les Gueules Cassées®. Nicolas Chabanne explained the story of the creation of the “Les Gueules Cassées” branded cereal in an interview (Shamengo, 2015):

A manufacturer of cereal contacted us because they wasted 240 tons a year for one production facility, the reason being that the

balance sheet dictates 23 mm in length, a precise yellow color. Within two months, cereal boxes were created and a retailer agreed to sell them, and this box of cereal is sold for less than half the standard price. There's the national brand at €2.50 (400g box Kelloggs), the retailers' brand at €1.60, and Les Gueules Cassées brand at €0.99 (author translation).



Figure 6. Les Gueules Cassées® Cereal (Les Gueules Cassées, 2015b). The two far left bowls of cereal have minor defects in size and colour. These would have been thrown out.



Figure 7. Les Gueules Cassées® Camembert cheese. Minor (Les Gueules Cassées, 2015b). Gueules Cassées cheese with minor deficiencies is featured on the right.

Chabanne saw another opportunity once a study came out revealing the severity of food wasted because of “use-by” dates. This was that 600,000 tons of fresh produce was thrown out in France in a year because of use-by dates (Levy, 2015). Les Gueules Cassées decided that they would address food waste issues on a larger level than just those rejected due to appearance. They created a “close to date” expiry using the same logo but now discounted 50% (see figure 8). The food retailers buy the stamps and add them on any product they think should be discounted. Some of these include yogurt, cheese, deli meats, packaged sandwiches, hummus, etc.

Most recently, Les Gueules Cassées decided to move out of the food waste categories to offer knives with minor defects, stating that “the anti-waste fight is not only related to food, let’s stop wasting perfectly fine products just because they have a minor defect” (author translation) (Les Gueules Cassées, 2015a)



Figure 8. Anti-waste logo for close to expiry food items (Les Gueules Cassées, 2015d).

5.4. Process

Sourcing. Producers decide to join the collective and they let Chabanne and his team know what kind of products they would like to sell. Once a contract is put in place and the producers pay for the labels, they can get the labels printed at various partnered printing facilities located throughout France. The producers put the Gueules Cassées labels on their food products and then diffuse them through their networks. Chabanne explains that it is a fast process and that “it is the producer who puts the label on his or her own product when it makes the most sense to his or her production, stock, and costs. Producers are never under pressure. This is a very important element” (author translation) (Reddy, 2015b).

Finances. They have setup a very interesting economic model that provides a source of income for different actors. Anything purchased with the Gueules Cassées label means that 1 euro cent goes to a charitable organization that is working towards reducing food waste. Chabanne says that this is a way to protect against competition: “We also want to avoid a situation in which someone who just wants to get the most money with slightly imperfect products launches a brand that becomes successful without having the same set of values as we do” (Shamengo, 2015). Also, for every Gueules Cassées product sold, 1 euro cent is returned to the Gueules Cassées collective (Lamontagne, 2015). Finally, another 1 euro cent goes to consumer associations that are working towards spreading the initiative by being brand ambassadors and contacting stores to accept Gueules Cassées products. Chabanne explains that “consumers can create a

micro-enterprise, like ‘uber’, that will allow them to help out the Gueules Cassée collective and also provide them with a bit of money” (author translation) (Nicolas Chabanne, Founder, Les Gueules Cassées, personal correspondence, October 16, 2015).

In February 2015, they asked for help to raise funds using a crowdsourcing platform. This was to help launch “Les Gueules Cassées” branded cereal and Camembert cheese. They reached their funding goal of €30,000 within 60 days and even surpassed it; 513 people contributed a total €32,504 (KissKissBankBank, 2015).

Team. The small team at Sols et Fruits is very knowledgeable about how the agri-food system in France works. Nicolas Chabanne’s expertise is in communications and he works as the face of the initiative dealing with media coverage, whereas Renan Evan is in charge of operations and logistics. When they launched Les Gueules Cassées, they already had a strong partner network of producers. In addition, they had a partnership with the second largest consumer advocacy group in France called CLCV (Shamengo, 2015).

5.5. How the organization defines success

They expected to sell 500 tonnes of Gueules Cassées labelled food in the first year of operation, but actually sold 1,000 tonnes. The number of participating producers and manufacturers grew from 450 in the first year of operation to 1,000 in its second year (Nicolas Chabanne, Founder, Les Gueules Cassées, personal correspondence, October 16, 2015; Levy, 2015). Les Gueules Cassées

is now attached to over 600 varieties of fruit and vegetables (Nicolas Chabanne, Founder, Les Gueules Cassées, personal correspondence, October 16, 2015).

They did not have any problems convincing stores to sell their products (Nicolas Chabanne, Founder, Les Gueules Cassées, personal correspondence, October 16, 2015). A closer look at a detailed list, dated July 2015, of all 5,000 participating stores shows that Les Gueules Cassées fruit and vegetables are sold at Monoprix, Leclerc, Franprix; the cereal at Géant Casino and Casino Supermarché; the Camembert cheese at Carrefour, Carrefour City, and Carrefour market stores; and the close to expiry labels are found at Vival, Spar, and Franprix (Les Gueules Cassées, 2015c; Lamontage, 2015).

Les Gueules Cassées was also selected to present to the Food and Agriculture Organization of the United Nations in the fall of 2015 about their initiative, and they believe that this opportunity will help mobilize their initiative globally. In fact, 25 other countries interested in learning about their program have approached them since their launch. It was decided to expand Les Gueules Cassées to the following geographical markets: Japan, U.S. and Germany. Figure 9 shows the different use of Les Gueules Cassées logos personalized for each country. They will collaborate with Chabanne's team, but the model allows flexibility for anyone who wants to use the logo in his or her country and sell locally, imperfect products. The initiatives are launching in the U.S. starting December 2015 and in Germany in January 2016. Germany will focus only on organic products. They are also using the main website developed for the initiative (when you go to <http://www.lesgueulescassees.org>, there are options to

switch to different languages such as English and German). Chabanne believes that what allows for this model to be replicated in other countries is the fact that it is easy to set up and to implement because it does not necessarily need a physical building; “it simply needs people with a good will, a printer for the logo and a website” (author translation) (Nicolas Chabanne, Founder, Les Gueules Cassées, personal correspondence, October 16, 2015).



Figure 9. Les Gueules Cassées logos of other participating countries. USA’s Ugly Mugs – www.toogood-towaste.com; Germany’s Danke – www.zugut-zumwegwerfen.de

6. Analysis and discussion

6.1. Similarities and distinctions between the France and Quebec contexts

In the following section, important similarities and distinctions between the France and Quebec regulatory, economic, natural, and socio-cultural contexts are explored.

