BARRIERS TO LOCAL FOOD INITIATIVES IN SOUTHERN ALBERTA: AN INTENSIVE CASE STUDY OF THE COTTONWOOD CO-OP

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Abstract

Although there are many local food initiatives budding across the globe to support localization of the food system, they face major barriers operating in the mainstream food system. There is an existing literature highlighting barriers with suggested policies to overcome them. However there is little literature on unique barriers in Southern Alberta. This thesis explores characteristics of Southern Alberta that might inhibit operations of local food initiatives in this region through an intensive case study of a local food cooperative operating in Fort Macleod, Alberta. A comparison is then made with barriers in different cities of Alberta, Canada, and USA as discussed in literature. Policy implications, actionable by governments and local food initiatives' management, are drawn from the findings.

Keywords: local food system, Alberta, short supply chains, social justice, sustainable food systems, local food, food systems, distribution

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Chapter 1: Introduction

Rapid globalization has led to many countries being predominately dependent on food imports by multinational corporations (Wormsbecker, 2007). This has left large agribusinesses and food retail corporations in charge and has exposed the food system to numerous issues related to health, environment, society, food safety, and economy. (Cleveland, Müller, Tranovich, Mazaroli, & Hinson, 2014; Krejci, Stone, Dorneich, & Gilbert, 2016; Mount et al., 2013; Wormsbecker, 2007). In an effort to bring back food sovereignty and food security, there are many initiatives appearing across the world to support a more locally focused agri-food system (Cleveland, 2014; Cleveland et al., 2014; Friedmann, 2007; Krejci et al., 2016; Mount et al., 2013; Patel, 2007; Shiva, 2016; Wormsbecker, 2007).

In North America, local food initiatives, such as food cooperatives, Community Supported Agriculture (CSA), local food hubs and farmers' markets emerge but often fail to have a considerable impact (Cleveland et al., 2014; Mount et al., 2013). They face a plethora of challenges ranging from health regulation requirements to financial viability (Barham et al., 2012; Krejci et al., 2016; Mount et al., 2013). Academic scholars have started paying attention to the issues in the mainstream food system noted above and consequently there is increasing literature on problems and policies related to these local food initiatives as supplementary or alternative food providers (Krejci et al., 2016). The emergent nature of these initiatives means that there is also different terminology used to describe different models of these initiatives to support localization of food systems in different geographic regions (Bora, 2015; Ilbery & Maye, 2005; Krejci et al., 2016; Lerman, 2012; Lerman, Feenstra, & Visher, 2012; Mount et al., 2013).

Despite their widespread emergence, these initiatives remain part of the “alternative” food system (Mount et al., 2013). They continue to build up and fail without having a significant impact due to many barriers (Mount et al., 2013). Today’s business environment is designed to support the mainstream food system which is why it is harder for (usually) unprepared trailblazing small entrepreneurs to make their ventures viable and successful (Cleveland et al., 2014; Krejci et al., 2016).

This thesis first explores the research discussing the problems local food initiatives face and policy solutions that governments and organizations could adopt to overcome these barriers in the United States and certain parts of Canada. Research by Explore Local program by the Alberta’s Department of Agriculture and Forestry regarding local food demand in Alberta is also reviewed.

Like others, this region has also experienced many other initiatives such as Community Food Clubs, Co-ops, and Food Boxes starting and ultimately failing. This research explores the barriers that such initiatives face in the region of Southern Alberta through an intensive case study of a local food cooperative, the Cottonwood, located in Fort Macleod, a town of 3,100 people located 50 kilometers west of Lethbridge, Alberta. The Cottonwood provides access to affordable, healthy food through an online ordering system to its membership. They rent a store-room where the produce gets delivered for the membership to pick-up. The management of the Cottonwood is contemplating shutting down their operations due to its general unsustainability. This research studies the operational dynamics of the Cottonwood and the unique barriers it faces in making its operations viable.

Data was collected from a documentary analysis and by surveying Cottonwood’s participants (members and suppliers) and having in-depth interviews with its board members.

The objective is to get a thorough understanding of what went well and what went wrong through the perspectives of various participants. Another outcome of this research, in addition to supplementing to the exhaustive description through intensive case study, is to identify strategies to avoid or overcome these barriers. A report of the findings with specific recommendations that can help them operate and/or scale-up sustainably was presented to the Cottonwood's board members.

After looking at barriers faced specifically in this region, this study compares them with barriers discussed in studies from other parts of Alberta, British Columbia (BC), Ontario, and US. This will give the reader an idea about which barriers are specific to the region and how they vary with geographic positions, government support or lack thereof, and population demographics.

In the end, this study provides recommendations and potential policies, derived from the discussion with interviewees and relevant publications, which may be used by social enterprises like the Cottonwood to become sustainable operations while retaining their alternative philosophies. This thesis contributes to the scholarly literature on regional sustainability and development by providing useful information for governments and local food initiatives' managements on how to improve their businesses and strengthen local food economy.

Chapter 2: Literature Review

This section begins with the discussion of how problems and vulnerabilities related to the mainstream food system establish the need for local food initiatives (Mount et al., 2013). After discussing the alternative values behind these initiatives, this section covers different kinds of local food initiatives and the diversity of terminologies used to discuss alternative food systems. At the end of this section literature on the various barriers documented across Alberta, other parts of Canada, Europe, and USA is explored and the need to identify unique barriers in Southern Alberta is established.

2.1 Mainstream Food System & Vulnerabilities

In this section, I will focus on discussing the issues of the mainstream food system (Figure 1). These issues are highlighted in various publications by food scholars and form the foundations of the alternative values discussed in later sections (2.2 and 2.3).

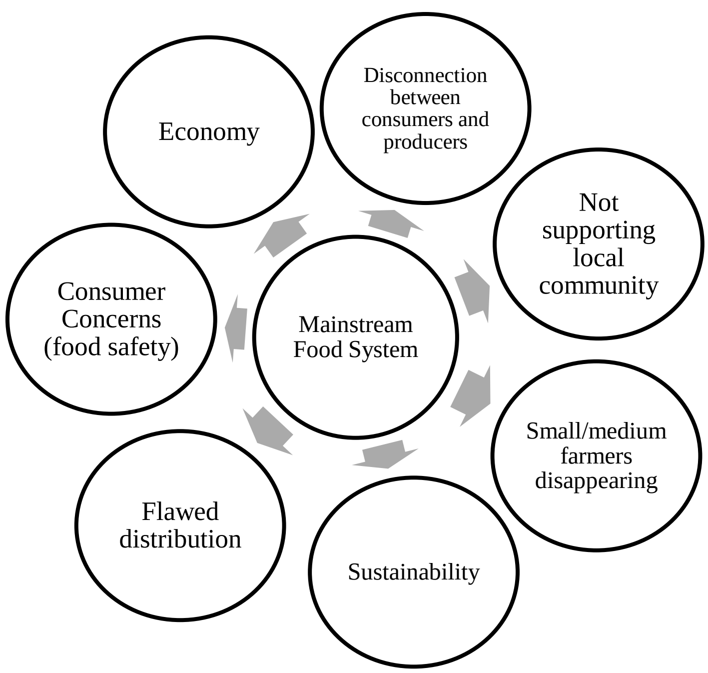

Figure 1: Mainstream Food System Criticisms

Disconnection and the Green Revolution:

In the1960s, agricultural scientists developed new ideas to increase per capita food production globally and improve efficiencies of production (Conway & Barbier, 1988) through scientific and technological advances that resulted in a movement which is now called the Green Revolution. This movement was funded by international donor communities and organized by International Agricultural Research Centres (Conway & Barbier, 1988). However, despite the boost in production yield of rice and wheat, this revolution had problems with equity, stability, and the sustainability of food production (Conway & Barbier, 1988). Norman Borlaug, who won the Nobel Peace Prize for his role in creating the Green Revolution, suggested that the success of the Green Revolution will be ephemeral if the birth-rates are not lowered (Cleveland, 2014). He argued for rapid learning to take advantage of the ‘breathing space’ that the Green Revolution has provided (Cleveland, 2014).

The promises of production made by the Green Revolution research did not come across on farmers’ field in Asia, Latin America, and Africa (Cleveland, 2014; Conway & Barbier, 1988; Patel, 2007). Patel (2007) explains that the Green Revolution increased the yield by as much as five times over twenty years in the north of India but only where irrigation and proper assistance was provided. In addition to various barriers to adoption of the Green Revolution technologies, it also led to wide scale mono-cropping, aggravated pesticides use, and deterioration of soil and fertility (Conway & Barbier, 1988; Patel, 2007). Finally, Conway and Barbier (1988)discuss the lack of sustainability of this revolution due to the diminishing returns on investment and limits in replicating success. ‘Miracle seeds’ provided an unnatural abundance only when the circumstances were right and circumstances were almost never right (Patel, 2007). Elton (2010) has also discussed the unsustainability of such agricultural practices in North America. Farmers are able to maintain high yield only through increased use of pesticides and fertilizers, and this method of farming is depleting the soil (Elton, 2010).

Ilbery and Maye (2005) talk about agricultural fundamentalism in the UK and Europe that dates back to 1940s. They suggest it was *wrongly assumed* during the Green Revolution that prosperity in agriculture would lead to conservation and access to countryside, which did not happen in the past 50 years for UK. Instead there is a disconnection between consumers and producers in UK and Europe like never before (Ilbery & Maye, 2005).

Thus, the questioning of Green Revolution's sustainability, stability, and equity started decades ago but an intensive, industrial approach to agriculture, which relies on synthetically manufactured inputs and other technological advances it is *still* the foundation of the mainstream food system.

Food Safety:

Food safety issues are among the most vital drivers behind the localization movement. To understand these issues, it is important to discuss the 'Factory Farm' phenomenon brought up by the Food & Water Watch (2015). According to this report, factory farms are the meatpackers, pork processors, poultry companies, and dairy processors, that not only control what the end consumers eat and pay, but also what proportion of profits goes to the livestock producers. These companies pressure the producers to grow larger and adopt intensive practices, but despite following this trend producers are still pressed financially because the real price of dairy and meat produce continued to drop in the US (Food & Water Watch, 2015).

Food & Water Watch (2015) has discussed a trend in the past couple of decades where geographically concentrated Factory Farms continue to increase and dispersed small and medium scale farmers continue to disappear. This has resulted in concentration of huge farms that are responsible for manure spills in waterways, hazardous air pollutants, harmful long term health effects for surrounding rural populations and exponentially large amount of sewage. These extreme conditions make the livestock susceptible to diseases that leads to therapeutic and non-therapeutic antibiotics overuse, which results in food safety issues (Food & Water Watch, 2015). Elton (2010) agrees with Food & Water Watch (2015) when she suggests that the current method of raising livestock in industrial food system is wreaking havoc on the environment. The industrialized farming practices have consequently come under scrutiny due to increasing societal concerns regarding food safety and health dimensions (Ilbery & Maye, 2005).

These externalities existed in the past, before the phenomenon of factory farms started; however the issue is with the unsustainable scale and concentration (Food & Water Watch, 2015). Shiva (2016) suggests that industrial agriculture takes away nature's share of nutrition to increase commodity production. Returning this *share of nutrition* is an ecological imperative and is critical to maintain food productivity for humans (Shiva, 2016).

Economy:

Another important factor that drives localization is its potential impact on the national economy. The food industry attracts significant public attention because it not only supports a requirement of daily human life but also contributes greatly to national economy (Hartmann, 2011). Alberta's Department of Agriculture and Forestry estimated the value of alternative food markets (including local food initiatives such as farmers' markets) to be

$963.6 million in 2004 (Canadian Cooperative Association, 2008). There is also some evidence that suggests that farmers can increase their return on product by 40-80% by participating in more direct channels of distribution such as farmer's markets (Canadian Cooperative Association, 2008).

Factory Farms, due to their economies of scale, are able to sustain prices that small and medium sized farmers cannot compete with (Food & Water Watch, 2013). Lerman (2012) suggests that the size breakdown of farms is becoming increasingly polarized as midsized farmers and ranchers are disappearing due to shirking marketing opportunities.

We can see the evidence of Lerman's suggestion in Canada's Census of agriculture. As Figure 2 shows, the distribution of farm sizes in Canada has drastically changed since 1981. The number of small-scale farms (with lower income) has decreased over these decades whereas the revenue generated by large farms has increased. The number of farms with income of $500,000 and above have shown tremendous growth whereas the farms with income lower than $500,000 have reduced greatly.

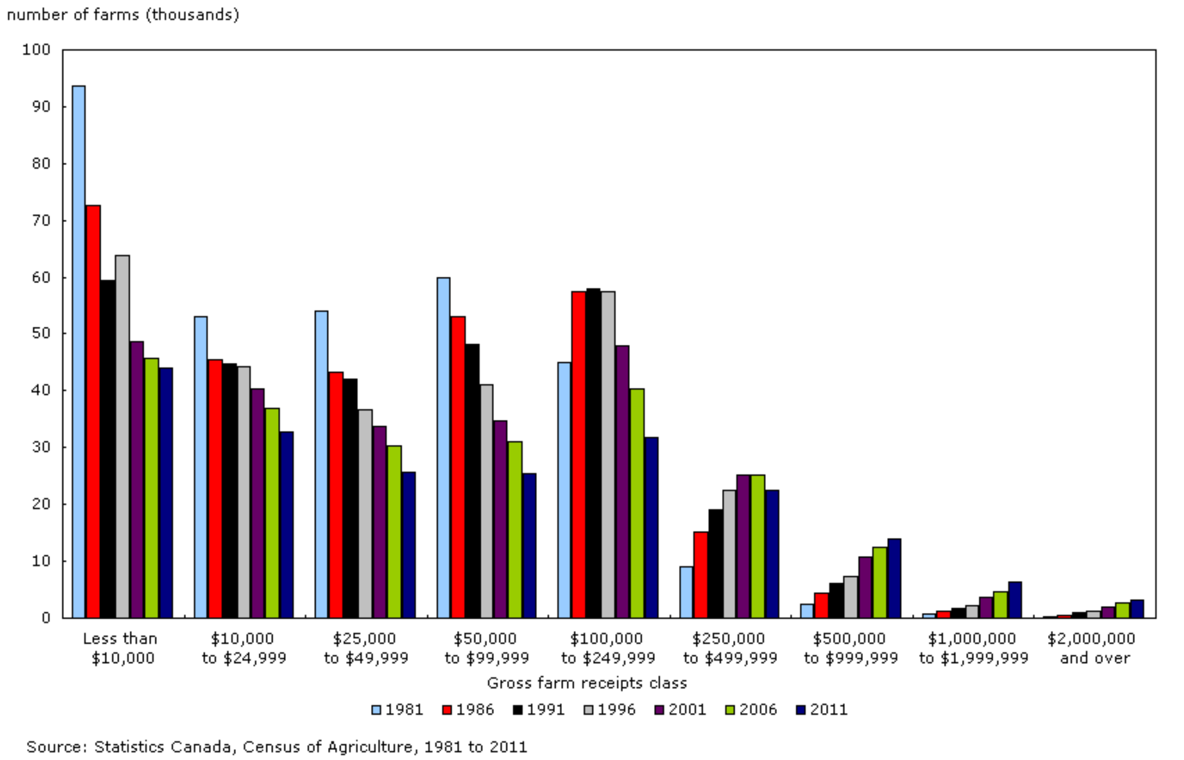

Figure 2: Number of farms by gross farm receipts (Statistics Canada, 2016a)

According to the most recent available Census data (Statistics Canada, 2011), Canada recorded a decrease of 10.3% in number of census farms since last census in 2006. This decrease in number of farms is an extension of the historical trend that started with urbanization in 1941 but the total farm *area* has not changed very drastically (Figure 3). Total farm area in Canada reduced by 4.1% from 2006 to 2011 but the average size of farms increased by 6.9%.

This polarization coincides with what Conway and Barbier (1988) suggested about barriers of adoption of the Green Revolution. Technologies of the Green Revolution were more easily adopted by the larger farmers than the smaller farmers.

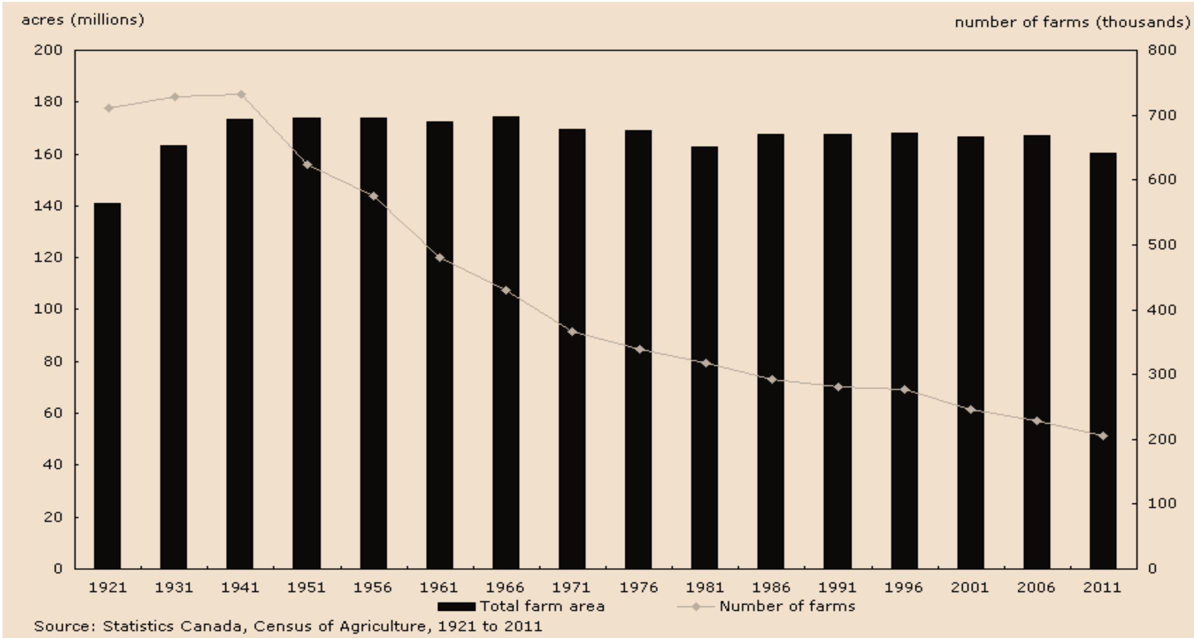

Figure 3: Number of Farms and farm area (Statistics Canada, 2016b)

Elton (2010) observes that there is a farm crisis in Canada. Small and medium sized farmers are earning less than they were during the Great Depression and consequently Canada will be left with half of the farmers by 2025. Elton (2010) has explained the farm crisis that resulted in the number of family farms falling from 600,000 in 1951 to almost 230,000 in 2010. Family farms were being considered inefficient as compared to the bigger farms. It made economic sense to the farmers to increase acreage and invest in larger machinery on borrowed money and both banks and government supported this move with low interest rates and high inflation. However the trends changed by the end of 1970s and they started going bankrupt. Hence the farm crisis began in 1980s (Elton, 2010).

