2018

A Study Of Food Hub Buyers In Vermont: Motivation, Marketing, And Strategy

Hannah Harrington
University of Vermont

A STUDY OF FOOD HUB BUYERS IN VERMONT:
MOTIVATION, MARKETING, AND STRATEGY

A Thesis Presented

by

Hannah F. Harrington

to

The Faculty of the Graduate College

of

The University of Vermont

In Partial Fulfillment of the Requirements
for the Degree of Master of Science
Specializing in Community Development and Applied Economics

May, 2018

Defense Date: February 13, 2018
Thesis Examination Committee:

David Conner, Ph.D., Advisor
Linda Berlin, Ph. D., Chairperson
Sarah Heiss, Ph.D.
Cynthia J. Forehand, Ph.D., Dean of the Graduate College

ABSTRACT

Food hubs have been discussed as a promising option for scaling-up the local food system while maintaining close relationships and shared responsibility amongst producers and consumers. Food hubs have the capacity to share important messages about food safety, origin, and production methods with consumers, however little is known about if, and how, food hubs communicate the value of local food to their buyers. This is crucial when assuring value to the consumer, which is necessary for the long-term sustainability of the food hub model. It is important to know more about these methods and practices because these messages can impact the long-term viability of food hubs and local agriculture, as well as community health and economic stability.

This thesis explores the motivation behind why buyers chose to buy through food hubs, what information provided by food hubs is useful in marketing and selling local products, and how buyers allocate their money and their time that allows them to efficiently purchase local products. A mixed methods approach was used to gather data. Qualitative research methods were used in conducting semi-structured interviews with key informants. Interview questions focused on local food marketing strategies and practices, motivations for buying local, consumer behavior, firmographic characteristics, communication, challenges, opportunities, and relationships. In addition, data was collected through an online survey that followed the same themes. These themes were identified through a review of alternative food network literature, which identified gaps in knowledge on the buyer-side of the food hub value chain.

The themes that emerged from these semi-structured interviews and online survey have been used to better understand buyer motivations for purchasing local food through food hubs, how buyers make use of the information, services, and marketing material provided by food hubs, and what strategies buyers use to integrate local food purchasing efficiently into their budget.

ACKNOWLEDGEMENTS

Thank you to our project partners and my committee, especially David - for your patience, dedication, and guidance over many years, through the classroom, research field, and beyond.

All of my teachers, mentors, and friends in CDAE for opening my mind to new ways of thinking and making me feel as though my work and perspectives are truly valued.

My friends and family for providing inspiration and support throughout the pursuit of my goals, and being there to celebrate the milestones.

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

1.1. Food Hubs and the Vermont Local Food System

The health of the local food system can have tremendous impact on the vitality, resiliency, and sustainability of a community. Across the United States, local food systems act as key players in supporting healthy, well-educated, economically viable, and environmentally proactive communities. However, these systems are in direct competition with the trillion-dollar food retail industry in the United States, which is known to be responsible for a host of negative environmental and social impacts (Bureau, 2015; Council, 2015).

Developing interest in the local food movement, in Vermont and nationally, has revealed many opportunities and barriers for growth. One of the most significant barriers to expansion of the local food scene is the lack of a properly scaled distribution network to transport local food from small and medium sized producers to local consumers (R. King, Gomez, & DiGiacomo, 2010; S. Martinez et al., 2010). This barrier makes it difficult for producers to sell high volumes of product and requires that consumers invest time and effort to seek out local food markets. Values-based Supply Chains (VBSCs) are an answer to this problem and have emerged to work with producers to increase the amount of local food in production and expand markets through convenient retail locations, marketing strategies, and consumer education (G. Feenstra & Hardesty, 2016). This concept takes physical form in the establishment of Food Hubs. Food Hubs are a business model that channels local food from producer to consumer on a smaller more localized scale than larger distributors, while offering services such as technical support and market development for both entities (Barham et al., 2012).