Regulatory environment

Political structure. France is a unitary republic with a strong central government. Canada is a parliamentary democracy under a constitutional monarchy with one of the world's most decentralized federations. Quebec, although a province, has a history of separatism. France is also a member state of the European Union (EU), which has significant powers over environmental matters. In fact, the EU declared the year 2014 as the *European Year Against Food Waste*. In France, food waste issues are being managed at the state level through one lead agency: The Ministry of Agriculture, Agrifood and Forestry (Le ministère de l'Agriculture, de l'Agroalimentaire et de la Forêt) of The French National Assembly (La République Française). For Quebec, these issues fall under Quebec's Department of Agriculture, Fisheries and Food [Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ)].

Political agenda around food waste. There is more political appetite for food policy initiatives and campaigns in France. There has been much lobbying to address food waste. The French National Pact Against Food Waste was released in June 2013 with signatories from government, industry (including all major food retailing chains) and others committing to reduce by half the waste in France by 2025. Some of the actions born from this Pact included a dedicated website¹² with a large educational component. The first Day Against Food Waste

¹² <http://agriculture.gouv.fr/anti-gaspi/anti-gaspi>

(Journée de lutte contre le gaspillage alimentaire) was launched on October 16 2013. In April 2015, Guillaume Garot published a report to the French Prime Minister called “Fight against food waste: proposal for a public policy” (Lutte contre le gaspillage alimentaire : Proposition pour une politique publique). The French National Assembly voted on May 21 2015 that all large-scale grocery stores cannot throw away food and that it needs to be donated to charitable groups.

In Quebec, there is a coalition for food security, but no legislation, acts and policies. Quebec’s Waste Reduction Week (la Semaine québécoise de réduction des déchets) has been celebrated each October since 2000 but it does not necessarily focus on food. On March 5 2014, New Democrat MP Ruth Ellen Brosseau (Berthier – Maskinongé) tabled a motion in the House of Commons to make reducing food waste a top priority, however nothing came of it.

That, in the opinion of the House, the Government should: (a) declare October 20th of each year National Day Against Food Waste; (b) develop a comprehensive pan-Canadian plan to reduce food waste by (i) educating Canadians about food waste through a national campaign, (ii) facilitating the donation of safe, unsold food from the private sector to community organizations and food banks; (iii) putting in place various other measures to reduce the environmental impact resulting from the production of unused food (NDP, 2014, para. 6).

Grading standards for fresh fruit and vegetables. As mentioned in section 2.1, regulations in France and Quebec do not prohibit the sale of out-graded food, as long as they are intact and have the appropriate labelling describing their use.

Economic environment

Quebec's food system, like the rest of Canada's, follows an industrial model, which supports large transnational agri-businesses. It is however less concentrated than the rest of Canada. France is also currently based on the same system of industrialized farming. "Before producing, we know what we will produce" (author translation) (François-Xavier Trillot, Purchasing Manager, Fruit and Vegetables, Intermarché, personal correspondence, August 24, 2015). In France, the supermarket chains, in order of largest market share ownership, include Carrefour, Leclerc and Intermarché (Sustainable Brands, 2014). In Quebec, the largest supermarket chains are Loblaw Companies Limited, IGA-Sobeys, and Metro Inc. (MAPAQ, 2015, p. 4). A full list of Quebec stores that sell food can be found in Appendix 9.7. "The Loblaw group employs close to 40,000 people in the province of Québec through its 400 corporate, franchised and affiliated stores operated mainly under the Provigo®, Provigo Le Marché™, Maxi®, Maxi & Cie®, Loblaws®, Club Entrepôt Provigo® and Les Entrepôts Presto® banners" (Provigo, 2015, para. 5). However, starting November 2015 all Loblaws stores in Quebec will be converting to Provigo (Kucharksy, 2015). Provigo, founded in 1969, became part of Loblaw Companies Limited in 1999, (Provigo, 2015; Kucharksy, 2015).

Natural environment

Only 2% of Quebec's land area is devoted to farmland. This figure is 58% in France (UPA, 2015). However, the population density of France is much

higher than Quebec. Because of the Nordic climate, the growing season in Quebec is shorter than France.

Socio-cultural environment

The French have a “strong connection to a culinary and agricultural heritage” (author translation) (Levy, 2014), as quoted by Nicolas Chabanne, founder of Les Gueules Cassées. Both France and Quebec’s societies demonstrate a strong pride in supporting the local economy and products from home. In fact, a qualitative study analyzing consumers’ food label preferences confirmed that both Quebecers and the French “preferred labels that designated products from their respective nations; this may reflect greater nationalism or support of farmers, or simply a preference for the taste of familiar, traditional foods” (Zepeda, Sirieix, Pizarro, Corderre, & Rodier, 2013, p. 614). It is estimated that more than half (53%) of Quebecers’ food purchases come from Quebec suppliers (producers and processors) (MAPAQ, 2015, p. 66). Additionally, Quebec has an interest in identifying with and experiencing the French food culture. In 2014, Quebec has imported \$534,366,470 in food products from France (not including tobacco) (ibid., p. 67). This makes France the second largest economic partner for Quebec in terms of food product imports; the U.S. being the first with \$1,798,191,044.

6.2. Is this an example of a sustainable business initiative?

In this section, I dig deeper by exploring whether these initiatives are good for the financial bottom line, society, and the environment. I also reviewed

whether the initiatives could be viable in the long term. Currently for Intermarché, it is not a sustainable business model because a low financial margin does not make it economically viable to scale up from irregular touch-point sale to permanent spots in all stores. Les Gueules Cassées is more sustainable due to their ability to move more quickly and the strong relationships they have built for collaboration, which is represented in their financial structure. Intermarché, being the third largest supermarket chain in France, has more red tape to go through before launching projects. Les Gueules Cassées follows a decentralized model that allows flexibility for producers, in comparison to Intermarché's, which is much more centralized. The expansion to new geographies demonstrates that Les Gueules Cassées has built a strong model that is also attractive to others. I believe that each research participants response to my question "What was the motivation to create this initiative" reflects well some of the reasons why Les Gueules Cassées has had more success than Intermarché in creating a sustainable brand. Intermarché saw this as a marketing opportunity and a way to differentiate themselves from the other stores. The creation of Les Gueules Cassées was a solution to a real problem producers were facing.