Elton (2010) has observed another change in the farming community. Farming is not an appealing career choice since it is ‘only hard work’. Farmers don’t get to go on family vacations or camping and the money they get for that work does not compensate for what they are losing out on (Elton, 2010). There is a new generation of people starting farming; people who have been nurses, teachers, or plumbers are now interested in working the land.

The food sector has great potential to contribute to regional economic development if the link between farmers and consumers would include local processors and merchants (Friedmann, 2007). Feenstra (2009) also highlights the need to develop the local food economy to revitalize a community. Feenstra (2009) has reviewed various studies of food systems in several states of the US that examined the food supply and ecological, social, and political factors. These studies recommended to localize the states' food and agricultural economy. Feenstra (2009) has also compiled various publications and examples of existing local food projects in support of local food economy. For example, Feenstra (2009) talks about how a college in Arkansas US contributed thousands of dollars to local economy by increasing the proportion of local food in their total food purchases.

In addition to increased regional sustainability and direct contribution to the national economy, local food economies are also expected to lead to endogenous rural development (Maye & Ilbery, 2006). Maye and Ilbery (2006) suggest that shorter food supply chains have more 'horizontal' rural development in contrast to 'vertical' rural development of large-scale production. Maye and Ilbery (2006) suggest that local food economies connect small-scale producers with learning and innovation, fostering growth in the region.

Flawed distribution – Accessibility, availability, affordability:

Another major criticism of the mainstream food system is its distribution. Despite many players in its supply chain, the mainstream food system has created a food environment that has loopholes. While discussing the need to analyze Canada's existing food environment, Minaker (2016) suggests observing the three key elements: accessibility, availability, and affordability.

Affordability of food refers to the price of a particular food and the relative price of alternative or substitute foods (Economic Research Service (ERS), the Food and Nutrition Service (FNS), & Cooperative State Research, 2009). People with lower income will find nutritious food more expensive due to number of factors. Clustering of international grocery chains and their competition dynamics lead to lower prices of nutritional food items (Economic Research Service (ERS) et al., 2009). People with lower incomes generally have poor access to these superstores and they end up relying on convenience stores and corner-stores that provide nutritional food items at higher prices. In addition to relatively expensive healthy food items, these stores have a variety of unhealthy food offerings available at much cheaper rates. Therefore, Minaker (2016) suggests that there is evidence of negative relative affordability - this means that purchasing power and income of people determines relative cost of healthier options as compared to less healthy options.

Another characteristic of mainstream food distribution is food deserts. The term food deserts has been frequently used to define geographic areas associated with low socioeconomic status and limited access to healthy food choices (Fielding & Simon, 2011). Big grocery stores tend to form clusters that leave large parts of urban development without access to healthy food options. Couple this with high fast-food availability, and such a geographic region becomes a food swamp (Fielding & Simon, 2011). Minaker (2016) believes there is more evidence food swamps having negative effects on populations than food deserts. Pseudo foods require little processing and have high returns as a result of which organizations are allowed to have intense and incessant mass advertising; consequently they become central in food environments (Winson, 2013a).

Such dynamics lead to further undesirable consequences that tie back to the issues of healthy food. For example, De Choudhury, Sharma, and Kiciman (2016) used social media in their study of food consumption in food desert areas. They observed evidence indicating 5-17% increased rate of consumption of food containing high contents of fat, cholesterol and sugar in food deserts as compared to non-food desert areas. There is an extensive literature on food deserts, food swamps, their link with obesity related diseases, and evidence of existing food systems to be exploitive (Cummins & Macintyre, 2002; De Choudhury et al., 2016; Fielding & Simon, 2011; Whelan, Wrigley, Warm, & Cannings, 2002).

It's not surprising that researchers have highlighted the urgent need for alternative food systems and an emerging demand for food systems to be more sustainable.(Elton, 2010). Elton (2010) suggests that the current food system *must* change if we want to retain the quality of life while living in our ecological limits.

Enormous Food Industry – Does not support local economy

There are certain interests that are violated due to emergence of alternative food systems. In early 2000s, McDonald's requested laws to protect food companies from anti-obesity lawsuits and Congress introduced legislation to restrict such lawsuits in state courts (Nestle, 2013). Nestle (2013) suggests that such actions indicate the similarity of business oriented goals of the Congress, USDA and food industry. Banerjee (2008) discusses that combination of powerful groups and creative legal interpretations have brought us to the current state where legislative requirements protect private interests often at expense of public. As of now, organizations are legally obligated to maximize shareholders wealth while social responsibility *can* be a strategic choice (Banerjee, 2008). Organizations undoubtedly possess power to create wealth for few people that own them, but they continue to do so on social and environmental costs that are passed off as *externalities* (Banerjee, 2008).

In addition to fast food chains, another powerful entity in food network are the grocery giants. Enormity of grocery business can be contextualized by the fact that Americans spent $603 billion on grocery products in 2012 (Food & Water Watch, 2013).

Winson (2013a) discusses the concept of spatial colonization to explain the effects of the contemporary food system on the geography of food environments and the role of nutrient-poor products. Spatial colonization is the process with which food processors yield their power to place their product in most visible and effective selling places in food environment (Winson, 2013a). According to Winson (2013a), spatial colonization of pseudo foods in convenience stores transcends standards of the typical supermarket. He suggests that even in poorer neighborhoods it is more likely to find a pseudo-food ridden convenience store than to find a supermarket. This is a serious barrier to nutritional health and it ties back with the discussion of negative relative affordability of food.

Winson (2013) highlights a flaw in the current economy that price competition that was supposedly core of free market economy is simply not there in a situation of an oligopoly of food systems. For example, Kellogg Co., General Mills, PepsiCo, and Post Foods, control 79.9% of cereal sales (Food & Water Watch, 2013). Shiva (2016) has called the mainstream food system a 'food dictatorship' because a small number of corporations are in control of the global food supply. Patel (2007) stated that the global food corporations control 40% of the world food trade and wherever there is profit speculated these organizations will be there. Food & Water Watch (2013) suggests that regulators must step in to create competition in grocery stores to provide a chance for small or local food companies to get on shelves and level the playing field. According to this report consumers get an illusion of choice. They believe they are choosing among competitors, but they are actually choosing different products by same large food companies (Food & Water Watch, 2013). For example, Cheerios, Fiber One, Rice Chex, Wheaties, Basic 4, and Cocoa Puffs are few of the 22 top breakfast cereal brands owned by General Mills (Food & Water Watch, 2013).

Elton (2010) has discussed that there are many things wrong with the current food system: cheap calories have fed the obesity epidemic, food security has been compromised, and durability in transit is considered more important than taste. But the deal-breaker for Elton (2010) is the environmental costs of the mainstream food system.

2.2 Changing Food Systems

The vulnerabilities of the mainstream food system discussed in the previous section (2.1) lead the various alternative food values (Figure 4). In this section I discuss the variations of alternative food systems studied by academic scholars (Table 1). I then elaborate on the alternative food values of the emergent alternative food models.

Friedmann (2012) suggests that a change in food system comes about due to unusual combination of economic change and social movements. Lerman (2012) observes that there is a revolution in food system and this revolution can be identified by popular discourse about reconnecting with land, the popularity of media, books, and films criticizing corporate controlled mainstream food systems, and the emergence of farmers' markets, CSAs, stores and restaurants promoting local suppliers.

Roles of the entities in the mainstream food system and ingrained operating flaws shed some light on the reasons behind the current structure; however they do little to indicate its future directions. Collectively, there seems to be an absurd amount of vulnerabilities in the complex and industrialized mainstream food system. They all point to an inevitable movement towards making a complementary if not alternative food system.

Mount et al. (2013) suggest that vulnerabilities and consequent criticisms of the mainstream food system lead to a variety of alternative values. He discusses that the rationale behind each type of a local food initiative stems from a criticism of the current food system. This rationale leads to its unique organizational form i.e. the diversity in the goals of a local food initiative shapes its regional, social, political, and economic forces. Each organization is targeting one or more criticisms of the mainstream food system which is evident in their unique structures (Ibid). Some of the values that these initiatives carry are represented in Figure 4.

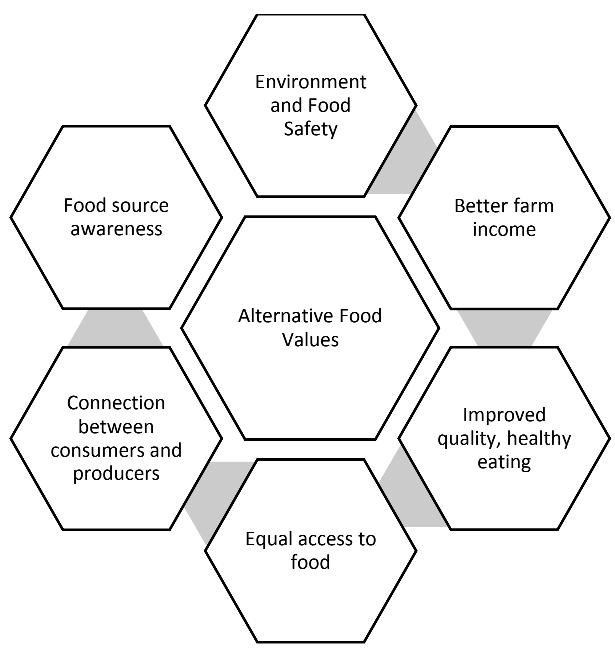

Figure 4: Alternative food values (Mount et al., 2013)

All the vulnerabilities discussed lead to three major criticisms of the mainstream system; the profits go to multinational corporations, their operations do not help communities, and they promote unhealthy habits (Mount et al., 2013). Consequently, in addition to focusing on alleviating these three problems of the mainstream food system, the alternative food projects primarily revolve around small-scale producers with fresh products (Ilbery & Maye, 2005; Mount et al., 2013).

Researchers have discussed the concept of alternative food system with various alterations of a concept with key themes of reducing food miles, transparency about food sources and production practices, keeping it local, fresh and sustainable, and supporting small-scale producers (Bora, 2015; Krejci et al., 2016; Lerman, 2012).

Following are the five major variations of 'supply chains' used to explain the concept of alternative food system (Table 1). Mainstream food system is also discussed to provide a comparison point. This variety of alternative food system makes promises of reducing intermediaries, geographic distance between producers and consumers, and energy and ecological costs (Krejci et al., 2016).

Table 1: Variations of the concept of alternative food system and how they compare with the mainstream food system

	Source	**Concept**	**Philosophy**
Mainstream food system	(Cleveland et al., 2014, Page 1)	'The mainstream food system in the industrialized world is dominated by large, private corporations, and is highly concentrated spatially and structurally, resulting in high levels of production.'	Industrial techniques, standardizati on, cheap food supply, globally sourced

Regional Food Supply Chain (RFSC)	(Bora, 2015, Page 8)	'Provides economic support for small- and medium-sized farmers and help consumers become better-informed about their food, emphasizing the development of producer-consumer relationships and transparency with regard to production practices. In addition to these important social considerations, it requires efficient and effective supply chain operations.'	Food source awareness, small and medium sized farms, removing disconnection, efficient supply chain, transparency
Value Based Supply Chain (VBSC)	(Lerman, 2012, Page 2)	'Wholesale marketing channels that preserve the identity of farmers and ranchers who raised or grew the product being sold, as well as any environmental, social, and/or community values incorporated in the production.'	Food source awareness, transparency about values incorporated in food production practices
Short Food Supply Chain (SFSC)	(Ilbery & Maye, 2005, Page 334)	'The key characteristic is that foods reach the final consumer having been transmitted through a supply chain 'embedded' with value-laden information concerning the mode of production, provenance and distinctive quality assets of the product. Number of nodes between primary producer and final consumer will be minimized.'	Food source awareness, transparency about values in food production practices, short supply chain
Intermediated regional food supply network	(Krejci et al., 2016, Page 58)	'An organization that facilitates distribution of primarily locally grown, source identified food from farmers to customers'. (Barham et al., 2012) Source identified: Information about the vendor of the food remains with the food as it is supplied.	Food source awareness, efficient supply chain
Value Based Value Chain (VBVC)	Larry Yee, University of California	VBVC is integral part of every CSA. It is a food system that is founded on more than profit making. It supports family farms. Family farms are where the farmer is in	Small and medium sized farms, removing

	(Elton, 2010)	charge, and gross revenue is between 50k and 1 million. Yee believes that family farms have to be preserved because they grow the food that people are looking for locally.	disconnection, short supply chain.

Now I will discuss the values that form the bases of these alternative food systems:

Transparency

The value of transparency refers to clarity and openness with regard to production practices and origin of the produce. In support of the alternative value of transparency, Lucia Sayre, Co-chair of Healthcare Without Harm in North America, suggested that healthy food cannot be defined by nutritional value only and elements like labor standards and packaging materials factor in to determine how healthy is the food (Sayre, Howard, Narvaez, Kesselman, & Rivera, 2016).

Transparency and trust between food suppliers and consumers is supposed to bring resilience, producer accountability, and much-needed stability in the face of changes like climate change, political change and fluctuating costs (Clancy & Ruhf, 2010; Krejci et al., 2016). Proponents believe that transparency provides support to small and medium-scale producers in making the alternative food system safer, healthier and more sustainable (Krejci et al., 2016).

Re-connections

Disconnection refers to the distance between consumers and producers and general unawareness about each other. This disconnection between consumers and producers is frequently brought up in the literature related to localization of food and is one important argument for the localization of food. One USDA's initiative based solely on this disconnection is ‘Know Your Farmer, Know Your Food’ (KYF2). The mission of this program was to fortify the link between producers and consumers and support local food systems (Barham et al., 2012). This value is not only about food miles but also about awareness of the production practices. Value of transparency and disconnection complement each other.

Consumers are increasingly concerned about the disconnection between them and the producers (Ilbery & Maye, 2005). They are concerned about nutrition in their food and are interested in the origin of their food. They are asking about the production practices of their food suppliers. During the Cultivating Connections forum, a local farmer from Edmonton who is also running a CSA, said that quality is the most important aspect of their business and if they find themselves compromising on quality, then they are on the wrong track (observation, February 04, 2017). Ilbery and Maye (2005) suggests that the demand for ‘quality’ of food could be the key catalyst for sustainable food systems.

Local

There are continued negotiations about what constitutes ‘local’. Faye (2011) suggests that the definition of ‘local’ depends on perspectives of the person. It may refer to food grown within 100-mile radius, food from their rural community, food coming from their province, or larger region such as Eastern Canada or even North America. Ramp (2015)’s findings also suggested that the definition of ‘local’ is quite flexible and it is different for different people. It can be a municipality, urban region, sub-region or an ecoregion (Ramp, 2015). While assessing financial viability of local food hubs, Matson, Thayer, and Shaw (2015c) have limited local food hubs to be in a central position with producers and members within 50-radius. Alberta Agriculture and Rural Development (2013) have defined local food as ‘grown or processed in Alberta’ and this definition has been used in various studies of Alberta (Faye, 2011; Infact Research and Consulting Inc., 2015a, 2016a).

In addition to concerns about the physical distance, local is also about social considerations related to self-reliance. Consumers want to be closer to the production of their food. Consumers’ attention is shifting from packaging to buying food that can be traced to particular people and places (Ilbery & Maye, 2005). There is promotion of low carbon economy and greener, more localized economy at the international level which is driving local food demand (Morley, Morgan, & Morgan, 2008). Consumers want greener produce and practices and localization seems to be a way to support local entrepreneurs and their businesses (Infact Research and Consulting Inc., 2015a, 2016a).

Then comes the question if Canada can rely on local food system, given its climate conditions. Elton (2010) believes that advances in technology and agriculture can help Canada get to this goal.

Sustainability

Conway and Barbier (1988) have defined agricultural sustainability as ability to retain nations’, farms’ or fields’ productivity in face of shock or stress. Local food economy will lead to regional development that can be relied on in unprecedented situations. Winson (2013b) discusses the concept of double pyramid that claims that healthy food and sustainable food production are twin goals that reinforce each other. Proximity of food production and consumption is increasingly being linked with sustainability as well (Friedmann, 2007; Pollan, 2007). Localization is becoming more and more central to understanding sustainable food systems (Friedmann, 2007; Pretty & Hine, 2001). Elton

(2010) suggests that the ideal of a solid local food system is to consume healthy food produced with minimum environmental impact.

Economy

Another criticism of mainstream food system is the need for changes in economic outcomes. Many believe that localization of food system will lend support to small and medium-sized, local farmers which will strengthen the economy of the society (Barham et al., 2012; Friedmann, 2007; Krejci et al., 2016).

2.3 Local Food Initiatives

In this section, I give an overview of different local food initiatives operating in Southern Alberta.