Food hubs can be structured as many different business models, however they all rely on a sufficient and consistent customer base to keep their business profitable. Hubs address the structural supply chain needs of producers and consumers, while also fulfilling the role of communication liaison – ensuring that valuable information about the food and the way in which it was produced reaches the consumer (Barham et al., 2012; Matson & Thayer, 2013). Specifically, food hubs communicate with small to medium scale local food producers to offer a variety of local food to the community, create and expand networks of local food buyers to open up new markets in the area, and work with customers to help them incorporate more local food in their buying practices. In addition to providing communication within the organizational structure of supply chains, food hubs are important intermediates that share messages directly with consumers. For instance, hubs provide branding and marketing promotion which add value to the product by preserving and conveying the value added by the producer, such as identity preservation, traceability, sustainable production methods, and product attributes that differentiate these products from similar, conventional counterparts (A. Diamond, Tropp, D., Barham, J., Muldoon, M., Kiraly, S., Cantrell, P., 2014).

Food hubs have been discussed as a promising option for scaling-up the local food system while maintaining close relationships and shared responsibility amongst producers and consumers (Mount, 2012). Local food systems have the potential to expand and increase sales through the food hub model, which can effectively grow the consumer base while preserving the benefits of direct relationships.

Food hubs have the capacity to share important messages about food safety, origin, and production methods with consumers, however little is known about if, and how, food hubs communicate the value of local food to their buyers. This is crucial when assuring value to the consumer, which is necessary for the long-term sustainability of the food hub model. It is important to know more about these methods and practices because these messages can impact the long-term viability of food hubs and local agriculture, as well as community health and economic stability. My research will include in-depth interviews with both food hub directors and multiple food hub buyers to examine how the values expressed through customer service interactions, marketing materials and technical support communicate information needed to satisfy consumer demand, as well as the strategies used by buyers to affordably incorporate local food purchases through the hub into their budgets.

1.2. Thesis Questions

Specifically, my thesis research explores and discusses the following research questions (RQ):

RQ 1: What strategies do buyers use to effectively communicate the information necessary to satisfy consumer demand for local products?

RQ 2: How do buyers afford to purchase local products through food hubs?

To explore these questions, I begin chapter two with an overview of local food systems and their place in the current global food system. I then review the existing literature on consumer preference of local food, both on a national level and in the state of Vermont. Next, I review different local food channels, including a detailed overview of the Food Hub business model, the markets they serve and their prevalence in Vermont and the greater United States. In chapter three, I explain the research methods I used to investigate and analyze my research questions. I then present my quantitative and qualitative findings from semi-structured interviews and an online survey in chapter four. Next, I analyze and discuss the implications of these findings in chapter five. I conclude my thesis in chapter six with a discussion about the practical implications of my findings.

CHAPTER 2: LITERATURE REVIEW

2.1. Local Food Systems

The development of new technology, changes in the marketplace, and shifting consumer preference are just a few ways in which the food system of the United States has changed drastically over time. The food system, which originally existed on a singular level with individuals growing and eating their own food, has expanded over time into the global food system of modern day (S. Martinez et al., 2010). After World War II, increases in technology, such as refrigerated trucks and more advanced preservation methods, allowed for perishable food to be transported from region to region, expanding markets and pushing farmers to scale up in order to stay competitive. Farmers shifted towards crop specialization and commodity crop production, and those who did not had difficulty staying in business (S. Low et al., 2015). From this time in history to present day, we have witnessed a steady decline in the number of farms and an increase in the average size. According to the 2012 Agricultural Census, the U.S. had 2.11 million farms with an average of 434 acres (NASS, 2014). These measures represent a 4.3% decrease in number of farms and a 3.8% increase in size since the 2007 agricultural Census, following a trend of fewer, larger farms that we have witnessed since the mid-1900s.

The ability to transport food has increased the diversity of fresh produce accessible to the consumer in retail establishments. Modern consumers have grown accustom to a wide variety of food products and year-round availability of fresh produce, all offered together at a single brick-and-mortar retail establishment (S. Martinez et al., 2010). The industry accounts for about $4 trillion annually, most of which is earned through supermarket sales. These large retailers have lower operating costs and can offer lower prices as a result of their access to improved technology and the scale of their operation. The U.S. imports products that cannot be produced profitably due to climate conditions and exports products that can fetch a higher price overseas.

2.1.1. Goals of community-based food systems

Many social and environmental movements have veered away from a globally oriented food system, culminating in a growing interest in community-based food systems with locally produced foods. The local food movement aims to connect food producers and consumers in the same geographic region in order to create more resilient and self-reliant food networks; improve local economies; or make a positive impact on the health, environment, community, or society of a particular place (Gail Feenstra, 2002). This is a result of a several movements – the environmental movement, which is concerned about food transport and the geographic dimensions of their food choices, the community food-security movement which advocates for everyone's access to safe, healthy, and culturally appropriate food for all consumers, and the local food movement to support local farmers and better understand how their food was grown (Guptill & Wilkins, 2002; Ilbery & Maye, 2006; Pirog, 2009). Due to this, we've seen an increase in "Locavores" (New Oxford American Dictionary's word of the year in 2007) – "a local resident who tries to eat only food grown or produced within a 100-mile radius."