Financial pillar

Pricing structure. In terms of motivating actors to change, Intermarché and Les Gueules Cassées are both providing an incentive to shoppers, that is, a discount on their products. Some say that a 30% discount is a good idea for people to buy-in to the idea of unattractive fruit and vegetables, and that once there is a recognition, the produce can be priced the same as conventional

produce (Van Der Linde, 2015), so that the consumers can pick and choose the products they want. The consumers are the winners with the 30% discount, and in the case of the unattractive fruit and vegetables, the food producers are too. Some concerns have been raised by those occupying neo-classic views on wanting to ensure the economic profitability of businesses. Canadian agri-industry expert Martin Gooch, CEO of Value Chain Management International, says “the challenge to retailers is how do they offer ugly fruits and vegetables without undermining the value of their other [produce],” (Marshall, 2014, para. 13). In other words, why would a retailer sell products at a lower price and receive a lower margin when it can make more money on other higher priced goods? Sustainability driven initiatives would allow a positive reaction from stakeholders; Delcourt from Intermarché identified that it increased their corporate social responsibility image. Also, getting customers in the stores to buy the lower priced items will also translate into buying other items in addition to the unattractive produce. This is a strategy called the loss leader phenomenon, and is often used in retail. Chabanne clearly mentioned that he did not have any troubles convincing food retailers to sell Les Gueules Cassées products (Nicolas Chabanne, Founder, Les Gueules Cassées, personal correspondence, October 16, 2015).

Economic model. “A kilogram of ‘inglorious’ carrots will be paid more than a kilogram of carrots on its way to be processed” (author translation) (François-Xavier Trillot, Purchasing Manager, Fruit and Vegetables, Intermarché, personal correspondence, August 24, 2015). With Intermarché offering a premium to the

producers and then selling it at a reduced cost to consumers, the profit margin is low. Although there is a high consumer demand for the products, it is economically difficult for Intermarché to offer the products permanently at all of their stores if they continue with the same internal pricing structure.

Shared value creation for the business and the producers (suppliers). The model in place by Les Gueules Cassées is definitely creating more value for producers than Intermarché's because it minimizes the pressure on producers and allows them more flexibility and control. Les Gueules Cassées has successfully focused on opportunities where it can leverage its unique resources and expertise as a producer association to collaborate with the community to create a positive social and economic impact. It also creates shared value for different parties; in fact "multiple parties are able to make a bit of money from this model. It is a way to help each other and not add additional costs" (author translation) (Nicolas Chabanne, Founder, Les Gueules Cassées, personal correspondence, October 16, 2015).

Also, Les Gueules Cassées has set up its business model in a way that is difficult for competitors in France to copy. This could be an incentive for investments and secure profits over the long term for Les Gueules Cassées (Reinhard, 1998; Christensen et al., 2006). This also provides another incentive, in addition to the 30% reduced price, because by buying a product with the Gueules Cassées logo you are supporting charity organizations that are also working towards reducing food waste.

Social pillar

Both businesses have said publicly that their initiatives are examples of win-win-win strategies (Daily Motion, 2015; Marcel, n.d.). “The main idea is that producers, manufacturers, and consumers work together in a mutual relationship that is in everyone’s interests”, explained Nicolas Chabanne in a September 2015 interview (Shamengo, 2015)¹³. “We want the consumer to be involved and we want to have total transparency” (ibid.). They followed up on this promise as they are very transparent in sharing information on their social media account and website, as well as in interviews. It is more difficult to find concrete information about Inglorious Fruits and Vegetables.

“Businesses are most credible and successful when they pursue change projects that are aligned with their core business and competences” (Stephan et al., 2013, p. 83) and this can be seen with the example of Les Gueules Cassées. What differentiates the team launching the initiatives from both companies is that Renan Evan and Nicolas Chabanne of Les Gueules Cassées are highly innovative, passionate about their business, and dissatisfied with the status quo.

Target consumer market. Both campaigns are targeting the average grocery shopper. The focus is on educating these shoppers about food waste along the chain because there is a disconnect around where food comes from and how it gets to the supermarket. Despite the food being healthy (mainly fresh

¹³ This interview was conducted in French but had English subtitles. As such, I did not translate quotes by Nicolas Chabanne.

fruit and vegetables) and more economically affordable, the initiatives by Les Gueules Cassées and Intermarché are not necessarily targeting food insecure populations, that is those with limited access to fresh and nutritious food due to income barriers.

Environmental pillar

Both campaigns use the same FAO statistics (2011) when speaking about food waste; that is 40% of all food produced is wasted (Intermarché, n.d.; Shamengo, 2015). Intermarché's Fruit and Vegetables Purchasing Manager explained that in France, there isn't much food that is thrown out. The producer either sells the out-graded produce to processors (most of the case) or it is used for animal feed. "Not a lot of it is left in the field to waste" (author translation) (François-Xavier Trillot, Purchasing Manager, Fruit and Vegetables, Intermarché, personal correspondence, August 24, 2015). His statements contradict Intermarché's messaging around the Inglorious Fruits and Vegetables campaign.

Les Gueules Cassées labelled fruit and vegetables are selected directly by the producers. Intermarché gets their products from a central department, which only has grade 1 fruit and vegetable to be sold in the store, and the lower grades destined to be processed into soups, juices and other items. Intermarché is simply shifting how fruit and vegetables are sold; it is not a net gain on the environmental side. Les Gueules Cassées, however, does not face this same problem because it is the producers themselves that have control and the products are coming straight from the farm, before the sorting happens when fruit and vegetables are sold to wholesalers, distribution centres or stores.

Some might argue that efforts to reduce waste should focus on areas along the supply chain with the most waste, such as post-consumer. Educating consumers about the food waste that occurs along the supply chain might translate to adopting smarter behaviour in buying and managing food. Intermarché and Les Gueules Cassées are not necessarily getting consumers to buy less products, the focus is on making whole foods like fruit and vegetables more affordable to help contribute to healthier lifestyles¹⁴. There is a push on educating consumers about how buying the products helps to reduce upstream food waste, however both campaigns have not been gathering insights on how consumers are using the products because it takes resources to gather and measure. For example, as costs are driven down, are consumers buying more unattractive food and is that food being wasted at home? This is an important area to investigate because many studies have shown that the area with the most waste is in the home (FAO, 2011; Gooch & Felfel, 2014; Garot, 2015). When asked about post-purchase behaviour (e.g., did the consumers buy more products because there is a price reduction, and consequently waste more at home?) Chabanne from Les Gueules Cassées simply said that the consumers, even with the 30% price reduction, buy and consume like they would with conventional produce. In contrary to popular belief, the fruit and vegetables sold are not the very obviously deformed ones such as featured in mainstream media

¹⁴ This was the original focus.

and in Intermarché's marketing campaign, and so consumers treat them the same way as they would with conventional produce once it is brought home (Nicolas Chabanne, Founder, Les Gueules Cassées, personal correspondence, October 16, 2015). The carrot with two legs is often used in marketing and media, but it is less often what you find in the store (Nicolas Chabanne, Founder, Les Gueules Cassées, personal correspondence, October 16, 2015).