Table 2 enlists different kinds of local food initiatives operating in the food environment of Southern Alberta:

Table 2: Different kinds of local food initiatives operating in Southern Alberta

Local Food Initiative	**Concept**	**Source**	**Local Example**
Bulk Buying Club	Collective buying of organic and/or local foods	(Little, Maye, & Ilbery, 2010)	Cardston Bulk Buying
Food Box Programs	It is a bulk-buying club that uses public subsidy to try and create positive situation for consumers and farmers.	(Biberstein & Daalderop, 2008)	Good Food Box Club

Food Co-operatives (Co-ops)	Collective buying of organic and/or local foods for democratic member body.	(Little et al., 2010)	Cottonwood
Community Supported Agriculture (CSA)	'Subscribers buy shares for a farm and receive fresh food from the farm. In some cases, urban consumers rent plots of farmland and participate in growing food crops'.	(Suh, 2015)	Synergy Permaculture, Fork in the Rowed
Community Gardens	'A parcel of urban open space is managed and operated by members of a local community.'	(Suh, 2015)	Lethbridge Community Garden
SPIN Farming	'SPIN stands for small plot intensive and it teaches how to take a backyard, front lawn or neighborhood lot to new levels of productivity and profitability that go far beyond traditional home gardening practices.'	(SPIN Farming, 2016)	Synergy Permaculture
Local/Regional Food Hub	'A business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand.'	(Matson et al., 2015)	Galimax Trading
Farmers' Markets	'Strategic venues linking producers and consumers of local food while fulfilling multiple social, economic, and environmental objectives.'	(Wittman, Beckie, & Hergesheimer, 2012)	Lethbridge Farmer's Market

Produce Auctions	‘Physical sites where large quantities of produce are sold to local buyers’	(Johnson, Fraser, & Hawkins, 2016)	

Now I will discuss some of these initiatives that have been particularly viable and successful in promoting alternative food values:

Farmers’ markets

There are dynamics of supply and demand and perceptions of ‘authenticity’ that affect position of farmers’ markets among other local food initiatives (Wittman et al., 2012). Krejci et al. (2016) suggest that farmers’ markets are an ideal outlet for producers with smaller quantities of large variety to sell. Wittman et al. (2012) discusses how farmers’ market has a rather unique position considering that the social infrastructure is non-profit and provided by the social economy for individual producers. It is also a strategic location for social and civic engagement. They also play a role in providing entry point to local food through this unique position. It also attacks the disconnect criticism of the mainstream food system by providing a venue for building connection and relationship between producers and consumers thereby linking urban and rural communities (Wittman et al., 2012). They also explain that farmers’ market have certain regulations that determine who gets access to this market space and who does not. Farmers’ markets are also considered ‘keystone’ to building the local food systems (Wittman et al., 2012). They are operating with non-profit and community building objectives and any margins are invested back into the farmers’ market infrastructure.

Food Hubs

Barham et al. (2012) discusses generic operations of the food hub. It has a business management team at the center of operations that provides coordination in the form of supply chain logistics. It helps producers to achieve sustainable production practices, production planning, season extension, light packaging, branding, certification, and food safety. They reduce transaction costs for institutional and retail buyers. They help them get a one stop shop for consistent and reliable supplies. Some food hubs also partner with the mainstream regional distributers and hence complement the mainstream system.

Local food hubs improve market access for producers by helping producers with production planning and pricing (Barham et al., 2012). They help in estimating projections of demand of seasons and in providing distribution and processing infrastructure of appropriate scale. Some food hubs also offer production, distribution, and marketing services to these producers. Although there are different models of local food hub in operation (Barham, Fisk, Collier, & Carmody, 2011), Matson et al. (2015c) have divided them in two major categories to assess financial viability- wholesale model and direct-to-consumer model.

Wholesale Model

Matson et al. (2015c) explains that the wholesale model is focused on retailers as its main customers. This means that food hubs following this model may have hospitals, schools, restaurants, and grocery stores as their buyers. Wholesale model has paid labor running its operations. This model pays attention to expanding seasonality of sales by focusing on certain products. There is higher capital investment required to set-up warehousing and transportation trucks. This model provides higher returns to producers.

Direct-to-consumer Model

Direct-to-consumer model, on the other hand, relies on a mix of staff and volunteers for running its operations. Its focus is fresh produce and it has retail prices for products due to bulk purchases and shorter supply lines. Community building and good-will plays a significant role in this model. The goal of a direct-to-consumer model is to generate income to sustain the business (Matson et al., 2015c). There is minimal initial investment required and volunteers typically use their personal vehicles for transportation purposes.

Krejci et al. (2016) provides an interesting approach to the term *food hub*. They suggest that even a membership based co-op or a CSA can qualify as a food hub as long as it offers more supply chain support than a farmers' market and moves a larger volume to maybe cater institutional buyers such as restaurants, schools and hospitals.

Food Cooperatives:

Food cooperatives fall under the category of 'buying group' that include initiatives that can be anything ranging from a small-scale, informal initiative started by a number of friends purchasing together to a large-scale, formal, with a store-front scheme (Little et al., 2010). Ronco (1974) has defined a food co-op as:

> *"The only ingredients necessary to start a food co-op are: a group of people, some space to put them in, some of their money to buy food, someone to sell them the food, and some way for them to distribute the food back among the group. The specifics are open to much discussion among the groups themselves." (Ronco, 1974, Page 35)*

There is flexibility in the form of purchasing as well as distribution and consequently there are variety of models operating (Little et al., 2010). Typically using volunteer labor and community or personal buildings, these co-ops have typically low capital requirement that allows small groups to buy food in bulk quantities and then the groups come together to divide the food into individual orders (Little et al., 2010). Operations of the co-op also has social function to it by bringing people of community or neighborhood together for collective distribution of food (Little et al., 2010).

However Sumner (2012) has warned that these local sustainable food initiatives are not problem free or perfect; they are evolving projects that interact with the conventional market structures.

2.4 Barriers for Local Food Initiatives

In this section I discuss the barriers faced by local food initiatives. Then I discuss the anticipated barriers for local food initiatives in Southern Alberta. Towards the end of this section I highlight the gaps in current literature that lead to the problem statements of this study.

There are momentums created by the local food initiatives in North America but they do not sustain because there are barriers that prevent development of the alternative food systems (Mount et al., 2013). Mount et al. (2013) call for more integrated and holistic approach by the local food initiatives to sustain their operations while fulfilling the alternative values. The difference between mainstream and alternative supply chains is too stark since the alternative supply chains have developed as an antidote of the mainstream supply chains. The movement towards regional food must adopt more integrative approach either by scaling-up their operations or through convergence of various projects to overcome the barriers existing in the mainstream food system (Friedmann, 2007; Ilbery & Maye, 2005; Morgan, Marsden, & Murdoch, 2008; Mount et al., 2013).

The following are some of the barriers that have repeatedly appeared in publications across North America:

Demand and Supply Dynamics

Barham et al. (2012) observed that there is a growing demand for local food in large volume; however, the small and medium scale farmers face recurring challenge of lack of distribution infrastructure. Local food initiatives can provide support to the local food infrastructure by bridging this gap.

Local food initiatives face many challenges in sustaining their business successfully. An important challenge that Matson, Thayer, and Shaw (2015a) have discussed is managing growth, from both demand and supply side.

From the supply side, it is a challenge for these local food initiatives to make a network of suppliers that provide consistently high quality produce for consumers (Wittman et al., 2012). With growth, they have to increase suppliers that are strictly in the local region but still provide quality produce. Krejci et al. (2016) suggest that adequate local producers' participation is required for long-term success of local food initiatives. Seasonality is another challenge for supply (Barham et al., 2012). Producers are subject to seasonality whereas the customers require food throughout the year. So these initiatives have to consider season extending activities such as processing or offering products that may not be produced locally.

From the demand side, these initiatives have to increase their customer base to sustain the growth. There is only a limited portion of population that is actively looking for local produce (Infact Research and Consulting Inc., 2015a, 2016a). Connelly and Beckie (2016) have also observed this challenge in central Alberta that it is hard to increase supply without guaranteed demand; at the same time it is difficult to raise awareness without sufficient supply.

Krejci et al. (2016) and Wittman et al. (2012) have cited the dynamics of demand and supply as challenge for the local food initiatives. Wittman et al. (2012) suggest that the demand is outpacing supply and it is challenging for participants to match this demand with adequate volume and variety. However, it is not as simple to increase the volume - these initiatives must retain high quality while increasing volume in order to keep the promised alternative values. To meet this increasing demand some farmers' markets have reluctantly allowed resellers as vendors (Wittman et al., 2012). Increasing supply is also harder for these producers because their ethical modes of production, environmentally sustainable and labor intensive practices eventually increase the costs of production. The regulating criteria that establishes expectations of both consumers and vendors can also be a constraining factor in meeting increasing demand (Wittman et al., 2012).

Consumer Behavior

Memery, Megicks, and Williams (2005) have discussed a typology of factors related to ethics and social responsibility influencing shoppers' behavior in grocery shopping. They discuss that consumers' profile has an effect on their ethical and socially responsible buying decisions (Memery et al., 2005). Practicalities of consumers' everyday life can impact how they might want to behave and how they end up behaving (Memery et al., 2005). Respondents in their study were of the opinion,

> '*We do try to buy organic stuff but it's more expensive, so you have to sort of compromise on some things'. (Memery et al., 2005, Page 406)*

Infact Research and Consulting Inc. (2015b, 2016b) has suggested cost and seasonality as one of the barriers faced in the Calgary and Edmonton region. Friedmann (2007) suggests that corporate retailers can charge lower prices which local suppliers cannot compete with because the big retailers do not share similar commitment to local sustainable food. Consumers find it difficult to go out of their ways to procure local food since it is not usually available at the convenient food outlets.

> *'It goes back to logistics, doesn't it? You have to do your shopping wherever the nearest place is.' (Memery et al., 2005, Page 406)*

Johnson et al. (2016)'s research also suggested that the barrier for alternative food system is that the consumers as well as producers are not very motivated to sacrifice the convenience of a mainstream food system. Consumers are looking for sustainability related benefits of alternative food systems but at the same time they are unwilling to give up the convenience provided by the mainstream food system (Johnson et al., 2016).

Friedmann (2007) suggests that community organizations have attempted to get the supermarkets to source locally in Ontario for fifteen years but their attempts met with failure. Farmers' markets could increase trade if there was more accessibility, it was available at more locations and had longer operating hours, and there was more supply and variety, and more awareness about the marketing channels (Wittman et al., 2012). Infact Research and Consulting Inc. (2015b) has also highlighted the barrier of access and selection for local food consumption in Calgary region. More challenges that these initiatives face are competition from mainstream food system, availability and pricing of products, dwindling number of producers, pressure on farmland for urban growth, rising land prices, labor shortages, increasing production costs, limited growing season, weather changes, reducing production facilities, lack of R&D, and changing regulatory climate (Wittman et al., 2012).

Finding the right scale of operations

One major obstacle these initiatives face is lack of economic, organizational, and physical structures for the *required* scale (Cleveland et al., 2014). Existing food distribution is not supportive of the scale that these initiatives operate on (Krejci et al., 2016).

On the other hand, there is a concern that alternative food systems have reached their limits in supply as well as demand (Wittman et al., 2012). They suggest that scaling up might result in losing of their alternative values and without scaling up their impact on overall food distribution is negligible. They can scale out to other geographic regions but these initiatives must scale up to face the structural concerns of mainstream system (Wittman et al., 2012). Krejci et al. (2016) have also cited growth management as a challenge for the local food initiatives.

Cleveland et al. (2014) suggests the initiatives to either scale-up from direct marketing to individuals, or scale-down from the large-scale distribution networks, while maintaining their motivations and goals for alternative food systems. Finding the above mentioned 'middle-ground' between two extremes is suggested to minimize the disadvantages of each (Cleveland et al., 2014).

Financial Viability

Another barrier for these initiatives is to provide access to local food while maintaining viable price for the producers (Mount et al., 2013). They juggle the variables to maintain economic viability as well as retaining fair prices for the products while operating in the dominant mainstream system.

Direct-to-Consumer Model

Local food initiatives such as farmers' markets, good food boxes, local food co-operatives, CSAs and food hubs that operate on direct-to-consumer model face many issues. These operations are highly labor intensive that have lower sales volumes, higher competition from other sellers and higher transportation and marketing costs (Krejci et al., 2016; LeRoux, Schmit, Roth, & Streeter, 2010; Tropp, 2013). Direct-to-consumers model is not sufficient for small and medium-scale farmers to sustain their businesses and their products are not differentiated enough to get fair prices given their economies of scale (Lerman, 2012).Consequently they are not as profitable as selling to larger customers or distributors (Krejci et al., 2016).

Wormsbecker (2007) suggests a multi-stakeholder perspective of the barriers in localization efforts. She has summarized the universal barriers as follows

- federal agricultural policy
- health and safety regulations
- consolidation of food retailing
- demand for cheap food

Organizational models of local food initiatives in North America:

There are some food initiatives that are working better than the others in the food movement. Specifically, CSAs and farmers' markets have been proven to have potential to create a more sustainable food system (Johnson et al., 2016). According to Infact Research and Consulting Inc. (2015b, 2016b) farmers' markets have strongest growth potential in the

Calgary and Edmonton region in the near future; CSA or farm box programs may also experience above average growth. A local food hub operator from Alberta suggested that as long as these initiatives 'pre-sell' they do not have to worry about their feasibility (Usher, 2017). In this section I discuss different organizational models of local food initiatives operating in the region. For comparison, I studied the organizational structures of other food co-operatives such as Cow-op, RedHat cooperative ltd., Kootenay and Boundary Food Producers co-op (KBFPC), and Ottawa Valley Food co-op (OVFC).

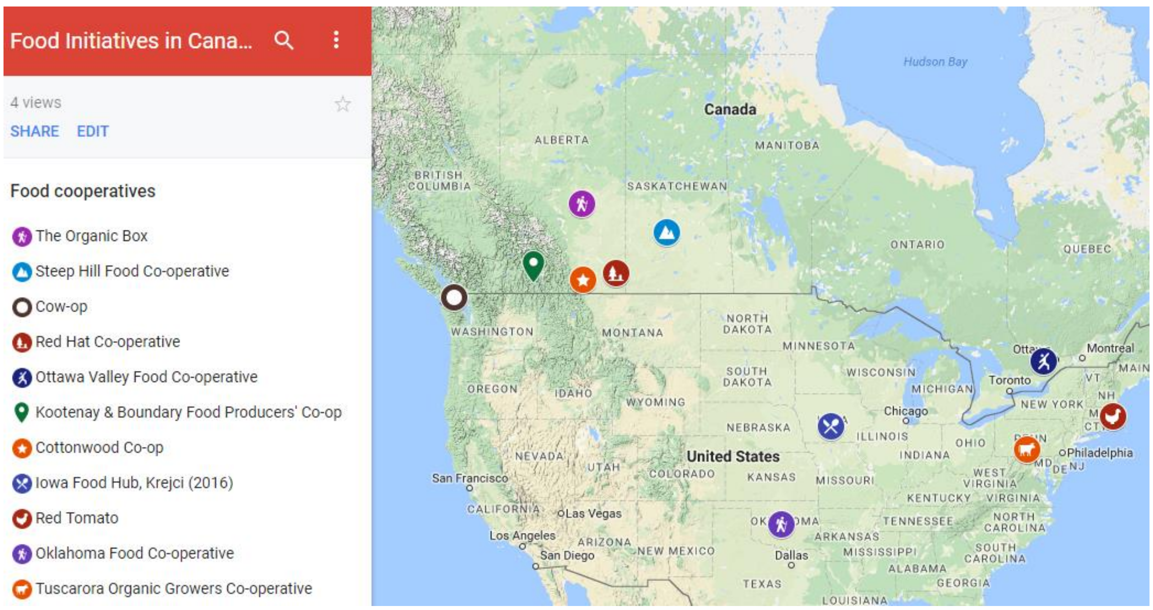

Figure 5: Prepared with Google My Maps: Portrayal of locations of local food initiatives discussed in the section

Steep Hill, SK

Steep Hill is a bulk-buying club located in Saskatoon, SK with philosophy to provide local, organic, and natural food at fair prices (Steep Hill Food Co-op, 2017). I found out about Steep Hill during a conversation with the Cottonwood's founder. He suggested that Steep Hill's model was used as a benchmark for Cottonwood's organizational model. Steep Hill is a not-for-profit co-op and about 10% of its members help with the operations through volunteering. It is a buyer-based co-operative and at this point, the Steep Hill has 900 members. Membership costs are annual. Non-members can also shop at the co-op with 25% markup and non-volunteering members pay 13% markup on the shelf-price (Steep Hill Food Co-op, 2017).

The Organic Box

It is a family owned food hub run by the owners' sons and over 50 staff members in Edmonton, AB. The Organic Box has been presented as an exemplary operational model of a food hub in Alberta (Alberta Agriculture and Forestry, 2015). The Organic Box owns its storage, distribution, and marketing facilities (Alberta Agriculture and Forestry, 2015). However, their philosophy about local is different than most initiatives:

> *'We want to keep as much of every dollar you spend in your communities and support organic producers providing an economic benefit to their own communities, whether that is 100 or 10,000 miles away'(The Organic Box, 2016).*

Cow-Op

Cow-op is a non-profit local food co-op that is funded by Cowichan Green Community (Cow-op, 2017). Cow-op has both buyers and suppliers as its members, but it has a mandated suppliers' majority on the board of directors. Cow-op also requires its suppliers to pay $25 annually as web listing fees. According to the feasibility study that was conducted for Cow-op, this initiative should have been financially viable by 2016, but it hasn't happened due lack of the anticipated demand (field notes).

Red Hat Cooperative ltd.

Red Hat is a for-profit, producer-based co-op in Redcliff and Medicine Hat area of Alberta. The town of Redcliff has the largest concentration of greenhouse vegetable production which is marketed largely through the Red Hat Co-op. The Red Hat co-op combined with other vegetable greenhouses in Medicine Hat have over 40% of the greenhouse area in the province. (Laate & Dr. Mirza Consultants Inc., 2015). Red Hat is a supplier of fresh and high quality produce to Western Canada while focusing on locally grown. Red Hat markets over 135 acres of greenhouse vegetables and has over 50 growers as part of their co-operative membership (RedHat Co-operative Ltd., 2017).

Ottawa Valley Food Co-op (OVFC)

OVFC is a non-profit, funded, local food cooperative located in Ottawa Valley. Similar to Cow-op, OVFC has both buyers and suppliers as members (Ottawa Valley Food Co-op, 2017). It started in 2008 and now it has over 250 members and over 50 suppliers. There are different kinds of membership payment options available including a $50 life-time consumer membership. Its bylaws require members to make additional investments to maintain their membership *if* required (Ottawa Valley Food Co-op, 2017).

Kootenay and Boundary Food Producers Co-op (KBFPC)

KBFPC is a for-profit, producer-based food co-operative that has relied on crowd-funding. Located in the Kootenay and Boundary region in British Columbia, KBFPC was founded in 2013 and it has 12 members now (Kootenay and Boundary Food Producers Co-op, 2017a). The feasibility study of KBFPC suggested that it needed to be a for-profit model to be able to be viable (*Kootenay & Boundary Food Producers' Co-op Feasibility Study*, 2014). However according to the archived newsletters, KBFPC decided to change their organizational model to non-profit during their AGM in October 2016 (Kootenay and Boundary Food Producers Co-op, 2017b). This decision was taken to be able to apply for funding based on their learnings of the season. The primary reason provided for this change was to be able to apply for funds to build infrastructure and systems that the region needs.