Successful community based food systems rely on a different set of resources and infrastructure. Local producers, small-scale distributers, committed retailers, and value-driven consumers are all essential players in a successful community based food system. The surge in consumer demand for locally produced food is creating jobs and opportunity for farms as well as small businesses throughout the United States (S. A. Low, Aron; Beaulieu, Elizabeth; Key, Nigel; Martinez, Steve; Melton, Alex; Perez, Agnes; Ralston, Katherine; Stewart, Hayden; Suttles, Shellye; Vogel, Stephen; Jablonski, Becca. , 2015). With this shift in focus, new infrastructure, businesses, and networks have come into creation in order to address these needs. Industry data indicate that local food sales totaled at least $12 billion in 2014 and estimate that the market value could hit $20 billion by 2019 (USDA, 2016). This increase in local food values is made possible through an increase in consumer preference and the development of alternate distribution channels, which I will detail in the following sections.

2.2. Consumer Demand

Consumers across the United States have indicated a growing interest in local and regional food. This has been measured by the growing demand for purchasing through direct-to-consumer markets, such as at farmer's markets, which experienced an increase in sales from $551 million in 1997 to $1.3 billion in 2012 (S. A. Low, Aron; Beaulieu, Elizabeth; Key, Nigel; Martinez, Steve; Melton, Alex; Perez, Agnes; Ralston, Katherine; Stewart, Hayden; Suttles, Shellye; Vogel, Stephen; Jablonski, Becca. , 2015).

There have been several studies exploring consumer preference for locally produced food (C. T. Bond, Dawn; Keeling Bond, Jennifer., 2008; L. Zepeda & Leviten-Reid, 2004; L. L.-R. Zepeda, Catherine. , 2004). According to the 2011 U.S. Grocery Shopper Trends study by the Food Marketing Institute, the top reasons for buying locally grown food were freshness (83 percent), supporting the local economy (68 percent), and taste (53 percent) (Institute, 2015). Consumers are also interested in factors such as the environmental impacts of growing food and supporting family farms, the nutritional value of local food, and supporting a food system that reinforces social relationships (Brown, 2003; T. Selfa & Quazi, 2005; T. Q. Selfa, Joan., 2005).

A consumer's decision to buy local is driven by the desire or necessity for certain characteristics, some of which are more difficult to find in conventional produce (Lancaster, 1966). The characteristics that individual goods have are "perceived attributes, which can be privately appropriable in nature (e.g., convenience, cleanliness, travel costs, etc.) and some of which are quasi-public (e.g., locally sourced products, promoting environmentally friendly products, etc.)" (C. T. Bond, Dawn; Keeling Bond, Jennifer., 2008). Based on this model, the demand for local products is influenced by preferences for the quantity, source, and production processes (which may be quasi-public in nature). Customers will pay more for more for food with certain attributes depending on how highly they prefer them or how much utility they gain from them. Willingness to pay for local food is a function of consumer preference (regarding characteristic of the product), source, consumer beliefs about the impact of their buying decisions, and consumers own sociodemographic characteristics (C. T. Bond, Dawn; Keeling Bond, Jennifer., 2008). These attributes determine how much the consumer is willing to pay, making it essential that they are clearly communicated to the consumer.

2.2.1. Associated attributes of local food

When considering the authentic value that local food has, consumers define a range of perceptual and qualitative connections among the elements and actors in the food system. These connections address the environment, sustainable agriculture, human and animal welfare, health and food security, and community resilience. Consumers who advocate for local food find value in the "connections forged between elements and actors, producers and consumers, terrain and technique, seasonality and sustenance" (Weiss, 2012). These interconnections, according to Weiss, create a sense of "authenticity" in the food and the process through which it was produced. This is reinforced through face-to-face interactions at farmer's markets where producers can demonstrate the process of production and consumers can be assured that the food they are purchasing aligns with their personal values. Additionally, the presence of the producer represents the labor of growing, exposing the consumer to a side of their food not often witnessed. Interacting with the producer offers the consumer a chance to "localize" themselves. These are all qualisigns (a quality which, when possessed by a particular object, functions as a word, sign, etc. (Oxford Dictionary)) of value, that measure the essence of a product, rather than its market value (Weiss, 2012).