The messages from both have been about saving food from being wasted in the field by reintroducing them in stores. However, in reality these initiatives may be seen as waste diversion strategies because ultimately, they are not reducing the waste at the source. In order to have a source reduction, Les Gueules Cassées has to make the argument that the farmers would leave the food in the field if not selling under their label, and the consumers have to use the food well.

Long-term viability

Scalability. Both organizations diversified their product offerings, which is a way to scale a business. Intermarché took advantage of being a manufacturer and sold chocolate "Inglorious cookies" that have been damaged during production (author translation) (Sylvie Colé, External Communications Manager, Intermarché, personal correspondence, August 24, 2015). These cookies would have otherwise gone to the landfill, and so, purchasing them would be a way to help reduce food waste. However, Intermarché still uses the message from the fruit and vegetable campaign; that the Inglorious cookies offer the same nutritional value as the nicer looking ones. I believe that this might hurt the brand

because the cookies are not necessarily promoting healthy eating as much as fruit and vegetables. Les Gueules Cassées successfully expanded into offering different unattractive foods, such as non-sugary cereal and cheese. The food producers have solely driven this and there is still a focus on healthy foods. However, Les Gueules Cassées might be at risk of diluting its brand with the expansion into selling knives with minor defects. The knives might not have as big of an influence or high adoption by consumers.

Stock availability. The stock is available only seasonally because it is local. André Plante, Director of Quebec Produce Growers Association (Association des producteurs maraîchers du Québec - APMQ) has a few concerns relating to the availability of unattractive produce in Quebec. APMQ is “a volunteer group of over 450 business people, including 100 or so affiliated members and 400 produce growers responsible for growing over 80% of Québec's fresh produce. They foster the development of Quebec's horticultural sector and promote fruits and vegetables grown in Quebec, both on the domestic and foreign markets. They also manage three markets: the Place des producteurs (wholesale), the Marché des jardiniers (retail) in La Prairie and the Marché public de Longueuil” (APMQ, 2015).

Plante was interviewed by Reddy (2015a) of Radio-Canada on October 15 2015 about producer's views on selling unattractive fruit and vegetables in Quebec. Plante says “the main objective of a producer is to produce a quality vegetable” (author translation). According to the Quebec Produce Growers Association, up to 75% of crops in Quebec meet the aesthetic requirements of

food retailers. Once the diseased or decayed products are removed from the 25%, this leaves 10% to 15% of available fruit and vegetables to be sold as imperfect products (author translation). His concerns are around possible shortages of stock and, in turn, producers not being able to meet high demand for “ugly” fruit and vegetables (Reddy, 2015a; Radio-Canada, 2014). What is suggested by APMQ is that food retailers do not put pressure on producers in case they cannot meet their contracts and are forced to sell grade 1 products at the price of grade 2. Plante (APMQ) proposes that food retailers establish flexible contracts that recognize producers can only supply grade 2 fruit and vegetables based on availability (André Plante, Director, Quebec Produce Growers Association, personal correspondence, November 2, 2015). Also, that the conventional and unattractive produce be priced the same: “You will have a 4 lbs of conventional produce for \$2 and a 6 lbs bag of unattractive for the same price of \$2. The consumer must choose what he or she wants” (Reddy, 2015a). Selling the fruit and vegetables in bulk and bigger quantities of food means that there will need to be education around how consumers can store these or use them so that they are not wasted.

Paradigm shift. Could “ugly” fruit and vegetables become the norm for the industry? If there is a bigger push from consumers for grade 2 produce, could this mean that all cosmetic standards would be changed by regulatory parties and industry to be less strict, or even eliminated? This would mean a whole systemic change for the food and agriculture industry. Chabanne has avoided answering this question in different interviews, however Trillot revealed in his

interview that this type of initiative is evidently going to change the system and will shake up the current model adopted by the industrialized food system. A paradigm shift might be happening, that is a fundamental change in an individual's or a society's view of how things work in the world of agriculture, consumerism and food waste. Businesses often say that they will provide a certain product only if the consumer demands it. If more consumers demand unattractive produce, then this might ultimately have a big impact. Currently, there is some concern that there is not enough supply to meet demand because producers are not necessarily planning their harvests to grow lower grade products. Fruit and vegetable producers plan their harvest to meet their contracts to provide food that would meet the strict standards (category 1, grade A, premium). If consumers continue to put pressure on retailers, then a paradigm shift might happen; ultimately, we might see the destruction of strict standards altogether. This would mean that producers could plan their harvest around growing foods that are the best in taste and nutritional value. This shift might take awhile, but the emergence of a new market for unattractive produce is a step in the right direction. Plante believes that in the long term, the big food retailers in Quebec will be less demanding in terms of cosmetic standards. "We will talk less of 'ugly' fruit and vegetables, and rather just fruit and vegetables. However, this will only happen if there is consumer education and awareness to the fact that a fruit or vegetable does not need to be beautiful, and that what truly matters is that it is fresh, good and not too expensive (André Plante, Director, Quebec Produce Growers Association, personal correspondence, November 2, 2015).

6.3. Strengths and challenges

It is common for companies to communicate publicly the benefits that come from their initiatives, and less often the challenges and struggles.

Strengths

Strong narrative and consumer adoption. Both initiatives focused their marketing messages and brand around changing consumer tastes and redefining standards for beauty in produce. They also educated consumers about the severity of food waste that is happening due to strict cosmetic standards. It was a recipe for success and consumers were very receptive, both in buying the products, engaging on social media and requesting stores to carry the unattractive food. In terms of creating opportunities for actors to change, the companies restructured the physical environment in the stores to increase the chances of consumers buying the unattractive products. Participating stores dedicated a permanent section in the produce aisle to prominently display the produce being discounted. During the launch of Intermarché's initiative, there was a dedicated team that gave out samples to consumers to try soups and juices that were made with the "ugly" produce in order to raise awareness that the taste is just as good as cosmetically appealing produce. This touches on the last element of the framework for social change (Stephan et al., 2013), which is enabling actors to change through education. Les Gueules Cassées has seen much success due to the brand recognition of its logo of the endearing apple with the toothless smile.

Both organizations did not partner or collaborate with the government for the creation of their initiatives because it was not necessary since there was already a strong political commitment to reducing food waste. Intermarché did, however, use key dates set by the government for most of its marketing efforts, such as offering their products during Waste Reduction Week. Sadly, I have noticed in media coverage when talking about Les Gueules Cassées, or even when interviewing Nicolas Chabanne, the media often times mistake it for Intermarché. This is mainly due to the fact that Intermarché had more high profile branding with the help of a marketing and design agency. Intermarché's campaign was clever and well executed, but it was more of a marketing blitz and they spent a considerable amount of money to create the award-winning campaign. Les Gueules Cassées' campaign is simple but seems more authentic.