Red Tomato

Red Tomato is a nonprofit local food hub that makes frequent appearances as an example in guides published by USDA (Barham et al., 2012; Matson, Thayer, & Shaw, 2015b). As a food hub it arranges aggregation, transportation and sale of produce to grocery stores and distributors in the Northeast USA. It has produce coming from about 50 suppliers. Red Tomato relies on the existing wholesale distribution system and does not own its own trucks or warehouses. With a staff of only 10 (full and part-time), Red Tomato made over $3.75m in produce sales in 2013 (Red Tomato, 2017). Red Tomato offers the produce at a higher price point than the mainstream offerings however the unique attributes of the product assure that the retailers are able to move larger volume to cover the target gross margins (Diamond et al., 2014).

Oklahoma Food Co-operative (OFC)

OFC is a producer-consumer cooperative that has strict marketing guidelines used to achieve its goal of creating a local food system. It is an internet-based buying club that faced the founder's syndrome and lack of succession plan for the first five years since its inception. They are able to improve its leadership structure by taking steps to reduce excessive reliance on a single person for its operations (Diamond et al., 2014). OFC receives produce from over 100 Oklahoma producers. It has also provided its members with various options for participation with option of one-time fees, monthly pass, or an annual pass.

Tuscarora Organic Growers Co-operative (TOG)

Tuscarora Organic Growers have a business model of a cooperative that focuses 75% of its revenues towards its participating growers. They have annual surveys to enquire if the suppliers are satisfied with their pricing. 25% of its revenues go to the food hub operations.

They make it a priority to make sure that their prices are competitive and fair to their producers (Diamond et al., 2014). TOG is focused on providing marketing, production coordination, and quality standards for its suppliers.

Anticipated unique barriers in Southern Alberta

There has been preliminary research by Ramp (2015) regarding different perceptions about the local food system in Southern Alberta. This study has informed my data collection tools (surveys and interviews) to see if my findings corroborate with the challenges identified by his study. According to the study, managers of local food initiatives seem to be quite anti-corporations. They seem to fear that if they grow their initiatives large enough to have a considerable impact, they will catch attention of the big corporations who will ultimately try to destroy or take-over their initiatives.

Ramp (2015) suggests that players in the local food system believe that it is hard to change the status quo in this region. Consumers are set in their habits. They do not want to make special efforts to support the local food system unless they feel very strongly about the cause. Another participant suggested that there is a high demand for imported, cheaper food and it is hard to convince the consumers that importing food is unsustainable (Ramp, 2015). One participant in Ramp’s study suggests that in the city of Lethbridge, seniors form a large portion of the population who are set in their ways.

One of the participants suggested that the local food system in this region is largely relying on volunteers whereas there is a need to pull everything together and that requires better organizing efforts by someone who is a paid coordinator (Ramp, 2015). Another participant highlighted a challenge which is quite close to what other authors have been suggesting (Mount et al., 2013), there is a requirement to put the local interests together (Ramp, 2015). There are different people following different social interests that bring them to local food but there is no convergence to make them structured. There is no institution that holds this interest together.

One barrier that the participants of Ramp (2015)'s study highlighted was that consumers have surprisingly little awareness about recipes and cooking from scratch is considered too complicated. This concern has been echoed by another participant who suggested that knowledge of using wholefoods is scarce among certain population.

Another area of challenges discussed by participants in the study by Ramp (2015) was extreme weather conditions. This region has been impacted by floods and hail storms and there seems to be a climate change which is unsettling for local food players (Ramp, 2015).

Research Objectives and Questions

Review of all the barriers that the local food initiatives face indicates the need for support of these initiatives. This support can be provided in form of policies after understanding unique barriers in Southern Alberta.

Krejci et al. (2016) used data gathered from 33 participants (buyers and suppliers) of a local food hub in Iowa, USA to create an agent-based model (ABM). This model was designed to study the effect of financial versus social factors behind motivation of participating in a local food hub. Their findings suggest that social factors, such as desire to support local community, can be more influential than financial motives (Krejci et al., 2016). I am hoping to replicate a part of Krejci et al.'s (2016) research on the values of participating members in the local food initiative. In contrast to Krejci et al.'s (2016) focus on making a consumer dynamics model that is applicable to other sustainable organizations, my focus will be on identifying the difference in values of the participants in Iowa and Southern Alberta and how they affect the operations of the local food initiative. This will contribute to unique characteristics of local food system in Southern Alberta.

In addition to surveys with the members of the initiative, my research will also include data collection from the board members of the initiative to provide varying perspectives on the operational dynamics of the business and food environment of Southern Alberta.

I have decided to make the Cottonwood the focus of my research due to a number of reasons. First of all, it is one of the very few local initiatives that have survived for longer than five years in this region. It will be useful to understand which decisions worked for them and which did not. Secondly, the board of this co-op is contemplating closing down the business due to the lack of its financial sustainability - a challenge for local food initiatives that I have discussed in detail. Studying its dynamics is expected to provide insights into unique challenges in this region and direct support to their management.

Thirdly, this food co-op has connected suppliers in this region and has buyers in Lethbridge, Fort Macleod, and towns nearby and have attenuated the disconnection by making a shorter supply chain. To observe its operational feasibility, Cottonwood can be categorized as direct-to-consumer model of a food hub as defined by Matson et al. (2015c). Cottonwood can be categorized as such because it relies on volunteers for its operations, sells directly to end-consumers, focuses on procuring fresh produce, and generates only enough income to sustain its operations.

Finally, its business form – membership-based cooperative – is suggested to be inefficient due to lack of hierarchy and performance-monitoring (Boone & ÖZcan, 2014). Cooperatives are seen as short-lived compromises emerging due to market failures, economic recessions and industry restructuring (Ben-Ner, 1984; Boone & ÖZcan, 2014). There are 227 cooperatives involving local food are operating in Canada only 4 of which are located in Alberta (Egbers & Epp, 2009). Food cooperatives rely on volunteerism by their members to run their operations and it is critical for the co-op's success to find sustainable sources of enthusiasm and engagement by members (Matson et al., 2015b). Food cooperatives are one of the most common kind local food initiatives operating because they require little capital investment. However they are not the best operating model if the objective is to provide high returns to the local producers, unless they are operating on the wholesale model (Matson et al., 2015c).

Boone and ÖZcan (2014) suggest that the motivation to run a cooperative is emotional rather than economic rationale which leads them to overlook its many operational costs. This idea is worthwhile exploring since this is one of the anticipated challenges of running sustainable local food initiatives.

Studying a food co-op is also appropriate because Mount et al. (2013) have used a similar approach to study barriers for local food initiatives in Ontario, Canada. Analysis by Mount et al. (2013) is focused on the organizational forms of the initiatives in Ontario, initiatives' primary rationale and how it predetermines the barriers they face. Their findings suggested that different local food initiatives (regardless of their rational and organizational form) share the same barriers of operating in the mainstream food system. Even if they do not face the same barriers, they are familiar with the barriers faced by their counterparts.

Mount et al. (2013) have outlined the barriers for local food initiatives in Ontario by interviewing managers of these initiatives. In this thesis, in addition to understanding the operational dynamics and the impact of organizational form, perspective of the members of the Cottonwood are included to enrich the findings.

My research questions for this study are as follows:

1. What are the barriers faced by local food initiatives in Southern Alberta?
2. How are they different from the barriers in other parts of North America?
3. What support can be provided to help local food initiatives prosper?
4. How do the lessons and insights from this case study contribute to theory building about sustainable local food initiatives?

Chapter 3: Methodology

3.1 Overview

As explored in the previous section, there is an existing literature on barriers for local food initiatives in other parts of Canada, and the US. However there is limited research to provide support to the initiatives in Southern Alberta in the form of policy recommendations to overcome or avoid these barriers. In order to fill this gap, this research explores unique barriers that inhibit sustainable operations of local initiatives in Southern Alberta through an intensive case study of a local food cooperative, the Cottonwood, operating in Fort Macleod. These barriers are compared with the barriers in other geographic regions and then policy implications actionable by governments and managements are drawn.

The aim of this study is to find the unique characteristics of Southern Alberta that hamper operations of local food initiatives and reasons behind why they start but fail before reaching the stage of viability. In addition to identifying barriers specific to this region, this study compares them with barriers discussed in literature published in other parts of Canada, and the United States. This study develops recommendations and potential policies that may be adopted by these initiatives to become sustainable operations.

Qualitative research methods are used for this study. I have classified this as an exploratory research since it is conducted to define and clarify the problem in this region (Zikmund, 2000). This research outlines the problems in this area in a well-defined manner. Zikmund (2000) suggests that there are three inter-related purposes of an exploratory research; diagnosing a situation, screening alternatives, and discovering new ideas.

I believe this study contributes to all three of these purposes by diagnosing the food climate of Southern Alberta, screening alternative decisions that the local initiatives make to sustain their operations, and discovering new strategies and policies that can be adopted to support these initiatives. These local food initiatives provide critical support for small and medium-scale farms consequently adding to the regional sustainability. Small and medium scale farmers are quickly becoming a priority because, according to the UN Food & Agricultural Organization (2009), small farmers feed the world and they are critical to solving the problem of feeding the increasing population.

I am using a case study approach as the exploratory research tool in this study. Zikmund (2000) has defined case study method as a *technique that intensively investigates one or a few situations similar to researcher's problem situation*. More specifically, I will use the intensive case study method to understand the food co-op's dynamics and explore their operational challenges from 'the inside'. This method is used to develop understanding from the perspectives of the people who are involved in the researched subject (Eriksson & Kovalainen, 2008). Intensive case study method is used to identify what is specific about certain cases by imagining one unit as a 'case' (Eriksson & Kovalainen, 2008). The 'case' becomes focal point of the research process instead of a particular theory and the empirical findings intertwined with prior research, and theoretical ideas by others (Eriksson & Kovalainen, 2008).

Zikmund (2000) suggests that the primary advantage of the case study method is that it can investigate an entire organization in depth and detail. An intensive case study is supposed to provide 'thick, holistic and contextualized description' with a perpetual interaction of theory and empirical data (Eriksson & Kovalainen, 2008). I informed my methods of approaching the data with prior research and thoroughly investigate Cottonwood– their operations, challenges, perspectives, opportunities, and experiences.

The source of primary data for this research is a food co-op, the Cottonwood. Cottonwood is at a crossroads in their business. It is a food co-op that aggregates local or organic produce from small to medium-scale farmers and sells it to the consumers directly. However after five years of operation, Trent Moranz - president of the board, is contemplating closing the operations due to its unsustainability. Trent Moranz is the founder as well as coordinator of the Cottonwood. During the preliminary meeting with Trent he suggested that the Cottonwood is his brainchild and the members appreciate the values that it stands for. However the cooperative is hardly making the enough money to keep it afloat. Trent does not get paid for this job. There are no members volunteering to assist with the operations. If Trent is unable to provide his services to the Cottonwood, its operations will come to a halt. A proposal to make the co-op the focus of this research was presented to the board in early August 2016 and it was accepted.

For secondary data analysis, I am doing a documentary review of available studies. There has been preliminary research by Ramp (2015) regarding different perceptions about the local food system in Southern Alberta. This study has informed my data collection tools (surveys and interviews) to see if my findings corroborate with the challenges identified by his study. In February 2017, a forum called 'Cultivating Connections' was organized by Alberta Food Matters and FLEdGE (Food Locally Embedded, Globally Engaged) at Northlands, Edmonton. I attended this forum to gather information about the barriers faced by other local food initiatives in Alberta.

For data collection of this research, I conducted in-depth interviews with the board members and surveys of the participating members (active members, suppliers, in-active members, and members actively volunteering for storage and delivery) of the Cottonwood.

These data collection tools were approved by University of Lethbridge Faculty of Management Research and Ethics Committee. The surveys and interview protocol were also approved by the Cottonwood board liaison and the president. The data collection was carried out between November 2016 and January 2017. After the data collection an interim presentation was made to the board members with raw findings to update them with the progress and get their feedback on the preliminary findings. After the data analysis, a final report was submitted and presented to the board with specific recommendations to avoid or overcome the barriers.

Interviews

I interviewed the board members of the Cottonweed to collect their perspectives. Interview blueprint is appended. I was able to interview all of the seven board members of the co-op. The average duration of these interviews was approximately 30 minutes. These interviews were digitally recorded and descriptive/interpretative method of interview data analysis was used.

Surveys

I used online surveys (Appendix) via qualtrics to collect information about expectations and experiences of the co-op's consumer members, producer members, actively volunteering members, and members that are no longer active. In addition to invitations to surveys directly from me, the members also received an invitation and follow-up email from the president of the board. As for response rates, I received survey responses from 23 of total 64 active members of the co-op, 4 of 62 former members, 2 of 13 suppliers, and zero of the 4 volunteering members.

Comparison

Information on demographics and perceptions on local food in Edmonton and Calgary is gathered using the data collected and published by Agriculture Alberta under the Explore Local initiative. More information on barriers and experiences of different local food initiatives in Alberta was collected during a Cultivating Connections forum organized by Alberta Food Matters and FLEdGE (Food: Locally Embedded, Globally Engaged) in February 2017 through research observation. In addition to comparison with cities within Alberta, this study compares the findings with literature published from BC, Ontario, and US. The objective is to identify what is unique in this 'case' by comparing findings with what has been shared by scholars in other regions.

Limitation

Zikmund (2000) suggests that findings of a case study method are not generalizable. However the main aim of an intensive case study is not generalization in conventional sense (Eriksson & Kovalainen, 2008). The focus of such a case study is the functioning of the subject itself (Eriksson & Kovalainen, 2008). This characteristic of this method aligns perfectly with the objective of this study which is not to jump on generalizing conclusions but to provide a thorough description and analysis of the case.

Chapter 4: Findings

This section begins with an overview of Cottonwood's operations. Then I discuss specific barriers that the Cottonwood faces. After discussing these specific challenges I compare the information collected with what has been observed in other regions and what might be unique in Southern Alberta. At the end of this section I outline the policies that might support the local food initiatives and the local food movement by extension.

4.1 The Cottonwood Co-op

The Cottonwood Organic Food Cooperative is *an organic and eco-farmed food distribution cooperative* (Cottonwood Co-op, 2011) operating under the Cooperatives Act, Statutes of Alberta. The Cottonwood started in 2010 with no particular ideology; quite similar to what Ronco (1974) has suggested, "*a group of people, some space to put them in, some of their money to buy food, someone to sell them the food, and some way for them to distribute the food back among the group"*. During my interview with Trent Moranz, president of Cottonwood, he explained that the Cottonwood started because a bunch of friends wanted to buy some grains. Trent found a supplier and they decided to start the cooperative. However now the co-op is part of a growing international local food movement and a proponent of the alternative values.

Cottonwood's vision is to foster a community that nourishes itself while maintaining a shared desire for health, well-being and a sustainable world. Cottonwood's mission is to enhance quality of life by providing access to affordable, healthy food in an environment shaped by sustainable living practices that reflect their values.

The co-op is a buyer-based co-op with voluntary and open membership. It is a not-for-profit voluntary organization, open to any person who pays a non-refundable annual membership fee of CAD $20. General requirements of a member is that they are minimum of 18 years of age. According to the by-laws possible members should be willing to dedicate a certain amount of time as a volunteer. Failure to pay annual dues result in lapse of the member's status from active to inactive member.

The co-op accomplishes its mission and vision by providing an online ordering system (https://foodclub.org/cottonwood/login) and a pick-up point at 2215, 2nd Avenue, Fort Macleod (Figure 6). Trent periodically sends out a mass email to the membership about the available produce. Members place order on the online ordering system. As soon as enough orders are received, Trent forwards the order to the suppliers. When the suppliers deliver the produce at the Cottonwood

Figure 6: Pamphlet from Taste of Fort Macleod, 2016

facility, Trent sends out an email to inform that the produce is available to be picked. As of 2017, the co-op has 64 members and 13 suppliers.

The total food supply purchases of the co-op are almost equally divided between fresh produce (50.45%) and case-lots and bulk (49.55%). Most popular types of food purchased from the Co-op are nuts, canned and processed foods, dairy, seeds, meat, fresh produce, eggs, rice, grains, and flour. There is a 10% markup on most of the products ordered and that money is used to pay overheads such as the rent of the store-room, office supplies, and equipment (refrigeration).

The primary goals of the co-op are as follows:

- Provide information about food;
- Make good food accessible to more people;
- Support efforts to increase democratic process;
- Support efforts to foster a socially and economically egalitarian society;
- Provide information about collective process and consensus decision making;
- Support local production;
- See the long-term health of the business;
- Assist in the development of local community resources.

In order to understand these operations in greater detail, I interviewed all of the seven board members (including Trent) of the Cottonwood. I also surveyed the members and suppliers to understand their perspectives of Cottonwood's operations.