"Local" food has become a signal for other attributes in addition to producer location. Beyond acknowledging the proximity of the producer, many consumers link certain attributes to the food such as sustainable production practice, common cultural values, and trustworthiness when the term "local" is attached to a product (S. H. Martinez, Michael; De Pra, Michelle; Pollack, Susan; Ralston, Katherine; Smith, Travis; Vogel, Stephen; Clark, Shellye; Lohr, Luanne; Low, Sarah; Newman, Constance., 2010;

Ostrom, 2006). Many local producers sell their food onsite or tell their story on food packaging, interact with their buyers in person, and are members of the same community. These practices, which are common in direct-to-consumer transactions, provide more transparency in regards to food production which allows consumers to better connect with the producers and place where it was produced (Marsden, Banks, & Bristow, 2000). This type of information sharing is crucial in both face-to-face scenarios and through food labels. In a study on the perception of sustainable food labels, (Sirieix, Delanchy, Remaud, Zepeda, & Gurviez, 2013) emphasized the importance of information and knowledge as a necessity in the development of attitudes and to the performance of correspondent behavior, i.e. consumers need to know about the advantages of local food production and believe in its relevance before they develop an intention to purchase it.

Local food systems have been synonymous with small farms that carry strong environmental missions and social embeddedness, where social connections, mutual exchange, and trust are key elements in the sale (Hinrichs, 2000; Hughes et al., 2007; Sage, 2003). Local food systems that embrace sustainable agriculture are going against the socially and environmentally destructive conventional agricultural paradigm. The use of environmentally conscious production practices is often of personal value to the producer and can stand as a form of resistance modern conventional agriculture. These values resonate with consumers who also strongly oppose these destructive practices.

Social connection, trust, and reciprocity have been described as the hallmark of direct agricultural markets. The ability to connect with fellow community members over local produce, feel secure in the methods in which the food was produced, and invest in the community by supporting the local economy are unique to local food markets. This concept, known as social embeddedness, is a distinct advantage for these markets as it connects consumers to the people and place that produced their food. Face-to-face interaction with producers offers the consumer an opportunity to ask questions regarding production methods, seek out rare products that they can't access through other vendors, as well as develop social ties and personal connections. Short food supply chains aim to move more food while preserving these characteristics. This can be done by increasing transparency and providing more information about the processing and retailing part of the supply chain, fostering close, authentic relationships with all members of the supply chain, and establishing credibility by sharing responsibility for the quality of the end product and the satisfaction of the consumer (Chase & Grubinger, 2014).

Trienekens et al., characterizes transparency in food supply chains according to five main components – consumers/government, food companies, information systems, standards of quality and safety, and governance. Consumer have become increasingly critical, with more specific demands regarding the production of their food (Trienekens, Wognum, Beulens, & van der Vorst, 2012). Gunert et al. identifies different attributes for food products that consumers consider – sensory attributes, health attributes, process attributes, and convenience attributes. Sensory attributes include how the food looks, and tastes, while health attributes relate to opinions or claims on the nutritional content of the food. Process attributes regard the manner of production and distribution, how the food reaches the consumer, and convenience attributes can be defined by any time or energy saving characteristics that benefit the consumer while shopping for, preparing, eating, or disposing of the food. Sensory, health and convenience attributes can be considered intrinsic – specific to the food product and changing only slightly between producers. The process attributes are extrinsic, and greatly depend on disclosure and information exchange by all actors in the food supply chain (Trienekens et al., 2012).

These intangible qualities of transparency, trust, authenticity, and credibility play a crucial role in the ability of the local food system to increase in scale (Mount, 2012). These values are better enhanced and protected when attached to a close relationship. This being so, effective scaling up of the local food system will rely on heavy promotion of these shared goals and values to replicate the feel of direct exchange.

2.2.2 Credence Qualities

A brief review of the literature on credence qualities regarding food products has revealed a variety of models for understanding consumer perception of quality and value of food products (Fernqvist & Ekelund, 2014; Lee & Hwang, 2016; Schaufele, 2017; L. Zepeda & Deal, 2009).