Collaboration. Most evident in the case of Les Gueules Cassées is the collaborative model that was created. Les Gueules Cassées' initiative was built on pre-existing networks, and this in turn, helped build supportive relationships. As explained by Stephan et al. (2013), "widespread and long-lasting change occurs when a business works closely with the people whom it is trying to change, letting them help shape the social change effort" (p. 70). As mentioned previously, Les Gueules Cassées is not only offering a more affordable food option, they are also encouraging consumers to be "anti-waste" ambassadors.

Challenges

When asked what have been the challenges of his initiative, Chabanne highlighted a big picture issue, of making sure that we can have the biggest

impact globally in mobilizing people so that we can truly help the planet (author translation) (Nicolas Chabanne, Founder, Les Gueules Cassées, personal correspondence, October 16, 2015). When asked the same question, Colé and Trillot listed off many challenges explored in the previous section, but also touched on briefly here.

Economic model. Although Les Gueules Cassées has established an innovative economic model that is creating shared value for numerous actors, they did need to rely on their strong relationships to find partners to split costs and also the public's support with a crowd funding campaign. An organization that wants to follow this route will need to be well connected or work hard to make these connections. In the case of Intermarché, Trillot admitted that they need to figure out a new economic model because they are losing money and not able to offer the Inglorious Fruits and Vegetables permanently; but he did not provide details on what this new economic model should be (François-Xavier Trillot, Purchasing Manager, Fruit and Vegetables, Intermarché, personal correspondence, August 24, 2015).

Perception of greenwashing and misleading messages. This is more of a critique on my part of some of the key messages communicated by these initiatives. The messages “tastes just as good” and “provides the same nutritional value” do not critique the industrial food system. Food retailers are big contributors to food loss and waste along the value chain, and one way they are doing so is by setting strict requirements for size and look of fruit and vegetables. Some argue that adopting “ugly food” campaigns could be seen as corporate

greenwashing, which is a way to add misleading environmental benefits to a product or service. Along this same line, my critique is that Intermarché is actually misleading consumers because they are not saving out-graded fruit and vegetables from being wasted; they are simply moving them away from processing. This insight contradicts Intermarché's public statements. I was only able to gain this insight through my interviews, and the general public is likely unaware.

- In their video advertisement: "We bought from our growers, the products they usually throw away, and sold them in stores" (Vimeo, 2014).
- On their website: "In the best case, some vegetables are used as food for animals. But a large majority of these products will be left in the field to rot" (Intermarché, n.d.).
- Another piece of misleading information from the video is the claim of "1.2 tons average sale per store during the first two days"¹⁵ (Vimeo, 2014), however the pilot project only took place in one store; not more than one as the statistic suggests.
- Also Intermarché's advertising agency stating that Inglorious Fruits and Vegetables allow "growers to get money for products that are usually thrown away".

¹⁵ The misleading message is the same in the French video.

7. Conclusion

7.1. Lessons and recommendations for Quebec food retailers

Since the Les Gueules Cassées model for delivering its unattractive products is quite strong and is already set up for expansion to other countries, it is recommended that Quebec investigate this option. However, there still exist important lessons and recommendations. It is worth noting that Intermarché and les Gueules Cassées did not necessarily rely on the government for their initiative, mainly because La République Française was already committed to reducing food waste. The situation is not the same in Quebec because the government is not progressing as quickly on food waste reduction strategies and policies. As such, food retailers, producer associations and with the help of other stakeholders (like consumer associations) should lobby the government to make a measureable commitment to reducing food waste. They can use Les Gueules Cassées as a case study.

Efficiency stage initiatives

- Source from the producers, not from the distribution centres or wholesalers, to assure that fruit and vegetables used for the campaign are not those that would be sent off to processing.
- Adopt an incremental, iterative approach by first having a pretest in one location over a short period of time. Afterwards, have a larger number of stores in the province offer the unattractive fruits and vegetables during key government dates and initiatives, like Waste Reduction Week.

- Have the produce priced at a reduced cost, on average 30% below conventional produce. The choice of words like “ugly or unattractive” can be used for the short term until there is significant consumer adoption. The company must educate consumers on the benefits of purchasing items downgraded because this product category is new. Educate consumers that these products are based on season and availability.
- Restructure the environment of the supermarket by changing the physical layout to have a dedicated spot for the unattractive produce. In addition to in-store marketing, use multiple technology interfaces (social media) to educate consumer on proper food storage as to not waste food at home.
- Build bonding relationships that focus on mutual support and trust among those involved (Stephan et al., 2013). APMQ could be a good partner since they already have an established network of fruit and vegetable producers.
- Inform governments about the private and public benefits of implementing legislation and developing programs that can drive reductions in food waste along the value chain.
- The team selected to work on this file should have a passion for food waste reduction initiatives and should also have a variety of expertise, ranging from communications, to producer relations and supply chain logistics.
- Formalize contracts but minimize pressure on producers to allow more flexibility and control and to assure that only grade outs are moving through this designated supply chain.

Substitution stage

- Industry should establish food waste reduction targets.
- Diversify product offering but keep the focus on the values that have been set. Set requirements to sell food products that provide health benefits only (e.g., no sweets, chocolate cookies, etc.).
- Lobby government for better policies on food waste reduction. Use France as a case study.
- Get industry-wide agreement to change grading standards so that they are less strict.
- The marketing messages should move away from “ugly and funny looking food” and “tastes just as good as the standard produce”.

Redesign stage

- Industry wide elimination of grading standards for size and colour of fresh fruit and vegetables. This can also apply to other food categories, such as cuts of meat. This would allow for more variety in food and could improve the taste. This would also mean that the discount on grade 2 products would be removed because there would no longer be grade 1 and grade 2 products.

7.2. Limitations of the study

Although interview participants candidly shared some information that was not available publicly (e.g. Intermarché sourcing their products from the processing stream and revealing that they would offer chocolate cookies under the Inglorious Food brand), one of the main limitations of the study was still

gaining access to data and information from the private sector. I was not able to access internal documents from Intermarché and Les Gueules Cassées.

Thankfully, Les Gueules Cassées pride themselves on being transparent, and have shared much information with the public on their social media platforms and website. I was still not able to gather as much detail as I had hoped. I wished to have had more numbers and statistics from the companies as it related to their metrics in determining success, such as measuring the financial success, the growth of their initiatives and how much food they were able to save from being wasted. Interestingly, both companies actually did not communicate setting any goals and objectives when they launched their initiatives, and so I was not able to determine if those objectives were SMART (specific, measurable, attainable, relevant and time-bound). I am thankful that I was able to get interviews with key actors at both companies, especially considering that they are very busy with running their businesses and responding to a high number of requests from interested parties and the media.