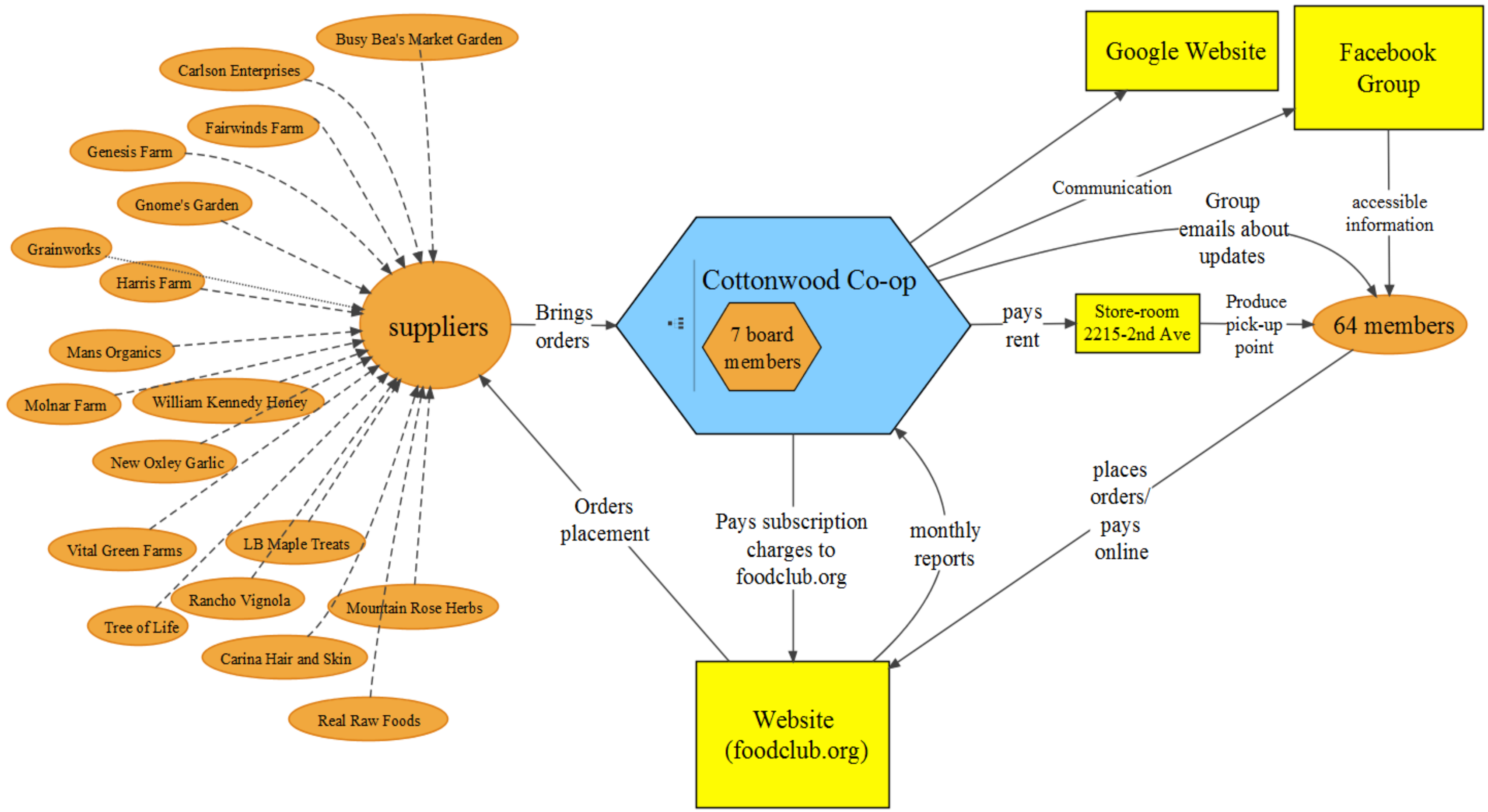

Figure 7: A relational map for Cottonwood created using Visual Understanding Environment (VUE) - an open access software developed by Tufts University (http://vue.tufts.edu)

4.2 Barriers for Cottonwood and the Comparison

In this section I discuss the barriers that the Cottonwood faces right now. The information for these barriers is collected through the interviews of the board members and surveys of members and suppliers of the Cottonwood.

Succession Plan and Founders' Syndrome

The most obvious source of Cottonwood's unsustainability in operations is the lack of succession plan. The burden of operations is largely on the coordinator's shoulders whereas the members have little to no understanding of the operations. There is no contingency plan in place in case the coordinator can no longer take care of the co-op. I had a conversation with a representative of Co-operative Services at Alberta Community and Co-operative Association about general challenges that the co-operatives face in Alberta in his experience. He mentioned that lack of succession plans is one of the major barriers for the co-operatives (adapted from field notes, February 14, 2017). He suggested that the founders of a co-operative feel so strongly about the values on which they build their businesses that they are willing to go above and beyond to sustain its operations. However, when the founders are not in position to take care of the operations anymore, their successors do not feel as strongly about the co-op and it ends up folding. Founders' strong feelings to retain control and not to think of a contingency plan is a form of founders' syndrome.

Founders' syndrome is a reference to influential powers that a founder exercises or privileges that others might attribute to a founder (Block & Rosenberg, 2002). According to Block and Rosenberg (2002), founders have a position of influence, privilege, and power because they start an organization with a specific vision and are personally invested with the organizational goals. This syndrome leads to unhealthy organizational situations where the founders lead to imbalance of control over organizations. It is hard to picture Trent Moranz as a founder who is unwilling to share control. However, the findings suggest that all operations are under his control and no other member (let alone board members) is even cognizant with the operational details. It is possible that no other member came forward to volunteer and Trent took the responsibility to keep the business going. The guilt of not being active enough came up many times during the interviews of the board members. It could also be because Trent did not actively ask them to volunteer. In either case, it is now the responsibility of the board to come up with a succession plan that outlines what happens in a situation where Trent can no longer manage the Cottonwood. The Oklahoma Food Cooperative (OFC) in the US faced a similar challenge. For the first five years of the operations, its general manager ran the ‘one-man show’ until the board (on his insistence) took necessary steps to avoid this unsustainable reliance (Diamond et al., 2014). This is a difficult step that all entrepreneurs take for a growing business.

Financial Aid

The Cottonwood co-op did not take any financial aid. The co-op’s operational model is pre-paid bulk-buying and they are making just enough money to cover the expenses. The anticipated challenge of unsustainable funding sources does not apply to the co-op because it has never relied on external funding. However their coordinator, Trent, is not paid and their rent is subsidized by another organization (South County Fair) that uses the same space. This opens up their financial ‘stability’ to risk. And if they ever decide to grow, they will have the issue of finding capital to pay for the store-front or paid coordinator.

No Margin, No Mission

The co-op faces the anticipated challenge of having a tendency to compromise on operational costs in order to uphold the alternative values. The Cottonwood has no set criteria for dealing with unreliable members or suppliers. There are no mechanisms in place in dealing with late payments, not showing up or showing up late to pick deliveries, or not delivering the promised produce. In such situations, the coordinator would personally take responsibility or be flexible to deal with it himself.

Growth

The co-op has not made any active efforts to grow. Since they are a bulk-buying club, their supply is based on the demand and they have not experienced an increase in the demand. They circulate the information about the produce available from their suppliers among their existing members and based on this information their members place orders. Increased demand would help them in improving operations since there is minimum order requirement from their suppliers and sometimes the members have to wait for *months* before their order is placed with the suppliers. More demand would mean that they will have higher buying power. However, they are afraid to grow too big too fast without the required infrastructure. It was also suggested by a board member that it will be a challenge to retain the alternative values if they decide to grow. It will be difficult to retain the philosophy (discussed in section 4.1) that makes it the Cottonwood co-op. This fear is similar to what was observed by Beckie, Kennedy, and Wittman (2012) with farmers' markets in central Alberta. The managers of some farmers' markets are *certain* that the markets will lose their social elements if it grew larger. They will lose the core values that have brought them to this success (Beckie et al., 2012).

> *"…there was reluctance to embrace public procurement, contract growing, pooling arrangements, and regional clustering, in part due to concerns about weakening the links between producers and consumers". (Wittman et al., 2012, Page 55)*

Demand

There is skepticism about demand for the co-op to grow at all. A board member suggested that for the co-op to grow there has to be an increase in demand from outside of the co-op membership, increase in social consciousness in general public– at that point the existing infrastructure of the co-op will attract attention and only then the growth of the co-op will be organic. During a public talk about the feasibility of local food hub in Southern Alberta, a local food hub operator in Alberta suggested that there is not enough demand in Lethbridge because there are too many fast food restaurants and their management teams do not have a lot of liberty to alter their procurement polices (personal observation, Q&A session, January 22, 2016). There is only a small size of socially conscious population in Lethbridge which is not enough to support a local food movement (Usher, 2017).

Finding the Right Scale

In extension to the point of growth, the co-op faces the anticipated challenge of finding the right scale of operation. There were mixed feelings from the board members if the co-op should grow, shut down, or stay at the same scale. As mentioned before, I spoke with all the seven board members of the Cottonwood. They are all buyer members who volunteer to be the board members for the duration of one year. Some members felt that they really wanted the co-op to grow but their efforts in the past have been met with disappointments so they are not sure anymore. They believe that people who wanted to be a part of this initiative are part of it already and there is nothing that can be done to improve that. Others felt that intentional and well-thought processes were urgently needed to help the co-op grow: "*The* *co-op is desperate to grow"*. The feeling behind this urgency is that the co-op must grow right now otherwise some other small business will emerge and take-over the demand for locally sourced food. Another member suggested that if there is to be growth for the co-op, it should come as a natural evolution and any other step will make the co-op unsustainable; the demand and supply will increase organically and there is no point in making an external effort. Overall, all board members thought that the co-op is an excellent initiative and more people *should* be involved in it but do not know how to go about doing that. This challenge of lacking operational funding to grow is very similar to what is observed in the case of True North Community Cooperative in Thunder Bay, Ontario (Knezevic, Landman, Blay-Palmer, & Nelson, 2013). They also do not have the needed funding to hire permanent stuff that is required to build capacity for growth. They will not take risks and will only grow if there is a solid foundation.

The findings corroborate with a challenge identified by Ramp (2015): feeling **threatened by mainstream food corporations**. A board member suggested that being small is an advantage because at this point the co-op does not attract attention of the corporate agro-food industry. They believed that if the co-op were to grow it would face major resistance. The board members were not initially expecting that they will face competition from the mainstream food system because there was little to no local food offerings at the mainstream food venues at the time the co-op started. Even if the large corporations are not coming after the local food initiatives, Connelly and Beckie (2016) have highlighted how the mainstream retail outlets are utilizing the local food demand; so much so, that they are now capturing 51% of the local food market.

Population

A low and widely dispersed population is a limiting factor for the local food movement in this region; this was anticipated by community members during the presentation for feasibility study of local food hub in Southern Alberta (personal observation, Q&A session, January 22, 2016) and it was also found during data collection of the study (Usher, 2017). Please view Population Map in the Appendix for reference. Cottonwood is a consumer co-op and has 64 members which is the lowest of all the local food *consumer* co-ops that have been studied for this research.

Currently 16 of the 64 members of the Cottonwood are living in Lethbridge. 35 members are from Fort Macleod, 3 from Coaldale, 3 from Coalhurst, and 7 members from other neighboring towns. 5 out of 24 participants in the study were residing in Lethbridge and one of the suggestions to improve the Cottonwood's operations were to make regular deliveries to Lethbridge.

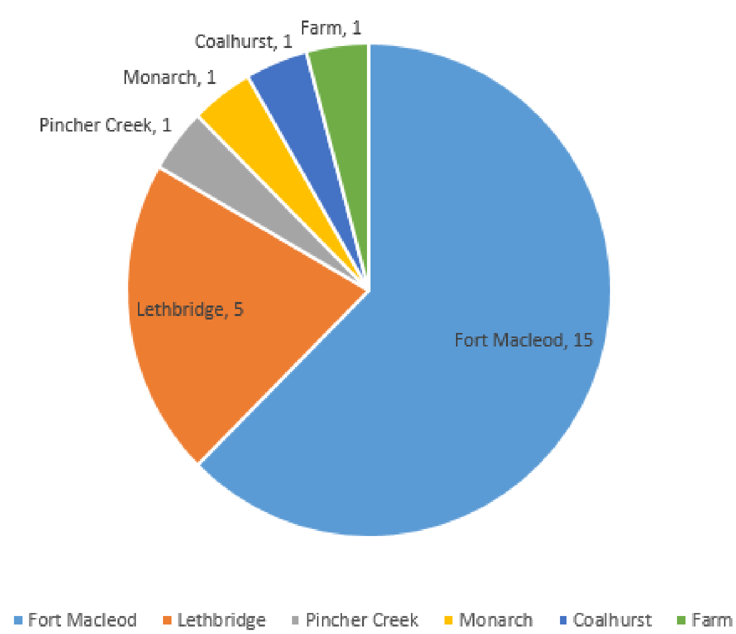

Figure 8: Residence of members of Cottonwood (survey participants)

Before starting data collection for this research, it was anticipated that the Cottonwood management will be interested in expanding their business to cater to local food demand from Lethbridge. However the impressions during the interviews indicated that the board has not discussed the prospect of particularly targeting the demand from Lethbridge. Most board members did not have much to say about the demand from Lethbridge. In fact, they were more interested in demand from other neighboring towns such as Claresholm and Crowsnest Pass.

Local Food Supply

There is not only insufficient population for demand, there are also limitations to the available local food supply in this region. During the presentation about testing feasibility of a local food hub in Southern Alberta, a local food grocery store owner in Lethbridge suggested that the small and medium scale producers in this area do not have enough capacity to match the demand of a local food hub (personal observation, Q&A session, January 22, 2016). Another member of the local community suggested that the religious colonies in the Lethbridge County are able to undercut the prices of other small farmers and consequently are able to monopolize the local food market in Lethbridge (personal observation, Q&A session, January 22, 2016). During data collection of Usher (2017), a producer suggested that these colonies operate like a corporation but they do not pay corporate taxes - it is not a level-playing field for small and medium scale local producers.

Lack of Collaboration

Need for collaboration between these initiatives is something that has come up frequently in the literature about local food initiatives (Beckie et al., 2012; Mount et al., 2013). Not only is there a lack collaboration of different local food initiatives, there is also a lack of collaboration within the Cottonwood. The members that were supposed to be volunteering and handling the management of the initiative were unaware of the basic operational dynamics. This could be a failure on the coordinator's part to not involve the membership or to drop the ball on volunteer management but this barrier has not been observed in another regions. It can also be an extension of small population and low scale of operations. It was easier for the coordinator to take on all responsibilities than to do volunteer management.

Members Engagement / Marketing

It's a small community. The only marketing done is through the word-of-mouth. Organizational model of a 'co-op' has helped it attract attention from community members. But has it been a co-op in the real sense? The board members are relying on Trent to keep the initiative running. One of the board member was unaware that the Cottonwood has by-laws. Consequently, it comes as no surprise that there is a little convergence of what board members believe is the vision of the Cottonwood.

As mentioned earlier, the coordinator found it easier to take on extra responsibilities than to delegate it to the members. However, that made the members feel distant from the operations. As one member has mentioned,

'I did not volunteer for a long time, I have been quite out of touch'.

The membership seems to have little commitment with Cottonwood. This is a threat for Cottonwood because the members find it easier to stop ordering through the Cottonwood and purchase from the same suppliers through farmers' markets or other channels. Only 11 of the 24 participating members were purchasing from the producer through the Cottonwood only.

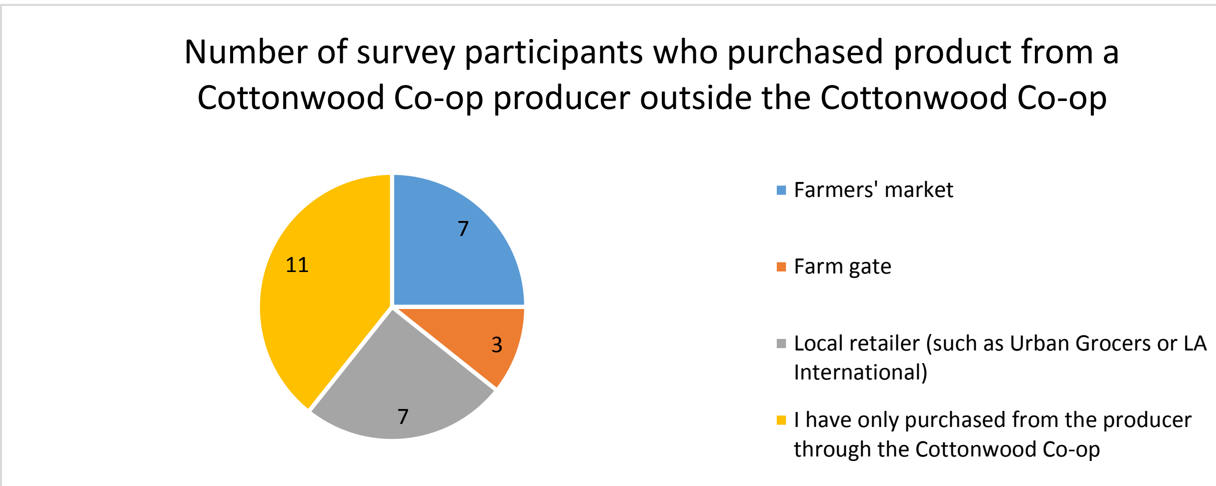

Figure 9: Pie chart (extracted from qualtrics)

Since it is such a small group with strong social connections between the coordinator and members, the members seemed hesitant to communicate the challenges faced by the Cottonwood. They felt the need to constantly add that the coordinator is doing a great job just so it is not seen as a personal attack. They ended up saying that the issues stem from their own shortcomings.

> '*It is my own incompetence and figuring out the list and things like that but nothing with the co-op itself'.*

Inconsistency

Another limitation in Cottonwood's operations is lack of consistency. One member suggested that:

> *'Things don't come in when they are expected to or they will come in later'.*

Members commented that the working hours are not clearly communicated. However most members and board members took blame on themselves to say they are not involved enough so they do not understand the ordering system or they are unaware of the operating hours.

'*It's a fairly spontaneous organization'*.

However lack of consistency has been observed in initiatives in other regions of Alberta. In February 2017, a forum called 'Cultivating Connections' was organized by Alberta Food Matters and FLEdGE (Food Locally Embedded, Globally Engaged) at Northlands, Edmonton. I attended this forum to gather information about the barriers faced by other local food initiatives in Alberta. During this forum, a representative from the local grocery store suggested that a barrier to success for their initiative is to maintain consistency and continue fulfilling the orders (adapted from field notes, February 02, 2017). She suggested that it is very easy to become *victim of your own success* if you fail to meet the supply with demand that you create (adapted from field notes, February 02, 2017).

Accessibility

Another unique feature of this case is that the Cottonwood is currently financially viable. They never relied on external funding so they do not need a stable source of funding. However the board members have repeatedly cited accessibility as a major challenge for the Cottonwood at the moment, indicating a need to have a store-front or fixed open hours. But they lack the capital required to make these changes. They will need to look for funding to be able to grow their operational capacity.