The conceptual model developed by Fernqvist & Ekelund is designed to explain how experienced food quality is influenced by credence cues (Fernqvist & Ekelund, 2014). The physical product embodies both intrinsic and extrinsic characteristics. Intrinsic characteristics are informed by quality attributes and intrinsic quality cues. Intrinsic quality cues can only be ascertained through consumption, such as sensory properties like taste, leanness, and tenderness. Quality expectations are formed by quality cues, which can in turn be intrinsic in nature, part of the physical product and can be assessed before consumption (e.g. color, size, shape), or extrinsic in nature, associated with the product but not part of it (e.g. brand, label, price, packaging, retailer). In addition, prior experience plays a role in creating consumer, as well as the personal and situational factors occurring in a contextual setting (such as personal values, beliefs, attitudes and demographics).

Credence cues are a subcategory under extrinsic quality cues – associated with the product but not physically part of it. When evaluating the influencing factors, credence is a suggested third class of quality properties, along with search qualities, which can be discerned before consumption, and experience qualities, which can only be discerned after consumption (Nelson, 1970). Credence in regards to food products can cover a vast array of categories, including health, production methods, environmental and social orientation, local production and origin, certification systems and other labels (R. Moser, Raffaelli, & Thilmany-McFadden, 2011). When working with locally produced foods *many* credence cues are expressed, in tandem with a variety of moderating variables as well.

A comparison study conducted by Lee & Hwang (2016) explored survey respondents' perceptions of credence attributes, price, quality, and value of organic food through similar conceptual model (altered to emphasize food safety and eco-friendliness). The focus on these two credence attributes allowed the researchers to compare how price, as compared to credence attributes, affects quality and value perceptions.

I reviewed multiple studies that used the terminology "sustainability characteristics" in reference to food consumer behavior. One could argue that these characteristics relate (or mirror) many of the credence cues established in the literature. The study by Schaufele & Hamm used the conceptual framework of Alphabet Theory based on Zepeda and Deal (2009) to review studies that focused on sustainability dimensions. These concepts are very relevant to food systems and arguably play a large role in a consumer drive to buy local. Studies have focused on this in relation to organic purchasing, but recently researchers are starting to notice a trend in "local over organic" purchasing, a dynamic response to increasing commercialization of organic foods, a drive to support the local economy, and support sustainable production practices (L. Zepeda & Deal, 2009).

2.2.3. Consumer Demographics

While traditional thought would consider price to be the driving motivator for consumer decision making with regard to fresh fruits and vegetables, many studies have shown that there are a variety of factors (including but not limited to price) that motivate consumers to purchase one type of produce over another. A 2006 national survey identified variables relating to preference to identify consumer clusters/market segments (C. T. Bond, Dawn; Keeling Bond, Jennifer., 2008). This study used channel of purchase (and retail location), monetary spending on groceries, and the importance of process and product attributes to categorize consumers into the following four clusters: Urban Assurance Seekers, Price Conscious Consumers, Quality and Safety Consumers, and Personal Value Buyers.

Urban Assurance Seekers, the group of consumers who had the highest weekly expenditure on fresh produce, reported the highest rate of willingness to pay a premium for locally produced and sold direct products. Findings of the study indicate that this group places value in certifications of public attributes, which they support through purchases (such as organic, GMO free, free range, grass-fed, etc.). This group tends to be relatively young, higher income than the other clusters, well-educated, and geographically concentrated in larger urban markets.

The Price Conscious segment was defined as low income, less educated, and young compared to the other segments. These consumers ranked nutritional importance fairly low and shopped more for price than quality. Price Conscious Consumers indicated a greater willingness to pay for differentiated fresh produce, which includes “seconds-quality” items that are overripe or blemished.

Quality and Safety Consumers place significant value on product-attribute dimensions, such as firmness, texture, value, and vitamin content, while ranking the importance of local production higher than the other groups. (however, supermarkets are their primary source and direct-market channels secondary). Also important to this group of consumers was convenience and value. The transaction costs of frequenting direct sources (for example, the extra time required to go to the farmer’s market in addition to the grocery store and the lack of variety of foods available) are preventing this cluster from shifting away from grocery stores and thus increasing the amount of local food purchased. In addition, there is “a perception that direct marketed food is higher priced or inferior with regard to the intrinsic attributes,” such as size, quality, and appearance, by this cluster.

Personal Value Buyers value consistent quality, high nutritional benefits, and intrinsic attributes. These shoppers are more likely to shop at supermarkets or super centers as they value the convenience of a one-stop-shop establishment.