7.3. Concluding remarks

It is evident that there is an urgent need to work towards reducing food waste. My study focused on one strategy, but it is also important to look at the bigger picture. As such, my recommendations should work in tandem with other initiatives.

Both Intermarché and Les Gueules Cassées have the same goal of selling unattractive food at a discount in traditional food retail stores. They have taken different approaches and many lessons were drawn from both. Les Gueules

Cassées is operating a more sustainable business model; as such my recommendations are more aligned with them. The creation of the initiative was rooted in helping to address food waste problems that producers were facing. Being a smaller player with less red tape than Intermarché has allowed them to move faster, but it also means that they had to rely on strong partnerships. Les Gueules Cassées had the advantage of having an established network of food producers.

Intermarché was successful in launching the ugly food movement worldwide. Their marketing and promotional efforts are intelligent, despite the fact that many messages and claims are misleading. However, for both companies, the marketing messages have moved away from increasing accessibility to healthy food options, and instead focus only on food waste. It seems that some of the expansion of product offerings have been designed to take advantage of brand awareness (e.g. Inglorious Fruits and Vegetables selling chocolate cookies, Les Gueules Cassées selling knives). This might eventually hurt the brands because it might seem as if they are losing focus on the real issues.

This research is useful to better understand practical examples of new, innovative industry-led initiatives to reduce food waste. When replicating these initiatives, if a truly sustainable and health promoting food system is the objective, it will be important for food retailers to stay true to the values of such a system. This will lead to more effective food waste reduction, as well as bigger

positive impacts from educating and encouraging consumers to adopt sustainable behaviours.

In a way, these initiatives can be seen as undoing certain elements of the industrial agriculture system, by going back to sourcing fruit and vegetables as was done before cosmetic criteria were created. However, I do not think this is what both organizations had intended and it will be interesting to see if and how something more transformative may develop.

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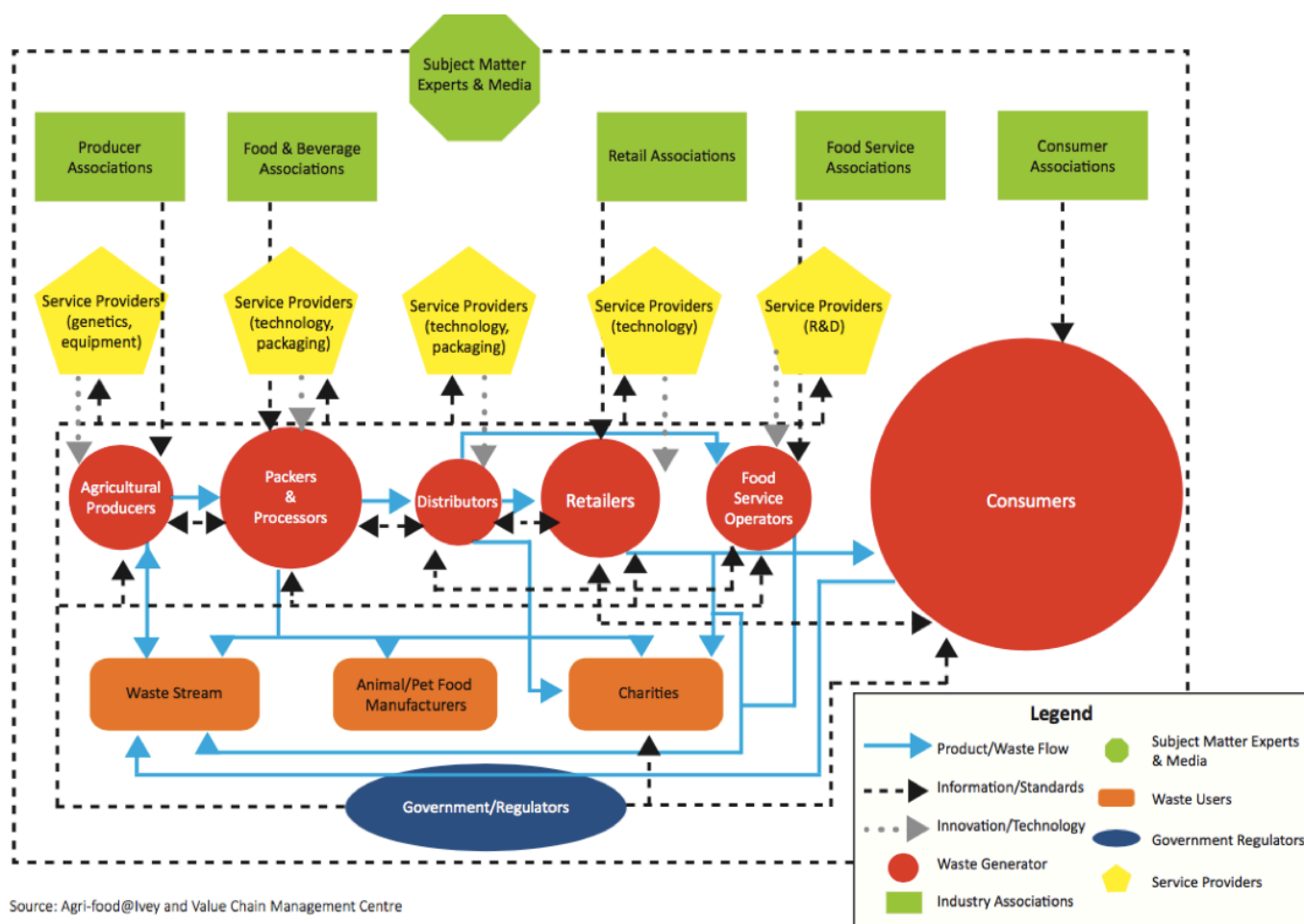
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9. Appendix

9.1. Food waste stakeholder map, Canada



From “Developing an industry led approach to addressing food waste in Canada” by Uzea, Gooch, and Sparling, 2014, p. 8.