Institutional Demand

The Cottonwood has had trouble with getting institutional demand. During an interview, a board member suggested that she was interested in a partnership between an elementary school and the Cottonwood but it never happened. It is expensive and time consuming for the institutions to contact and order from smaller suppliers (Usher, 2017). It is much easier to order from major suppliers like Aramark or Sysco (Usher, 2017). Another support of this challenge in Alberta was found during the Cultivating Connections forum at Edmonton, when a representative from a cooperative of rural and urban farmers of Edmonton region spoke on the challenges of scaling up. She suggested that standardizing the produce from different suppliers is a big challenge while scaling up (observation, February 04, 2017). She also cited standardizing packaging, finding a warehouse space, getting the restaurant markets, and managing logistics as barriers for them to scale up (observation, February 04, 2017). One participant suggested that having a decision maker at the institutions with the alternative values is just the push needed for the institutions to take an extra step to support local procurement (adapted from field notes, February 02, 2017). A procurement manager at a research institution in Edmonton was able get up to 33% local produce in the food services (observation, February 04, 2017). She was able to influence the distributors to support local vendors and help them meet the required qualifications to be one of the food suppliers. She cited seasonality, pricing, scalability, and logistics as the barriers for local food vendors to meet institutional local food demand. It is important that the key decision maker (a head chef at the restaurant, procurement manager, or head of purchasing etc.) is personally an advocate of the alternative values (observation, February 04, 2017). It was observed during the forum that urban farmers in Edmonton made personal one-on-one relationship with the chefs to get the local produce on the menu. Another way to trigger institutional demand is through end-consumers. An example of end-consumers' demand bringing local in institutions is the Local Food Plus initiative where it is in the contract to have 50% local produce in the overall food procurement of the University of Toronto (Sumner, 2012).

Consumer Clusters

In this sub-section I make consumer clusters based on the values of the participating members of Cottonwood. I form consumer clusters of participating members of Cottonwood in the same manner that Krejci et al. (2016) has done in their study. These clusters are then compared with the clusters from Iowa to see how the values of local food initiatives' participants may be different between the two regions.

In the study of a local food hub in Iowa by Krejci et al. (2016), there were four *idealists*, twelve *locavores*, five *pragmatists*, and one *frugalist*. Using the same mechanism as of Krejci et al.'s (2016) the participating members of Cottonwood can be identified (Figure 9) into the four clusters such that there are five *idealists*, ten *locavores*, six *pragmatists*, and one *frugalist*.

Locavores are the consumers that rank local economy and freshness as most important values. Pragmatists have food safety as the highest ranked value. Frugalists rank price higher than other values such as variety or novelty. Idealists rank local economy, food safety, animal treatment, and nutrition highly.

Based on this observation, there does not seem to be a lot of difference between values of members participating in a local food initiative in Iowa and Southern Alberta. Only one difference is that there are relatively more *idealists* and *pragmatists* and fewer *locavores* in Southern Alberta.

Consumer ID	Price	Prep ease	Nutrition	Freshness	Familiarity	Novelty	Purchase Ease	Variety	Local economy	Suppliers relations	Communication	Production practices	Food safety	Animals	Labels	
1	3	3	4	4	4	2	3	3	4	3	1	4	4	5	5	
2	3	3	4	4	4	3	3	3	4	3	3	4	4	4	4	
5	4	3	5	5	4	3	4	4	4	4	3	4	4	4	4	
11	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
17	3	2	4	4	3	3	3	3	4	3	3	3	4	4	4	
21	4	3	4	5	3	1	3	4	4	4	3	4	4	5	3	LOCAVORES
22	3	3	5	5	3	3	3	3	4	4	4	5	4	4	4	
4	4	3	5	5	3	2	4	3	5	3	3	3	4	2	3	
13	4	3	4	5	4	3	4	4	5	4	4	4	4	4	4	
19	3	3	5	5	4	3	4	4	5	5	5	3	5	5	4	
8	2	2	4	4	2	2	2	4	4	3	3	3	5	3	3	
10	3	3	4	3	2	3	4	5	5	4	3	4	5	5	3	
6	3	4	3	3	3	3	3	3	5	4	4	5	5	5	4	PRAGMATISTS
7	2	2	4	4	2	1	4	2	5	3	3	4	5	5	3	
9	5	1	5	3	4	1	4	4	5	1	1	5	5	5	5	
12	4	4	5	4	4	2	4	4	5	5	5	5	5	5	4	
14	4	4	4	4	4	1	1	2	2	1	1	4	4	3	1	FRUGALIST
3	5	3	5	5	5	3	5	5	5	4	4	5	5	5	5	
18	3	2	5	5	3	3	4	3	4	5	5	5	5	5	4	
15	3	3	5	5	5	3	3	5	5	5	5	5	5	5	5	IDEALISTS
16	4	3	5	5	4	3	5	3	5	3	3	5	5	5	4	
20	4	3	5	5	2	2	5	4	5	4	4	5	5	5	5	

Figure 10: Members divided into four clusters based on answers to value questions. Each cell's bar size (i.e. , colored region) represents the ratings 1 to 5, and the bars are colored according to the cluster.

Demographics Comparison

Below is a comparison between the demographics of local food consumers in Edmonton and Calgary as published by Infact Research and Consulting Inc. (2015b, 2016b) with members of the Cottonwood:

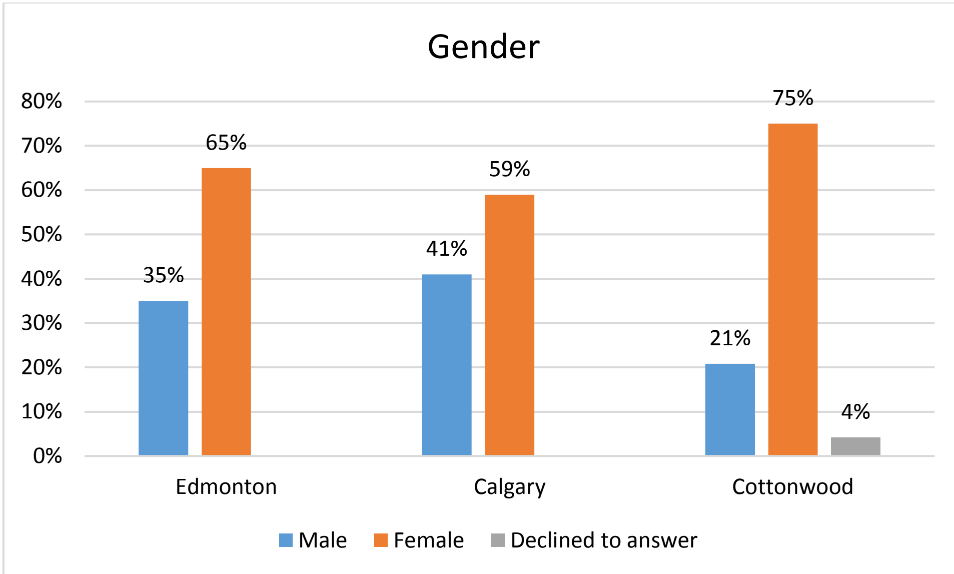

Figure 11: Gender distribution of local food consumers in Edmonton, Calgary, and the Cottonwood co-op

Females are over represented as local food consumers in all three of the cities. It could be because females have stronger alternative food values but it could also be because females still make the larger proportion of food purchasing decisions of households. During the Cultivating Connection forum, an owner of a local and organic food delivery initiative presented that his target market is composed of females only (adapted from field notes, February 02, 2017).

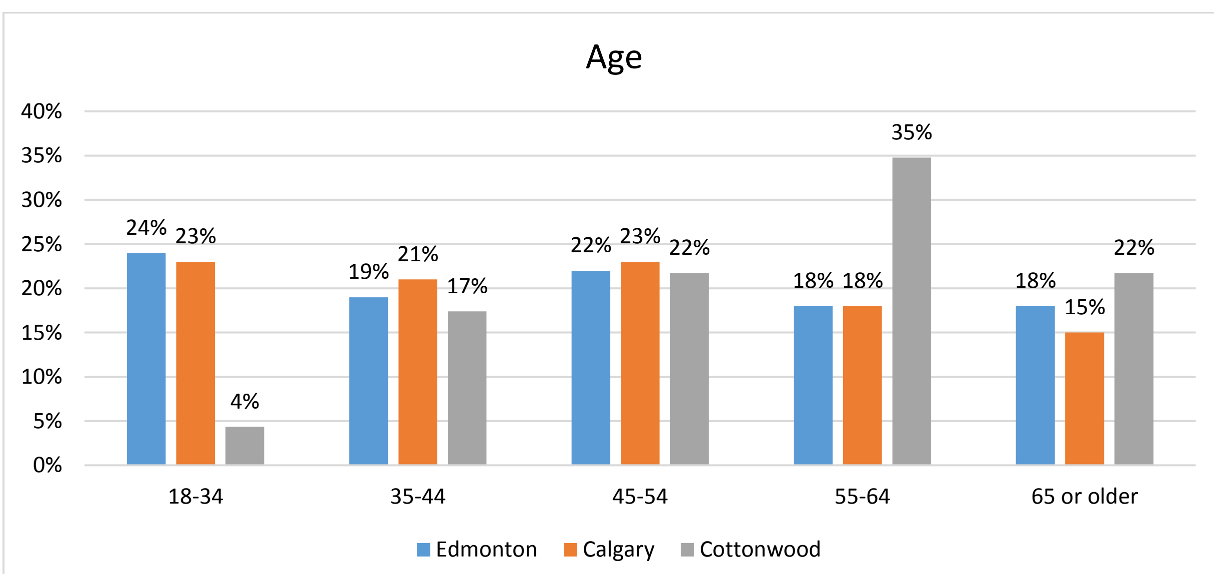

Figure 12: Age distribution of local food consumers in Edmonton, Calgary, and the Cottonwood co-op

There is a drastic difference of representation of ages 18-34 and 55-64 between Cottonwood's members and local food consumers in Edmonton and Calgary. 54% of Cottonwood's buyers are older than 55 years. It could be because the residential population between these cities are very different. But either way, it is a challenge for Cottonwood to look for younger members.

50% of the respondents had a bachelor's degree or higher education status and 8.33% declined to answer. Based on the education of members that participated in the research, the buyers of Cottonwood compare with local food consumers of Edmonton and Calgary as follows:

Table 3: Education distribution of local food consumers in Edmonton, Calgary, and the Cottonwood co-op

Education (%)	Edmonton	Calgary	Cottonwood
High school or less	24	19	20.84
Post secondary	45	38	20.84
University	31	43	50

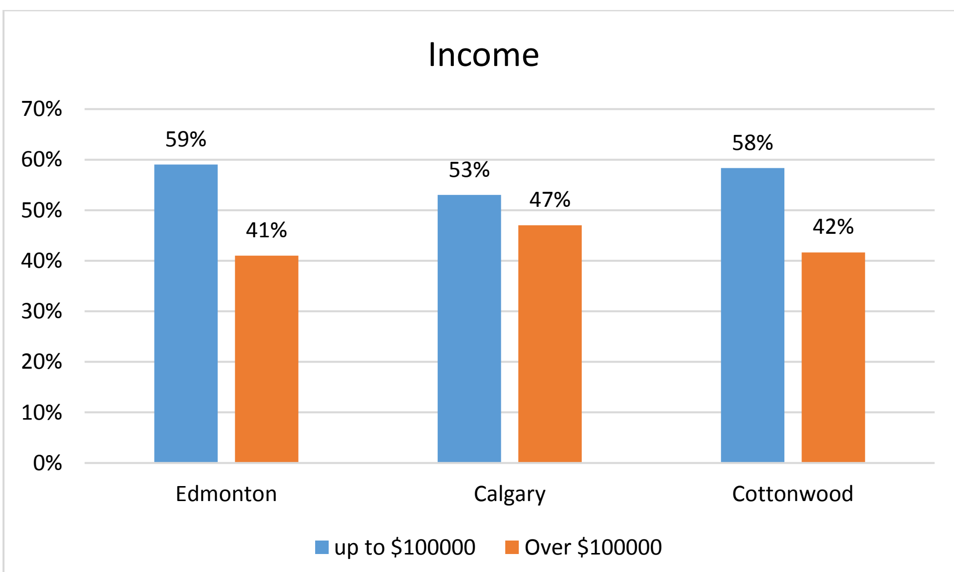

Figure 13: Income distribution of local food consumers in Edmonton, Calgary, and the Cottonwood co-op

Income breakdown of local food consumers in Calgary and Edmonton is very similar to the participating members of the Cottonwood. When this information was shared with the Cottonwood's members, one of the board members observed that it is interesting to see that the local food consumers are quite similar in different regions.

Comparison with British Columbia and Ontario

For comparison with local food cooperatives in British Columbia, we studied feasibility studies of Cowichan Valley Co-operative Marketplace (Cow-op, 2017) and Kootenay and Boundary food producers co-op (KBFPC) (*Kootenay & Boundary Food Producers' Co-op Feasibility Study*, 2014). Both these feasibility studies suggested that these operations will be viable; however, they have not reached the point of viability. Cow-op's feasibility suggested that there will be sufficient markets which has not been the case and they are still relying on external funding to keep the operation afloat. KBFPC's feasibility study also suggested some barriers in their region such as lack of distribution system, lack of farming training, and storage and processing facilities. These barriers are not different from what has been observed in the region of Southern Alberta (Ramp, 2015; Usher, 2017).

There is a large number of studies on local food initiatives in Ontario. Johnson et al. (2016) have discussed barriers for local food movement in Southern Ontario including lack of consistency (in supplies and varieties), poor communication (lack of flyers or unclear information on websites), and insufficient demand. Knezevic et al. (2013) have compiled a comprehensive list of common challenges that local food movement has been facing in Ontario. The most commonly observed challenge was lack of steady funding. Another frequently mentioned challenge was that the policy and regulatory framework primarily supported the mainstream food system including procurement policies, zoning bylaws, and public health regulations. Another challenge is the tension between needs and interests of small and medium scale farmers with low-income consumers i.e. the challenge of ensuring fair prices for the farmers while maintaining affordability of local food. There are insufficient distribution systems. Local food initiatives lack long-term visioning and business plans to ensure viability after the funding term ends. Another issue for accessibility is lack of public awareness. Finally, it is a challenge that there is lack of agreement on what ‘local’ constitutes. They have faced a problem of large retailers falsely marketing their produce as local. Knezevic et al. (2013) also highlighted the need for interconnectedness between suppliers and between local food initiatives to share knowledge and build networks. Cottonwood has faced all of the above listed barriers except for lack of agreement about what constitutes ‘local’. There seems to be an agreement that food which is produced and processed in Alberta is local (Ramp, 2015).

4.3 Discussion

In this section I provide the summary of my findings. I also discuss the challenges that I believe are critical to be dealt with for the local food movement to advance.

There are a variety of local food initiatives coming up in Southern Alberta but the question remains if they are strengthening each other or stealing local food market from each other. I collected information about the Cottonwood through surveys of its members and suppliers, and interviews of its board-members. The most unique challenge faced by Cottonwood compared with the local food initiatives operating across Canada was insufficient population in the designated region. There are conflicting views of the board members about the future of the Cottonwood. The members of the Cottonwood are not as invested the initiative as members of a cooperative should be. There is lack of reliability and consistency in its operations – consequently it is not convenient for the members to make purchases through Cottonwood. The profile of Cottonwood members is not very different from the local food consumers in Edmonton, Calgary, or Iowa. There is no evidence that the demand for local food is steadily increasing which is why it is so important for these initiatives to coordinate.

Beckie et al. (2012) have also discussed the role of coordination between these initiatives. Beckie et al. (2012) gave an example that the farmers' markets choose days on which other farmers' markets are not on. A local producer in central Alberta highlighted the need for producers to work together thereby creating a sense of interdependency rather than competition (Connelly & Beckie, 2016). This coordination may bring us closer to a point where the local food initiatives are viable.

Inclination of the members to run their local food initiatives as efficient businesses is lacking. A lot of the problems they face (lack of succession plans, need for personal networks, founders' syndrome, lack of communication with members, lack of coordination with competitors and suppliers) are the problems of typical small businesses. However the management of these initiatives can get too involved with the values of the initiatives than to look at the financial sense of it.

These initiatives are able to operate due to their *differentiation*. Their unique selling point is that they are providing local produce, more direct connection to suppliers, community building, and fresher produce (among other offerings discussed). This is not easily available in the mainstream food system. However organic and local food is increasingly becoming common in the mainstream food system. It is important for these initiatives to build collaborative links and strengthen the local food system with the social infrastructure that will help them retain their differentiation.

Chapter 5: Conclusion

In this final section, I discuss the implications, limitations, and conclusion of this research. I begin with discussion of the implications for theory including the supportive policies for the local food initiatives and governments. I then discuss implications for practice that are specific for Cottonwood and general for local food initiatives management teams. After that, the limitations of this research are discussed. Towards the end I present other research questions this thesis highlights for future.

5.1 Implications for Theory

This thesis contributes to the scholarly literature on regional sustainability and development by providing useful information for local food initiatives as well as for municipal and provincial governments on how to improve their businesses and strengthen local food economy. This thesis highlights the major challenges faced by a local food initiative in Southern Alberta giving insights in to what is unique about this region and what may be common with a lot of local food initiatives operating at a smaller scale. For example, the challenges highlighted in this research corroborate with findings of a lot of research done in Alberta (Alberta Agriculture and Rural Development, 2013; Beckie et al., 2012; Connelly & Beckie, 2016; Faye, 2011; Infact Research and Consulting Inc., 2015b, 2016b; Laate & Dr. Mirza Consultants Inc., 2015; Wittman et al., 2012) and Southern Alberta (Ramp, 2015; Usher, 2017).

5.1.1 Supportive Policies

Scaling-up and scaling out: It is difficult for producers to meet the requirements of infrastructure in scaling-up or scaling out. This is why, in order to make a successful transformation, it is important to share risk between a number of players in the local food system (Connelly & Beckie, 2016). It is important to *build collaborations* between suppliers and bring about interdependence instead of independence (Connelly & Beckie, 2016). Social infrastructure is critical to solve the ‘scale’ challenge for local food initiatives. Beckie et al. (2012) highlighted the need to strengthen vertical and horizontal linkages to enhance collaborative opportunities that can help with knowledge and resource sharing. While providing recommendations to overcome the challenges for alternative food network, Beckie et al. (2012) suggested strengthening collaboration, trust, and social relations, horizontally and vertically.

Increasing awareness and local consumption: One of the objectives of "Alberta Local Food Act" 2015) was to increase public awareness of local food in Alberta. It is important to take actions to encourage local consumption. However, this bill was terminated in the 3rd reading. Infact Research and Consulting Inc. (2015b) have highlighted potential actions that can be taken to support growth of local food initiatives including marketing to increase familiarity of these local food channels. They have recommended that local food initiatives should strive to understand the target audience and tailor marketing tactics for them. Understanding consumers values will also help in orienting the marketing efforts for the target market (Infact Research and Consulting Inc., 2015b)

Usher (2017) found that producers in Southern Alberta were generally satisfied with the **safety regulations** at their scale of operations. However a regulation related to slaughtering is problematic for some farmers (Usher, 2017). There is a regulation against slaughtering in the field and it is traumatic for larger animals to travel distances to reach the slaughterhouse. For poultry, there is a long waiting time to get an appointment with inspector for slaughtering that can make things difficult. However farmers have learned to plan the slaughtering through experience.