The primary drivers across all consumers of the locally grown premium include economic development, quality, and safety. Additionally, a positive correlation was reported across all consumers between local product, perceived quality, and safety. However, amongst consumers who were not identified as Urban Assurance Seekers, likeliness to pay a premium for locally produced food is statistically indistinguishable from consumer likeliness to pay a premium for nutritionally enhanced products.

Bond et al. claims that from a marketing standpoint, expanding demand for locally produced food “may depend critically on the extent that production practices provide and give assurances with respect to private, rather than public benefits.” Likewise, several studies on local food examined the influence of information and knowledge on consumers’ attitudes and purchasing behavior. The results of the studies by (Brown, 2003; Mirosa & Lawson, 2012; Robinson-O’Brien, Larson, Neumark-Sztainer, Hannan, & Story, 2009) showed that respondents with positive attitudes towards one of the alternative food production practices, i.e. locally grown, organic, non-genetically engineered, or non-processed, were also more likely in favor of the other production practices. Exposure to one alternative production practice of local food led to more knowledge of other elements of local production. This relation built on consumers’ knowledge of food production practices and environmental impact, which increased their awareness of the different alternatives. Moreover, Grebitus et al. indicated that consumers who were more knowledgeable about certain types of products were more likely to use the products’ origin information in a purchase situation (Grebitus, Menapace, & Bruhn, 2011).

These studies demonstrate the varied level of knowledge consumers have around the food they consume and how different types of information attract consumers with different values.

2.2.3. Consumer Motivation and Willingness to Pay

Local food is often more expensive than the conventional counterpart – and most of the attributes associated with local food aren't discernable to the eye. Why is it then, that consumers are willing to pay a premium price for these goods?

Zepeda & Deal (2009) presented a new framework, Alphabet Theory, to explain organic and local food purchase behavior. The study used semi-structured interviews to understand *why* consumers bought organic or local foods, and found results that showed that knowledge, information seeking and habit are important element in understanding why consumers choose local and organic foods.

One third of participants interviewed in the study felt that local food was more desirable than organic food – they cited reasons such as being anti-corporate and purchasing local foods as a way to combat the takeover of the food system by corporations. They felt wary that corporations such as Wal-Mart sold organic food and their lack of trust in these corporations made them unlikely to trust Wal-Marts sales of local foods. They reported an association with big corporations and lack of respect for the environment, cheap or poor-quality products, and being solely focused on making a profit, not the treatment of their employees and their impact on small business owners. In describing local food as compared with corporately produced food, participants referred to concepts of trust, integrity and 'people who care', attributes perceived to be lacking in the industrialized food system.

This study indicates that food shoppers who seek out local foods are motivated by values, beliefs and norms that shape their attitudes towards purchasing. It also highlighted the importance of knowledge in shaping their attitudes and information seeking in shaping that knowledge. Usually, consumers who were in favor of alternative production methods (i.e. product methods which contain added value to consumers), as opposed to conventional practices, sought more information than conventional consumers did. Hence, the committed consumers reinforced their attitudes and increasingly developed alternative purchase behavior.

2.2.5. Access

Local Food Purchasing at Farmers Markets

Farmers markets have been a successful outlet for the sale of local food. The elements and interactions behind this direct-to-consumer sales strategy are essential for understanding what consumers value when purchasing local food. Studies have reveal three catalysts for meaningful interactions stemming from famers market vendor and consumer dependence (mutual dependence) on interactions: vendor friendliness towards consumers, loyalties and relationships between vendors and consumers, and available information about the products and their production (Carson, Hamel, Giarrocco, Baylor, & Mathews, 2015). Results show consumers not only choose to interact with certain vendors based on these catalysts, but that vendors use them as marketing strategies to increase their sales. Vendors at farmers markets fill the role of both producer and marketer. They must understand what attracts and deters consumers, and then actively use marketing strategies that best appeal to consumers. Observations show that meaningful interactions at farmers markets can result in consumer learning and promote change in consumer purchasing behavior.

The Carson et al. study examined the reasons for consumer purchasing at farmers markets. Economic reasons were cited - ninety-two percent of survey respondents agreed or strongly agreed that they attend farmer's markets to support local farmers, while 89 % agreed that they attend to strengthen the local economy. Consumer believe that their purchases have a positive impact on the viability of local farms, therefore, they are motivated to attend farmers markets regularly to help sustain the businesses that sell there, even if it means paying a slightly higher price, or a price premium (Bazzani & Canavari, 2017; Carson et al., 2015).