9.2. Mapping the food problem in Canada

How big is the problem?						
40% of all food produced or \$31 billion (true cost \$107 billion)						
Where does food waste occur?						
Field (10%)		Processing & Packaging (20%)	Transport & Distribution (4%)	Retail (10%)	Restaurants & hotels (9%)	Consumers (47%)
Crop/livestock Production	Post-Harvest					
What are the hot spots for food waste?						
1. Fruits & vegetables 2. Seafood	1. Fruits & vegetables 2. Meat 3. Grain products	1. Grain products 2. Seafood 3. Meat 4. Dairy products 5. Beverages	1. Fruits & vegetables 2. Seafood 3. Meat	1. Fruits & vegetables 2. Seafood 3. Meat 4. Bakery & deli 5. Ready-made food	N.A.	1. Fruits & vegetables 2. Meat & seafood 3. Grain products 4. Dairy products 5. Beverages
Why does food waste occur (root causes)?						
-Climate change & weather extremes -Incorrect planting & subsequent crop management -Incorrect harvesting -Market conditions (low price, lack of demand) -Labour shortages -Over-production -Over-feeding -Health management protocols/processes -Lack of connectivity to downstream elements of value chain -Regulatory standards -Food safety scares	-Inadequate sorting -Spillage & degradation -Grading standards for size & quality	-Incoming quality -Process losses -Cold chain deficiencies -Employee behaviour -Poor machine set up -Inaccurate forecasting -Contamination -Trimming & culling -Supply/ demand issues -Date codes -Customers' rejections -Inconsistency in quality of ingredients -Food safety issues	-Damage -Demand amplification -Rejection of perishable shipments -Poor record keeping allowing some products to exceed shelf life -Inappropriate storage conditions -Incorrect/ ineffective packaging	-Inaccurate forecasting -Food safety issues -Increasing market share of ready-made food -Date codes -Fluctuations in delivery from suppliers -Cold chain deficiencies -Rejection on arrival at distribution centres or store or during handling -Increasing merchandising standards -Product differentiation -Market over-saturation	-Plate composition -Expansive menu options -Over-serving -Unexpected demand fluctuations -Preparation mistakes -Improper handling & storage -Rigid management	-Excess purchases -Infrequent purchases -Date codes -Attitudes towards food -Over-preparation

Table adapted from "Developing an industry led approach to addressing food waste in Canada" by Uzea, Gooch, and Sparling, 2014, p. 8.
Updated numbers from "\$27 Billion" Revisited: The cost of Canada's Annual Food Waste" by Gooch and Felfel, 2014.

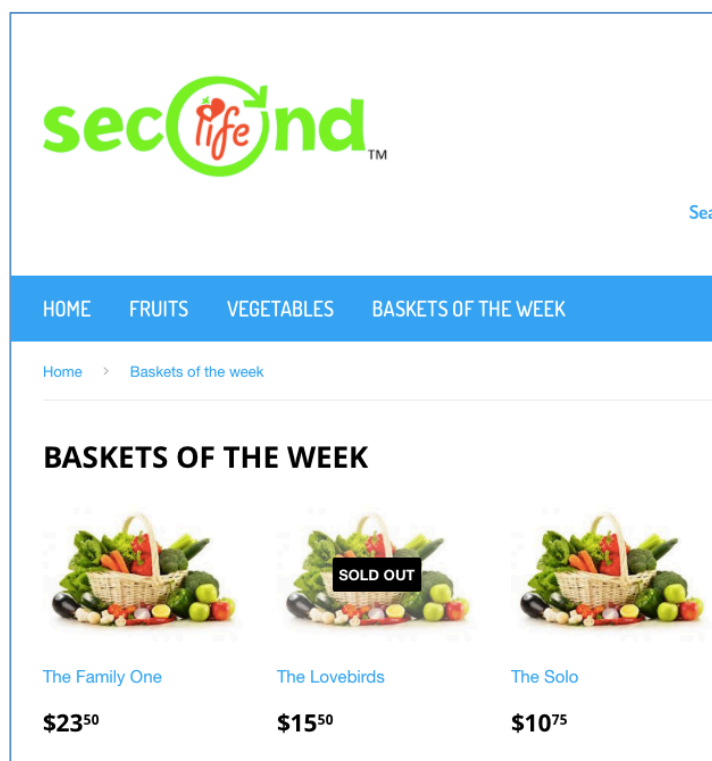
9.3. Unattractive fruit and vegetables initiatives, photos

The Misfits - RedHat Co-operative Ltd.



(CBC, 2014b)

Second Life



(Second Life, 2015)

(Appendix 9.3. continued)

no name® Naturally Imperfect™ - Loblaw Companies Limited



(Naulls, 2015)



(Miner, 2015)

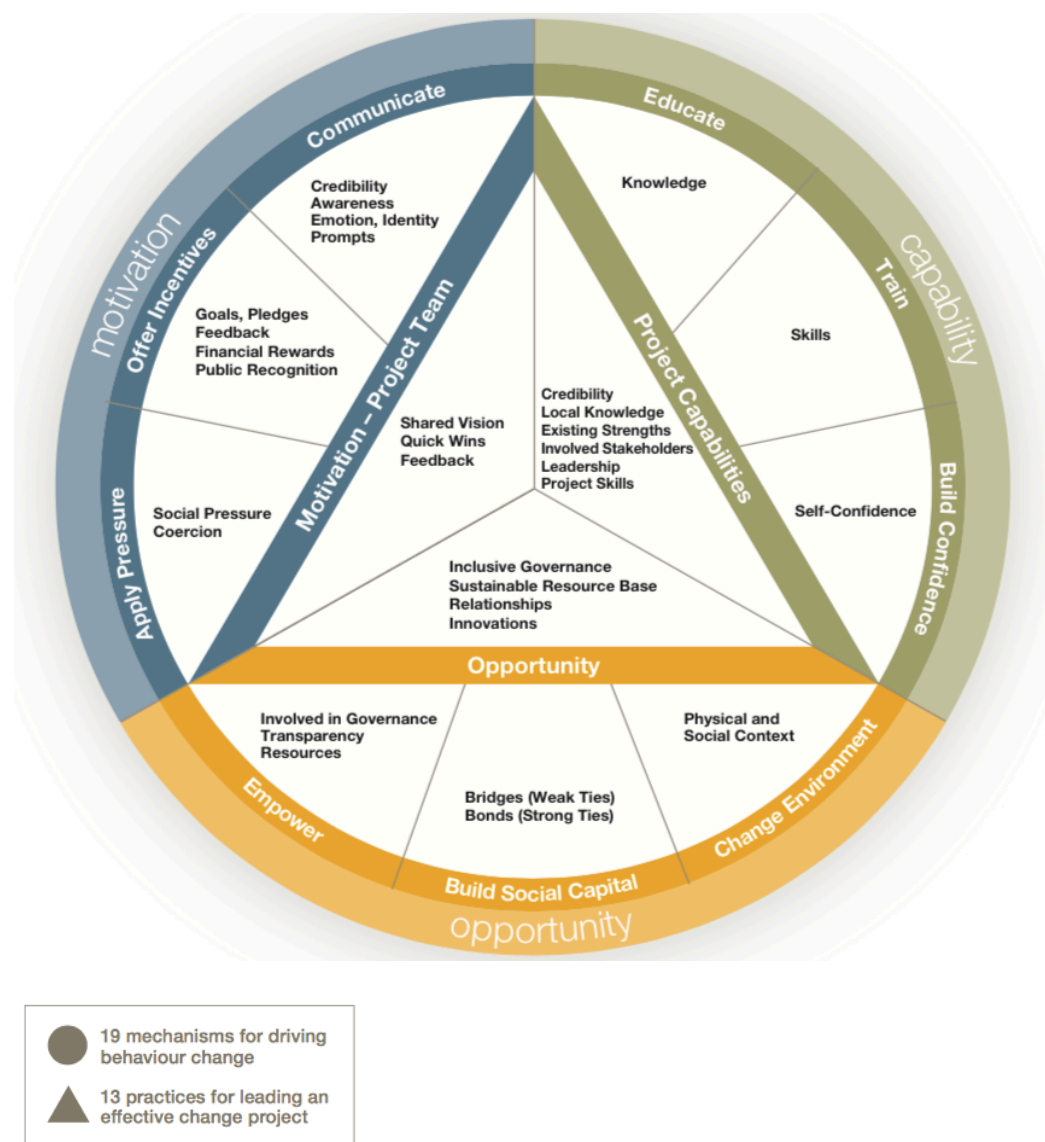
(Appendix 9.3. continued)