Another difficulty that the producers face is the **cost of organic certification**. It is so expensive that most suppliers in Southern Alberta cannot afford them. Consequently they grow the produce with organic philosophy and advertise their produce as organically *grown* (Usher, 2017).

Connelly and Beckie (2016) studied two local food initiatives operating in central Alberta. They highlighted the need of committing to **social infrastructure** which is difficult for mainstream food systems to replicate. This includes building relationships with the community partners, responding to local needs, and creating a unique local environment.

For the barrier of seasonality, **greenhouses** seem like a promising solution. The greenhouse industry has benefited from the increasing demand for quality and fresh produce and has grown rapidly since 2002. As per Laate and Dr. Mirza Consultants Inc. (2015) the size of greenhouse industry in Alberta is approximately 338 acres and vegetables make up about 157 acres of the total size. According to the report by Laate and Dr. Mirza Consultants Inc. (2015), region of Lethbridge accounts for 7.5% of total greenhouse area. However there are challenges for the greenhouse industry as well including increasing input costs, energy, and difficulty in finding labor. The vegetable greenhouse sector of Alberta is still not in position of a price maker. Its prices are determined by supply and demand of Mexico, US, BC, and Ontario but the size of this industry has grown steadily over the past decade. Alberta is a net importer of greenhouse produce and bulk of the imports occur during the winter months. These imports of greenhouse vegetables into Alberta amounted to 5.7% of overall Canadian imports for 2014 ($17.8 million). Laate and Dr. Mirza Consultants Inc. (2015) has encouraged more partnership marketing in order to stay ahead of the mainstream food system. It is important to highlight features in **labeling** on the produce that make it local such as picking date and 'packaged at' details. Similar to what Connelly and Beckie (2016) have suggested about creating a social infrastructure that is difficult to get replicated by mainstream food system, Laate (2015) suggested creating a pleasant **shopping experience** and to make sure that farmers are available for meet and greet with the buyers. Laate (2015) also suggested the use of 'cooperative marketing practices' i.e. collaborating with other growers in the area and work collectively as an industry.

> *"Initiatives such as public procurement, cooperative marketing, and distribution may be seen to challenge the legitimacy of the local food movement, but is it possible to maintain the principles and 'spirit' of the alternative food movement as it evolves to meet changing needs and opportunities within the social economy by scaling up cooperatively, helped by public policy?" (Wittman et al., 2012, Page 58)*

In general, local food initiatives have decisions to be made when it comes to their values. Although their values are important, it is critical also to be pragmatic and choose their values in a way that their efficiency is not compromised. Whichever values they choose to focus on are going to have a major impact on their operations. It is important for these initiatives to focus on differentiation of their offerings to the society. They have to continue participating in the social events and upholding the right values. They must look at their contributions to the food justice and focus on social solidarity while getting away from the competitive model of the mainstream food system.

Insights gained from studying the Cottonwood suggest that there may be tension between the values and government involvement. As discussed during Chapter 4, a local food hub organizer in Alberta suggested that these initiatives would be viable only if they never rely on external funding. However the contributions of these initiatives to the social movement should be supported especially when the initiatives and their suppliers are operating at such a small scale.

There is also a decision to be made from leadership about the relationship between organic certification and local production. There are local food proponents in the region who end up procuring food across national borders and are able to sell because of their organic certifications. Example of the Organic Box is apt here –their definition of local is not defined geographically as long as the producers are contributing to their local economy and of course the produce is organic certified. But what happens when the small and medium scale farmers grow and follow the philosophy of organic but due to their scale they are unable to afford the organic certification? These farmers are able to sell their produce labeling it as 'organically grown' (Usher, 2017) but they are unable to compete in the mainstream market. The leadership could consider whether prioritizing local over organic would improve their competitive position.

The common theme in recommendations of all the published literature on local food initiatives is to build integration and collaboration between different interested players of the local food system. Multi-stakeholder collaboration is key for success of the local food movement in Southern Alberta and other places.

The question about insufficient demand and supply is also something to be answered by the proponents of the local food movement. With the already limited demand, it will be prudent to work collaboratively and support each other instead of adopting a competitive model. At the same time, it is important to be pragmatic and making hard choices about which values to uphold for the sake of operational sustainability. After all, it is yet to be seen if these initiatives are forming an alternative food system or will it only be *supplementary*.

5.2 Implications for Practice

This study provides recommendations and potential policies, derived from the discussion with interviewees and relevant publications, which can be used by social enterprises such as the Cottonwood to become sustainable operations while retaining their alternative philosophies. A report with recommendations to improve their operations was presented to the Cottonwood board. Following is the outline of the recommendations (details in Appendix) that are provided specifically to the Cottonwood:

1. It was recommended that the board should come up with a succession plan and take actions to distribute the power in a more balanced way among board members as well as members. It was recommended that they streamline the way it makes and communicates decisions as well as update its existing policies, procedures, and by-laws as required. It was also recommended that Cottonwood makes *integration* with other proponents of local food movement its long-term goal and looks for opportunities of collaboration and partnership with local food proponents in the region.
2. It was recommended that they improve their operations by exploring various options of online ordering system as well as working on refining and expanding their delivery and pickup system.
3. It was recommended that they improve their member services by reviewing member policies and fees, recruiting a wider variety of suppliers, and improving their website.
4. It was recommended that they do volunteer management by developing a volunteer program and creating a position for volunteer coordinator. It was recommended to

develop a volunteer incentive program and a volunteer manual to define roles, rights and responsibilities of volunteers.

5. Finally it was recommended that the Cottonwood improves communication. Highlighting the need to improve integration, the board was recommended to improve its internal (between members and board members), external (between community members and Cottonwood), horizontal (between various food initiatives in the region), and vertical communication (between suppliers and buyers). Specific recommendations were also made based on the feedback from members about their presence on social media and emails. In the end it was recommended to participate in local food related events and to get involved in advocacy by staying connected and participating in various local food related activist groups.

Review of the organizational models of the existing food initiatives supports Mount et al. (2013) that the local food initiatives adopt models based on the challenges they face and the values they uphold. The initiatives that are successful operations have a commonality they have been able to scale-up to a degree where they can reach the institutional market or they have enough individual demand. As discussed earlier in Chapter 2, Matson et al. (2015c) made a comparison between operational models of wholesale and direct-to-consumer model and studied their financial viabilities. Their study concluded that direct-to-consumer model require USD 314,000 sales to breakeven and USD 567,000 sales to reach viability. The numbers are even higher for the wholesale model i.e. USD 1.21 Million to breakeven and USD 2.4 Million sales to be viable. Studying these operational models and looking at the breakeven numbers suggest that there is a high need to *stimulate demand* for alternative value food. It seems difficult for the local food initiatives to be sustainable without making active efforts to integrate with each other, learn from each other's mistakes, and adopt good management practices.

In 2015 a bill was presented by the legislative assembly of Alberta to support a sustainable local food economy and agricultural land base in Alberta ("Alberta Local Food Act," 2015). Its objectives included supporting the development of local food infrastructure and to provide an increased and stable demand for local food through public sector purchasing. As mentioned earlier increasing public awareness of local food in Alberta was also part of it ("Alberta Local Food Act," 2015). However, this bill was terminated in its 3rd reading. Such policies will support the local food movement however it is important for the decision makers at these initiatives to think about their businesses' viability and not let values trample the efficiency of their operations.

5.3 Limitations

This study had certain limitations to it with regards to data collection. I did not receive any response from the volunteering members of the Cottonwood co-op which is why their experiences and expectations have not been included in the study. The response rate of suppliers of the Cottonwood was also very low (2 of 13 suppliers).

Another limitation is that this study is an intensive case study of the Cottonwood co-op which is why the information extracted from the participants of the study is not generalizable to the entire region of Southern Alberta.

The study could have also extended to include more local food initiatives operating in North America. The study had reached the point of saturation and I only added the profiles of initiatives that were adding unique learning to the study. However more firsthand experiences of participants in other initiatives could have enriched the discussions of this study.

5.4 Future Research

This study leads to more research questions to be answered:

- Ideal Models: Is there an ideal model for integration between the local food initiatives? Is there evidence that some organizational models of local food initiatives may work better than the others?
- Population: How should the local food movement be directed if the region does not have enough population? Can local food movement survive in a dispersed and low population regions? Can local food initiatives survive where there is not enough demand for them to scale-up?
- Organic versus Local: Will support from government of local over organic help the local food movement?

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Appendix: Survey

Cottonwood Co-op - Survey for members
(Exported from Qualtrics)

Q1 What is your gender?
- Male (1)
- Female (2)
- Decline to answer (3)

Q2 What is your age?
- 18-24 years old (1)
- 25-34 years old (2)
- 35-44 years old (3)
- 45-54 years old (4)
- 55-64 years old (5)
- 65-74 years old (6)
- 75 years or older (7)
- Decline to answer (8)

Q3 What was your total household income before taxes during the last tax year?
- Less than $25,000 (1)
- $25,000 to $34,999 (2)
- $35,000 to $49,999 (3)
- $50,000 to $74,999 (4)
- $75,000 to $99,999 (5)
- $100,000 to $149,999 (6)
- $150,000 or more (7)
- Decline to answer (8)

Q4 What is the highest degree or level of school you have completed?
If currently enrolled, highest degree received.
- Less than high school (1)
- High school graduate, diploma or the equivalent (2)
- Some college credit, no degree (3)
- Associate’s degree (4)
- Bachelor’s degree (5)
- Master’s degree (6)
- Professional degree (7)
- Doctorate degree (8)
- Decline to answer (9)

Q5 Where do you live?
- Fort Macleod (1)
- Lethbridge (2)
- Other (3) ____________________
- Decline to answer (4)

Q6 What is the number of people in your household?
❍ 1 (1)
❍ 2 (2)
❍ 3 (3)
❍ 4 (4)
❍ 5 (5)
❍ More than 5 (6)
❍ Decline to answer (7)

Q7 Comfort level with technology
Check the response that best characterizes your comfort level with technology:

	Low (1)	(2)	(3)	(4)	High (5)
Comfort level with technology (1)	❍	❍	❍	❍	❍

Q8 What is the amount of money you spend on food each month?

Q9 Indicate the proportion of your food purchases across following outlets in a month? Please put 0 if you do not buy at an outlet.

	Farmers' market (1)	Specialized retail (e.g. Urban Grocers, LA International, Umami) (2)	Mainstream retail (e.g. Walmart, Save-on Foods, Safeway) (3)	Farm gate (4)	Cottonwood Co-op (5)	Other (6)
Percentage (1)						

Q10 Please indicate the percentage of your monthly food budget spent at the Cottonwood Co-op, for each season:

	Less than 5% (1)	5-10% (2)	11-25% (3)	26-40% (4)	41-50% (5)	More than 50% (6)
Spring (1)	❍	❍	❍	❍	❍	❍
Summer (2)	❍	❍	❍	❍	❍	❍
Fall (3)	❍	❍	❍	❍	❍	❍
Winter (4)	❍	❍	❍	❍	❍	❍

Q11 Please select the option that best reflects your purchasing behaviour since joining the Cottonwood Co-op.

❑ Purchasing has been stable (1)
❑ Purchasing has increased (2)
❑ Purchasing has decreased (3)
❑ Purchasing has decreased significantly (4)
❑ Reason (5) ____________________

Q12 How frequently do you place orders with the Cottonwood Co-op?

❍ Weekly (1)
❍ Bi-weekly (2)
❍ Monthly (3)
❍ Other (4) ____________________

Q13 What are the different types of food that you purchase at the Cottonwood Co-op? (select all that apply)
❑ meat (1)
❑ dairy (2)
❑ eggs (3)
❑ fresh produce (4)
❑ fruits (5)
❑ nuts (6)
❑ seeds (7)
❑ dried fruit (8)
❑ herbs and spices (9)
❑ canned and processed foods (10)
❑ Other (11) ____________________

Q14 How do you rate your satisfaction with the availability and selection at the Cottonwood Co-op?

	Very low (1)	Low (2)	Neutral (3)	High (4)	Very high (5)
Availability (1)	❍	❍	❍	❍	❍
Selection (2)	❍	❍	❍	❍	❍

Q15 Do you always purchase from the same Cottonwood Co-op suppliers?
❍ Yes (1)
❍ No (2)

Q16 If you experience a problem with a Cottonwood Co-op supplier, how likely are you to buy from them again?
❍ Extremely likely (1)
❍ Somewhat likely (2)
❍ Neither likely nor unlikely (3)
❍ Somewhat unlikely (4)
❍ Extremely unlikely (5)
❍ I have never experienced a problem with a Cottonwood Co-op supplier (6)

Q17 How satisfied with the overall Cottonwood Co-op experience are you?
❍ Extremely satisfied (1)
❍ Somewhat satisfied (2)
❍ Neither satisfied nor dissatisfied (3)
❍ Somewhat dissatisfied (4)
❍ Extremely dissatisfied (5)

Q18 How long have you been affiliated with the Cottonwood Co-op?
- Less than 6 months (1)
- 6 months - 1 year (2)
- 2 years (3)
- 3 years (4)
- 4 years (5)
- 5 years (6)
- More than 5 years (7)

Q19 Do you communicate with other members of the Cottonwood co-op?
❍ Yes (1)
❍ No (2)

Display This Question:
If Do you communicate with other members of the Cottonwood co-op? Yes Is Selected

Q20 Please indicate the reasons for communicating with other members of the Cottonwood Co-op? (Select all that apply)
❑ Facilitation of order splits/sharing (1)
❑ Pick-up / delivery of purchases (2)
❑ General sharing of good or bad experiences (3)
❑ Socializing (4)
❑ Other reasons: (5) ____________________

Q21 Do you communicate with the staff of the Cottonwood Co-op (outside of website)?
❍ Yes (1)
❍ No (2)

Display This Question:
If Do you communicate with the staff of the Cottonwood Co-op (outside of website)? Yes Is Selected

Q22 Please indicate the reasons for communicating with the staff members of the Cottonwood Co-op? (Select all that apply)
❑ To find updates about order status (1)
❑ To find information about invoices (2)
❑ To schedule order pick-up (3)
❑ Other reasons: (4) ____________________

Q23 Do you communicate with the Cottonwood Co-op suppliers directly?
❍ Yes (1)
❍ No (2)

Display This Question:
If Do you communicate with the Cottonwood Co-op suppliers directly? Yes Is Selected

Q24 What are the reasons for communicating with the Cottonwood Co-op suppliers? (Select all that apply)
❑ Problem with product (1)
❑ Find update about the order (2)
❑ Special request (3)
❑ Questions about product (4)
❑ Scheduling order pickup (5)
❑ To give feedback on product (6)
❑ Other reasons: (7) ____________________

Q25 How do you rate your general satisfaction regarding communication with the Cottonwood Co-op's other members, suppliers, and staff?

	Never contacted (1)	Very low (2)	Low (3)	Neutral (4)	High (5)	Very high (6)

Other members (1)	❍	❍	❍	❍	❍	❍
Suppliers (2)	❍	❍	❍	❍	❍	❍
Staff (3)	❍	❍	❍	❍	❍	❍

Q28 Have you purchased product from a Cottonwood Co-op producer outside the Cottonwood Co-op? (Select all locations that apply)

- ❑ Farmers' market (1)
- ❑ Farm gate (2)
- ❑ Local retailer (such as Urban Grocers or LA International) (3)
- ❑ Other: (4) ____________________
- ❑ I have only purchased from the producer through the Cottonwood Co-op (5)

Q29 How do you rate the Cottonwood Co-op’s website on the following parameters?

	Very poor (1)	Poor (2)	Neutral (3)	Good (4)	Very good (5)
Look and feel of the website (1)	❍	❍	❍	❍	❍
Organization of the content (2)	❍	❍	❍	❍	❍
Ease of ordering (3)	❍	❍	❍	❍	❍
Relevant information clearly available (4)	❍	❍	❍	❍	❍

Q30 Indicate the level of your agreement for the following: After placing the order

	Strongly disagree (1)	Disagree (2)	Neither disagree nor agree (3)	Agree (4)	Strongly agree (5)
I am aware of the order summary (1)	❍	❍	❍	❍	❍
I am aware of the total amount on invoice (2)	❍	❍	❍	❍	❍
I am aware of the approximate delivery time (3)	❍	❍	❍	❍	❍

Q31 How do you rate your satisfaction the overall usability of the Cottonwood Co-op website?

❍ Very satisfied (1)
❍ Satisfied (2)
❍ Neither (3)
❍ Dissatisfied (4)
❍ Very dissatisfied (5)

Q32 Please use the space below to make suggestions, if any, on how the Cottonwood Co-op website can be improved:

Q33 How frequently do you access the Cottonwood Co-op website?
- ❍ Weekly (1)
- ❍ Bi-weekly (2)
- ❍ Monthly (3)
- ❍ Other: (4) ____________________

Q34 I believe, there is sufficient information provided on the website to help me make a purchasing decision.
- ❍ Strongly disagree (1)
- ❍ Somewhat disagree (2)
- ❍ Neither agree nor disagree (3)
- ❍ Somewhat agree (4)
- ❍ Strongly agree (5)

Q35 What is the level of trust you have with the information provided on the Cottonwood Co-op website?
- ❍ Very low (1)
- ❍ Low (2)
- ❍ Neutral (3)
- ❍ High (4)
- ❍ Very high (5)

Q36 Please indicate the degree of importance the following local food system characteristics have for you.