Another motivation for consumers to shop at farmers markets is to gather information about the food, such as production practices, through direct communication with producers. Consumers feel that they can address these concerns at farmers markets because they can communicate directly with producers about the products for sale. In addition, many farmers market vendors have the opportunity to communicate with consumers about their production practices to address consumers' concerns (Carson et al., 2015; D Conner, Smalley, Colasanti, & Brent Ross, 2010).

Institutional markets served by Food Hubs

Institutional food service, which includes entities such as schools, colleges, universities, hospitals, and corporate and government food service sites, is a growing market channel for local foods. The U.S. Department of Agriculture (USDA) currently has an entire program that distributes grant funding, collects census data, and provides resources to child nutrition program operators working to incorporate local foods in the National School Lunch Program and its associated programs.

Schools have become a popular outlet for local produce. Farm to school programs have developed to facilitate the procurement and preparation of locally produced foods for school meals and enhance nutrition education through experience-based educational activities addressing the agricultural, culinary, and nutritional qualities of such foods (Schafft, Hinrichs, & Bloom, 2010). These goals roughly align with the original goals of the National School Lunch Program (NSLP), healthier kids and more profitable farms, and are implemented to help address the major problems with the current NSLP (Gunderson, 2015).

Before farm to school programs, food service directors ordered food in the cheapest and most convenient method – through large-scale distributors who source their products from large farms through long and complex commodity chains. This trend has resulted in meals that are high in calories, fat, and sodium, while lacking in vital nutrients. Additionally, it was found to be more cost effective for schools to purchase already prepared, defrost-and-serve food, which eliminated schools need to purchase and maintain kitchen infrastructure and invest in staff training.

Farm to school programs are designed with the intention of increasing student health through more nutrient dense meals, furthering nutritional education to address the obesity epidemic, and creating new market opportunities for small and medium sized farms near the school they serve by advocating for the direct purchasing of fresh produce. This buying practice comes with many advantages. Food service directors are motivated by the opportunity to incorporate healthier and fresher food into their programs and improve children's dietary habits (Izumi, Alaimo, & Hamm, 2010). Producers are motivated by the opportunity for stable markets where they can receive a fair price, as well as the opportunity to educate future consumers on the value of agriculture (Azuma & Fisher, 2001). However, this method of buying requires a much higher investment of time, money, and resources than using traditional “broad line” distributors (Izumi, Wright, & Hamm, 2009).

Institutions (including schools, hospitals, government entities, and beyond) who buy local must invest significant time and resources towards their mission. A high level of embeddedness, which is the sense of social connection, reciprocity and trust that is often seen as one of the greatest advantages of direct-to-consumer markets, is necessary on the part of both parties (Hinrichs, 2000). Food service providers and producers must be fully committed to the health of the community. Food service providers must invest much more time and resources into food procurement from local producers. It takes time to build relationships with producers, create custom menus that accommodate seasonal produce, train employees so they are equipped with the skills needed to transform raw produce to a prepared meal, and manage this under a fixed budget. The Izumi 2010 study demonstrated that food service providers operating within a farm to school program, or similar program at another type of institution, bought local food both in an attempt to provide nutritious meals and support their local community. The study indicated that fruit and vegetable consumption increased in these scenarios, however it was also important that the farms from which they sourced this food was also invested in the educational side of their farm to school mission (Izumi et al., 2010).

Producers must also be active partners. Additional time on the side of the producers is also required to build and maintain relationships with schools, provide the educational support that is an essential part of any farm to school program, and raise community awareness. A Vermont study focusing on farm to school logistics found that while there was an array of both social and economic motivating factors, farmers with stronger economic motivations are somewhat more willing to alter their distribution practices (and invest more time in the transaction) (David Conner, King, Koliba, Kolodinsky, & Trubek, 2011). In both cases, parties must engage further and invest more time and energy into these types of transactions in order to meet their goals *and* benefit their communities.