Les fruits et légumes drôles - Sobeys-IGA



(Gagnon, 2015)

9.4. Framework for creating social change: What to do and how to do it.



From “Business-driven social change: A systematic review of the evidence” by U. Stephan, M. Patterson, and C. Kelly, 2013, p. 19.

9.5. General interview guide for case study participants

Below is the general semi-structured interview guide for the case study participants. Questions were shared in French and personalized for each company.

GOALS AND TARGETS

Q1 a) What was the motivation to launch this initiative?

Q2. Before launching your initiative did you set goals and targets (short, medium, long term) to measure your success regarding:

- Financial performance (pour yourself, producers/suppliers, stores)?
- Environmental impact
- Consumers

Q3. Do you believe to have met your goals and targets? (Please share statistics and data, on number of producers involved, participating stores, sales, etc.)

Q4. Do you have information on post-purchase behaviour and how consumers use your products when at home? As an example, do you know if they buy more products because the price is cheaper and therefore more food is wasted at home?

PROCESS

Q5. Can you walk me through the process of getting the product in stores (from production to consumption)?

RESOURCES

Q6. What resources were required to plan and implement this initiative? What changes did you need to make to your existing capabilities and practices to implement this initiative in terms of:

a. Human resources (e.g., composition and size of team, new skills, knowledge or capacity created)

b. Financial resources (e.g., marketing budget, donations, grants, volunteers)

c. Collaborations (e.g., partnerships with external stakeholders, such as government, industry, non governmental organizations)

d. Physical resources (e.g., transportation fleet)

e. Business operations (e.g., supply chain logistics, contracts with suppliers)

(Appendix 9.5. continued)

SUCSESSES AND CHALLENGES

Q7. What is working well with your initiative?

Q8. What are some challenges?

Q9. What are your main recommendations for other businesses that would like to adopt a similar initiative, like in Quebec?

Q10. What do you envision for your initiative's future ?

9.6. Interview guide for Quebec Produce Growers Association

I conducted a semi-structured interview with André Plante, Director of Quebec Produce Growers Association. The purpose was to better understand how the system of fresh produce works in Quebec, such as grading standards and regulations, and the implications of the unattractive food initiatives for Quebec producers. These are the following questions that were shared in advance of our phone interview. They were originally in French, but translated for the purpose of this paper.

Fresh Fruit and Vegetable Regulations: Grading

1. A Quebec producer of fruit and vegetables selling to the Quebec domestic market has to follow which grading standards? Please share the specific acts, regulations, and examples of requirements.
 - i. Federal government
 - ii. Provincial government
 - iii. Industry
2. In Ontario, the provincial government eliminated in 2011 its grading standards; is it the same case in Québec?
3. Are the requirements set by industry (e.g., retailers) stricter than those established by the government?
4. Historically, why were cosmetic standards created for fruit and vegetables?

Statistics on unattractive fruit and vegetables

5. Can you please confirm the source of the statistics that you shared in your interview: [Radio-Canada – Dans son assiette \(October 15 2015\)](#)?
 - Up to 75 % of the harvest meets retailers' cosmetic requirements.
 - After removing the fruit and vegetables unfit for consuming (e.g., rotten or diseased), this leaves only 10 to 15% to be sold as unattractive.

Producer-retailer relationship

6. Can a producer sell its Quebec fruit and vegetables to different stores?
7. Are IGA (odd-looking fruit and vegetables) and Maxi-Loblaw (Naturally imperfect) in competition to find unattractive fruit and vegetables?

9.7. Major stores that sell food products in Quebec, 2014

SUPERMARCHÉS ET AUTRES ÉPICERIES	MAGASINS ENTREPÔTS	MAGASINS À RAYONS, À GRANDE SURFACE ET SUPERCENTRES	DÉPANNEURS	MAGASINS SPÉCIALISÉS	PHARMACIES
Provigo	Costco	Walmart	Couche-Tard	Épicerie santé :	Brunet
Loblaws	Presto	Walmart Supercentres	Atout Prix	Rachelle-Béry Le Naturelle Etc.	Jean Coutu
Maxi et Maxi & Cie	Club-entrepôt	Army & Navy	Boni Soir		Pharmaprix
IGA	Entrepôt	Canadian Tire	Sertard	Marchés de fruits et légumes :	Proxim
IGA Extra	Grossiste Le Frigo	Explosion	Voisin	Les Fruits Guay M.S.M. Jardin Mobile Le Marché Végétarien Fruiterie 440 Etc.	Uniprix
Metro		Magasins Hart	Dépanneur 7 Jours		Familiprix
Metro Plus		Korvette	Dépanneur Ultra		Familiprix Extra
Super C		Liquidation World	Dépanneur Gem	Poissonneries	Clinique Santé
Adonis		Riff's Ltd.	Dépanneur Service	Boucheries	Clini Plus
Northern		Rossey	SOS Dépanneur	Boulangeries	Famili Santé
Co-Op Atlantic		True Value V&S	Proprio	Fromageries	Uniclinique
Mourelatos		Magasins à prix unique :	Le Dépanneur	Confiseries	Unipharm
Intermarché		Dollar Plus Dollarama Etc.	Servi-Express	Etc.	Accès santé
Marché Tradition			Servi-Plus		Etc.
Marché Bonichoix		Canadian Tire	Service		
Les 5 Saisons		Tiger Express	Superstop		
Marché Extra		Tigre géant	Quickie		
Marché Ami		Etc.	On the Run		
Marché Richelieu			Budget		
Axep			Ami		
Magasins M&M			Etc.		
Etc.					

Note. *This list is not exhaustive. Sources: Canadian Grocer, Who's Who 2015; The Nielsen Company; compiled by MAPAQ. From "*Bottin statistique de l'alimentation 2015*" by Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ), 2015, p. 33.