	Very low (1)	Low (2)	Neither low nor high (3)	High (4)	Very high (5)
Price (1)	❍	❍	❍	❍	❍
Convenience of food preparation (2)	❍	❍	❍	❍	❍
Nutrition (3)	❍	❍	❍	❍	❍
Freshness (4)	❍	❍	❍	❍	❍
Familiarity (5)	❍	❍	❍	❍	❍
Novelty (6)	❍	❍	❍	❍	❍
User-friendliness of the ordering software (7)	❍	❍	❍	❍	❍
Variety (8)	❍	❍	❍	❍	❍
Supporting of local economy (9)	❍	❍	❍	❍	❍
Relationship with suppliers (10)	❍	❍	❍	❍	❍
Communication with suppliers (11)	❍	❍	❍	❍	❍
Food production practices (12)	❍	❍	❍	❍	❍
Food safety (13)	❍	❍	❍	❍	❍
Treatment of animals (14)	❍	❍	❍	❍	❍
Certifications / nutritional labels (15)	❍	❍	❍	❍	❍

Q39 Please use the space below to make suggestions for the Cottonwood co-op if they wish to grow their operations:

Cottonwood Co-op: Survey for suppliers
(Exported from Qualtrics)

Q1 What is your gender?
- Male (1)
- Female (2)
- Decline to answer (3)

Q2 What is your age?
- 18-24 years old (1)
- 25-34 years old (2)
- 35-44 years old (3)
- 45-54 years old (4)
- 55-64 years old (5)
- 65-74 years old (6)
- 75 years or older (7)
- Decline to answer (8)

Q3 What was your total household income before taxes during the last tax year?
- Less than $25,000 (1)
- $25,000 to $34,999 (2)
- $35,000 to $49,999 (3)
- $50,000 to $74,999 (4)
- $75,000 to $99,999 (5)
- $100,000 to $149,999 (6)
- $150,000 or more (7)
- Decline to answer (8)

Q4 What is the highest degree or level of school you have completed?
If currently enrolled, highest degree received.
- Less than high school (1)
- High school graduate, diploma or the equivalent (2)
- Some college credit, no degree (3)
- Associate’s degree (4)
- Bachelor’s degree (5)
- Master’s degree (6)
- Professional degree (7)
- Doctorate degree (8)
- Decline to answer (9)

Q5 Where do you live?

- ❍ Fort Macleod (1)
- ❍ Lethbridge (2)
- ❍ Coaldale (3)
- ❍ Monarch (4)
- ❍ Nobleford (5)
- ❍ Picture Butte (6)
- ❍ Granum (7)
- ❍ Claresholm (8)
- ❍ Pincher Creek (9)
- ❍ Other (10) ____________________
- ❍ Decline to answer (11)

Q7 Comfort level with technology

Check the response that best characterizes your comfort level with technology:

	Low (1)	(2)	(3)	(4)	High (5)
Comfort level with technology (1)	❍	❍	❍	❍	❍

Q39 How long have you been affiliated with the Cottonwood Co-op?
- ❍ Less than 6 months (1)
- ❍ 6 months - 1 year (2)
- ❍ 2 years (3)
- ❍ 3 years (4)
- ❍ 4 years (5)
- ❍ 5 years (6)
- ❍ More than 5 years (7)

Q40 What proportion of your revenue is generated by the Cottonwood Co-op?
- ❍ Less than 5% (1)
- ❍ 5-10% (2)
- ❍ 11-25% (3)
- ❍ 26-40% (4)
- ❍ 41-50% (5)
- ❍ More than 50% (6)

Q41 Are you also a member of the Cottonwood Co-op?
- ❍ Yes (1)
- ❍ No (2)

Q42 What are the different types of food that you offer for sale through the Cottonwood Co-op? (select all that apply)
- ❑ meat (1)
- ❑ dairy (2)
- ❑ eggs (3)
- ❑ fresh produce (4)
- ❑ fruits (5)
- ❑ nuts (6)
- ❑ seeds (7)
- ❑ dried fruit (8)
- ❑ herbs and spices (9)
- ❑ canned and processed foods (10)
- ❑ Other: (11) ____________________

Q43 Are you satisfied with the revenue generated by your affiliation with the Cottonwood Co-op?
- ❍ Yes (1)
- ❍ No (2)

Q10 What proportion of your inventory goes to the Cottonwood Co-op?
- ❍ Less than 5% (1)
- ❍ 5-10% (2)
- ❍ 11-25% (3)
- ❍ 26-40% (4)
- ❍ 41-50% (5)
- ❍ More than 50% (6)

Q11 Would you be capable of supplying more if the demand from the Cottonwood Co-op increased?
- ❍ Yes (1)
- ❍ No (2)

Q12 Please indicate your opinion about the following medium of selling:

	We tried it but it did not work for us (1)	We would like to use it (2)	We don't use it (3)	We use it (4)
Farmers' market (1)	❍	❍	❍	❍
Specialized retail (e.g. Urban Grocers, LA International, Umami) (2)	❍	❍	❍	❍
Mainstream retail (e.g. Walmart , Save-on Foods, Safeway) (3)	❍	❍	❍	❍
Farm gate (4)	❍	❍	❍	❍

Q47 Please tell us details about your experience with these medium of selling.

Q14 What is your level of satisfaction with the following medium of selling?

	Never participated (1)	Very low (2)	Low (3)	Neutral (4)	High (5)	Very high (6)
Farmers' market (1)	❍	❍	❍	❍	❍	❍
Specialized retail (e.g. Urban Grocers, LA International, Umami) (2)	❍	❍	❍	❍	❍	❍
Mainstream retail (e.g. Walmart , Save-on Foods, Safeway) (3)	❍	❍	❍	❍	❍	❍
Farm gate (4)	❍	❍	❍	❍	❍	❍

Cottonwood Co-op (5)	❍	❍	❍	❍	❍	❍

Q48 Please tell details/reasons if you have low satisfaction with any of the medium of selling.

Q18 Please use the space below to explain how your affiliation and experience with the Cottonwood Co-op can be improved.

Q19 How frequently do you communicate with members of the Cottonwood Co-op?
- ❍ Every time an order is placed (1)
- ❍ Only when there is special need (2)
- ❍ Never (3)
- ❍ Other: (4) ____________________

If Never Is Selected, Then Skip To How do you rate your general satisfac...(Q25)

Q20 Please indicate the reasons for communicating with the members of the Cottonwood Co-op? (Select all that apply)
- ❑ Problem with product (1)
- ❑ Special request (2)
- ❑ Questions about product (3)
- ❑ Schedule delivery (4)
- ❑ Facilitate splitting/sharing (5)
- ❑ Other: (6) ____________________

Q25 How do you rate your general satisfaction regarding communication with the Cottonwood Co-op's other suppliers, members, and staff?

	Never contacted (1)	Very low (2)	Low (3)	Neutral (4)	High (5)	Very high (6)
Other suppliers (1)	❍	❍	❍	❍	❍	❍
Members (2)	❍	❍	❍	❍	❍	❍
Staff (3)	❍	❍	❍	❍	❍	❍

Q28 Have you sold product to a Cottonwood Co-op member outside the Cottonwood Co-op? (Select all locations that apply)
- ❑ Farmers' market (1)
- ❑ Farm gate (2)
- ❑ Local retailer (such as Urban Grocers or LA International) (3)
- ❑ Other: (4) ____________________
- ❑ I have only sold to members through the Cottonwood Co-op (5)

Q45 Do you use the Cottonwood Co-op website?
❍ Yes (1)
❍ No (2)
If No Is Selected, Then Skip To Please indicate the degree of importa...(Q36)

Q29 How do you rate the Cottonwood Co-op's website on the following parameters?

	Very poor (1)	Poor (2)	Neutral (3)	Good (4)	Very good (5)
Look and feel of the website (1)	❍	❍	❍	❍	❍
Organization of the content (2)	❍	❍	❍	❍	❍
Accuracy of information available (3)	❍	❍	❍	❍	❍
Relevant information clearly available (4)	❍	❍	❍	❍	❍

Q31 Does your business have an online presence?
❍ Yes (1)
❍ No (2)

Q32 Please use the space below to make suggestions, if any, on how the Cottonwood Co-op website can be improved:

Q36 Please indicate the degree of importance the following local food system characteristics have for you.

	Very low (1)	Low (2)	Neither low nor high (3)	High (4)	Very high (5)
Price (1)	❍	❍	❍	❍	❍
Convenience of food preparation (2)	❍	❍	❍	❍	❍
Nutrition (3)	❍	❍	❍	❍	❍
Freshness (4)	❍	❍	❍	❍	❍
Familiarity (5)	❍	❍	❍	❍	❍
Novelty (6)	❍	❍	❍	❍	❍
User-friendliness of the ordering software (7)	❍	❍	❍	❍	❍
Variety (8)	❍	❍	❍	❍	❍
Supporting of local economy (9)	❍	❍	❍	❍	❍
Relationship with suppliers (10)	❍	❍	❍	❍	❍
Communication with suppliers (11)	❍	❍	❍	❍	❍
Food production practices (12)	❍	❍	❍	❍	❍
Food safety (13)	❍	❍	❍	❍	❍
Treatment of animals (14)	❍	❍	❍	❍	❍
Certifications / nutritional labels (15)	❍	❍	❍	❍	❍

Q46 Please use the space below to make suggestions for the Cottonwood co-op if they wish to grow their operations:

Members (Transporting / Store)

Transportation / Storage

1. What are the main food items that you currently transport / store? (Select all that apply)
    a. Vegetables
    b. Meat
    c. Fruit
    d. Dairy
    e. Eggs
    f. Ingredients
    g. Processed convenience foods
    h. Other: ___________________
2. Can you indicate whether the produce you transport / store is (Select all that apply)
    a. Frozen
    b. Fresh/chilled
    c. Dry goods
    d. Other: ____________________________

3. Can you list the names of towns to where you deliver and your frequency of delivery in a week?

Towns	Frequency (Daily, Weekly, Biweekly, Monthly, Other)
a.	
b.	
c.	
d.	

Other: ____

Please rate your satisfaction level regarding following of Cottonwood co-op's operations

	Highly dissatisfied	**Dissatisfied**	**Neutral**	**Satisfied**	**Highly satisfied**
4. Current distribution model	1	2	3	4	5
5. Assignment of Volunteer work	1	2	3	4	5
6. Compensation for members who are facilitating transportation / storage of produce	1	2	3	4	5

7. What is your motivation for providing transportation service to the Cottonwood co-op? (Select all that apply)

a. Duty as a member at a co-op
b. Travel between the cities anyway, might as well bring local produce to other members
c. Reduced mark-up on your purchases
d. Environmental concern
e. Other: ________________

Please rank your preference regarding distribution model of the Cottonwood co-op

	Very low	Low	Medium	High	Very high
8. It should remain the same (Low mark-up)					
9. Members should get reimbursed for the mileage expenses					
10. Other: __________________					

11. Please use the space below to make suggestions for the Cottonwood co-op if they wish to grow their operations:

____

____

____

____

____

Appendix: Interview Blueprint

Research Question	Interview Question	Probes
What are the operational dynamics of the Cottonwood co-op	How is a supplier recruited and selected?	What is the process like?
	How does cottonwood co-op deal with unreliable suppliers?	What happens if they fail to provide order on time, or of poor quality, or does not meet expectations generally.
	Is there any recruitment and selection criteria for members?	Do they call? Do they apply through the website? What is the process like?
	How is volunteer work of members organized?	What are the services required? How are they assigned? How are they recorded? Do you think it is working well?
	What about members who do not show-up?	For picking up their order For payments Or for volunteer activities
How has cottonwood co-op evolved over the years	Do you think that the co-op's operations continue to be in line with its original goals?	How has it changed over the years?
	Do you think that the co-op has increased its impact and scope over the years?	Will you like it to increase its scope?
	Have you come across any pattern in complaints from either members or producers?	What have they been like?

What does the board see in the co-op's future?	Do you think that the co-op needs to grow?	
	How are you hoping to deal with the demand from Lethbridge?	What do you think about the satellite operations?
	What do you think is collective thinking of the board members for the co-op going forward?	
What does the board believe are the challenges faced by the co-op?	What do you think the challenges are that the co-op faces right now?	-motivation source for members / volunteers -is it the right scale? Is it economically viable? -is there sufficient demand?

Appendix: Population Map of Southern Alberta

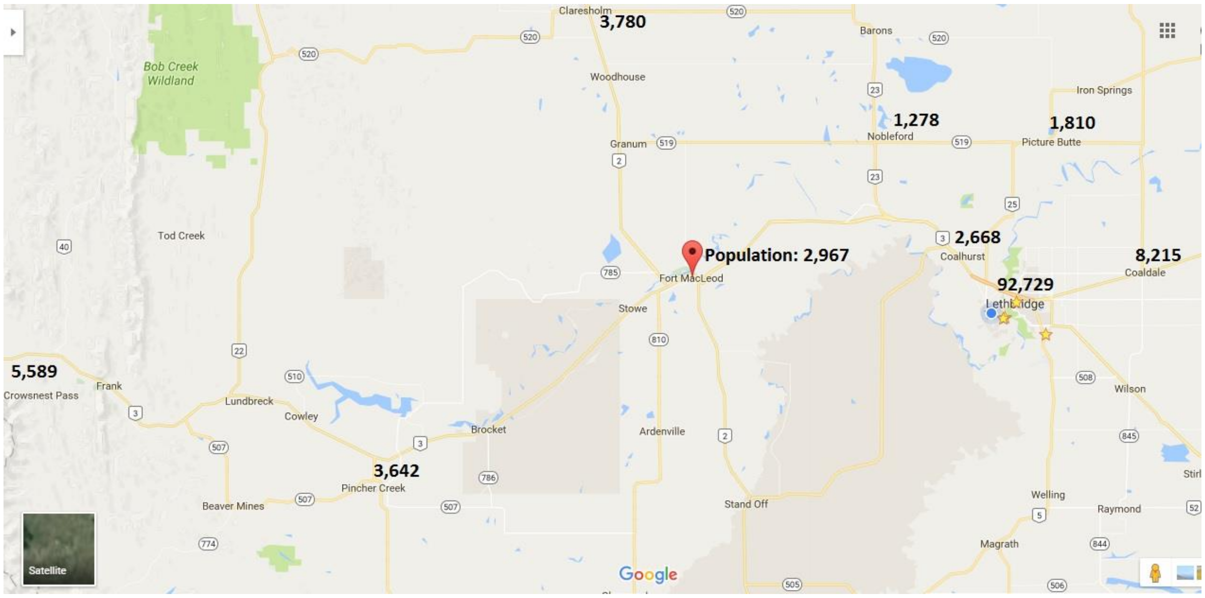

Figure 13: Map image retrieved from Google Maps and population information retrieved from Statistics Canada (2016c)

Appendix: Recommendations to the Cottonwood Board

I. Board

A.1 Succession plan

In addition to distributing duties and responsibilities more fairly, it is recommended to the board to come up with a succession plan. It is important to identify second-in-command who is aware of the operational details. An ideal situation will be that the duties are equally distributed such that the absence of one person does not bring too much burden on the remaining members.

A.2 Balanced distribution of power among board members and members

It is suggested to distribute power through better communication and awareness through:

A.2.1 Streamlining the way the board makes and communicates decisions

- Producing an updated orientation binder for the board members
- Communicating the rights and responsibilities of the board members, roles, and division of responsibilities between board members and members
- Develop guidelines for planning, chairing, and minute-taking for board meetings
- Evaluate every board meeting

A.2.2 Update governance documents and policies

- Review and update existing policies, procedures, and by-laws as required
- Develop new policies as required

A.3 Long-term goal of Integration

Proponents of alternative values suggest integration for the local food initiatives through sharing resources between each other. It is important to participate in the community of players that are supporting and promoting the local and organic food movement. This goal maybe achieved by develop a communication committee:

- responsible for looking out for opportunities of participation in the immediate region
- looking out for practices adopted by similar initiatives across Canada

The purpose of this goal is to make sure that these initiatives provide much needed support to each other and collaborate instead of competing.

II. Operations

B.1 Online ordering system

Explore options: revise existing software to facilitate ordering, tracking, and reporting. For example the software of Local Food Marketplace is able to provide very user friendly interface that some members of the co-op have requested for. These requests for visuals of the produce and more details about the suppliers can be provided through this software. For examples of their work, please view the websites of their other customers in Canada:

- http://cow-op.ca/
- https://farmerstable.localfoodmarketplace.com/
- http://superiorseasons.localfoodmarketplace.com/

B.2 Delivery/pickup system

B.2.1 Refine

- continue to refine and streamline the drop-off and delivery system (to improve efficiency and accuracy)
- sort items into individual boxes on delivery days

B.2.2 Expand

- conduct a feasibility study to assess the costs and benefits of various delivery options
- regular delivery to Lethbridge (at different times and on different days of the week)
- expanding delivery/pick-up options for Lethbridge and other neighboring towns
- conduct a feasibility study to evaluate the viability of making a store-front
- conduct a feasibility study to evaluate the viability of hiring a coordinator

III. Member services

C.1 Review policies and fees

- Clearly define the 'give and get' part of the membership
- Review, revise, and communicate membership policies and fees

C.2 Recruiting variety of suppliers

- Clearly define what you think suppliers are getting out of partnering with the co-op
- Conduct a research to identify the suppliers' needs
- Develop a plan to recruit and retain more suppliers
- Create a manual that sets rights and responsibilities of suppliers

C.3 Website

- Option to add more information on producers (add photos and videos), testimonials by consumers, ability for members to 'review' suppliers.
- For processed foods, enlist ingredients on the side

IV. Volunteer Management

- Develop a volunteer program to recruit, support, reward, and retain volunteers

        - Create a volunteer coordinator position or a committee for volunteer management
        - Volunteer manual to define roles, rights and responsibilities of volunteers
        - Develop a volunteer incentive program
        - discount on annual fees
        - redeemable coupons
        - travel mileage can be covered by the co-op
        - Voluntary positions can include
    - participating in delivery day
    - drive orders from sorting location to the volunteer's closest pick-up point
    - telephone reminders for the region (1/2 hour, every month)
    - Host customer pick-up
    - Serve on the Board of Directors
    - Preparing snacks for volunteers on delivery day
    - Regional route manager
    - help out with promotional and educational events

V. <u>Improved communication (horizontal and vertical)</u>

The co-op needs to improve their communication all-round:

a. Internal – There is need to have better communication between board members and members. Most important discussion point is to understand the joint thinking of the board in terms of growth of the co-op.
b. External – There is need to improve communication to prospective members of the co-op
c. Horizontal – There is a need to build relationships between various local food initiatives in the region
d. Vertical – Members are currently satisfied with the communication between suppliers and buyers

- Facebook

  Encouraging members to share the Facebook posts made by the Cottonwood page is a good idea to spread the word about the co-op with potential members

- Email Chains

  Review and revise the methods of direct communication with the members in a way that it does not spam and there is an option for members to opt out of the emails

- Events

  Hosting and participating in local food-related events

- Advocacy

  Staying connected with the community members that are advocating the alternative values can help bring very useful resources to the co-op. For example, participating in groups such as the Chinook Food Connect and staying on subscription of the GFSA (Good Food Security in Alberta).