Vermonter consumer preference

Vermont consumers buy local food for a variety of reasons, which include a desire for quality and freshness, to support the local economy, and to reduce the environmental impacts caused by sourcing food from across the globe (Plate, 2013b). However, the 2010 Vermonter Poll identified income and cost as a barrier for purchasing more local food (Fund, 2011). To overcome this barrier the Vermont Farm to Plate Strategic Plan identified three tactics, including 1. consumer education campaigns to provide Vermonters with information about the economic, social, environmental, and health benefits of buying locally and regionally produced food, 2. outlining and advertising specific prices for local foods versus supermarket prices, and 3. addressing the hidden costs of imported food through farm family and food enterprise profiles that highlight the benefits brought about by their local purchases.

Growth in consumer preference for local food demands an increase in the market channels through which local food moves from farm to table. However, in order for consumers to act on these preferences, local food must be identifiable in retail markets. The ability to identify locally grown foods is a significant constraint to greater sales, however, it can be addressed through marketing strategies and innovative distribution networks (D. Conner, Colasanti, Brent Ross, & Smalley, 2010). In the following section I will describe the development of alternative food networks, which have evolved to serve this growing consumer demand in a way that preserves the value added to the production by the farmer.

2.3. Local Food Markets

Local food reaches the consumer through a variety of market channels. The term “local” can carry many different definitions and assumptions. The physical boundary by which something can be considered “local” varies. According to the Vermont statutes, “local” or “locally grown,” only applies to products which originated within Vermont or 30 miles of the place where they are sold ("Definition of local and locally grown," 2007). However, the definition of local food products set by the Federal Rural Development Loan Programs is much broader, defining local as either originating within the state, or the requirement that “the total distance the product is transported is less than 400 miles from the origin of the product” (Congress, 2008).

Local products are marketed through both mainstream channels and local supply chains, often alongside conventional products. There are significant challenges faced by local food distributed and sold alongside its conventional counterpart due to the variety of characteristics the food reflects. Local products are characterized as more differentiated, niche market goods and sell in smaller quantities for a generally higher per unit price (R. King, Gomez, & DiGiacomo, 2010). Local food often has characteristics going beyond source that drive up the price and require more communication throughout the transaction, such as organic, free-range, grass-fed, fair-trade, etc. The values of these characteristics can be difficult to impress upon the consumer when sold amongst a large variety of other products, at a high volume, or alongside the less expensive conventional counterpart (A. Diamond, Barham, & Tropp, 2009). Due to these challenges and a growing consumer demand for local food, Alternative Food Networks (AFNs), networks of food system stakeholders that have developed alternative methods of food production and supply, are emerging across the U.S (S. Low et al., 2015).

Two basic types of direct local food markets exist – direct-to-consumer and direct-to-retail/foodservice. Direct-to-consumer sales occur directly between farmers and consumers. Direct-to-institution/retail includes sales by farmers to restaurants, retail stores, and institutions such as government entities, hospital, and schools. Farm operations with direct-to-consumer sales, such as farmers' markets, food hubs, and farm to school programs, increased 25% between the years 2002 and 2012 (S. Martinez et al., 2010). Direct-to-consumer marketing has been the main focus of smaller producers in the recent past. According to the 2012 Census of Agriculture, 144,530 farms sold $1.3 billion in fresh edible agricultural products directly to consumers, which reflects a 6 percent increase in farms and an 8 percent increase in sales over the 2007 agricultural census. The majority of farms conducting these sales are small, with 75 percent doing less than $5,000 in annual sales (NASS, 2012). Small farms face many challenges when working with retailers and grocers. Barriers to local food-market entry and expansion include: capacity constraints for small farms and lack of distribution systems for moving local foods into mainstream markets; limited research, education and training for marketing local food; and uncertainties related to regulations that may affect local food production, such as safety requirements (S. H. Martinez, Michael; De Pra, Michelle; Pollack, Susan; Ralston, Katherine; Smith, Travis; Vogel, Stephen; Clark, Shellye; Lohr, Luanne; Low, Sarah; Newman, Constance., 2010). This creates a barrier to access for many retail, institutional and commercial foodservice markets that would be otherwise viable business opportunities, especially for producers who are too large to rely solely on direct marketing channels but too small to compete with larger growers in the traditional wholesale supply chain (Barham et al., 2012).

2.3.1. Transaction costs

The study of transaction costs in supply chain economics stems from Coase, who challenged the concept that a standard transaction involves simply the exchange of a homogenous product, void of costs associated with measuring the quality and value of the product (Coase, 1937; Hobbs, 1996; North, 1987). The Coasian approach to understanding supply chain management identified limitations to the neoclassical paradigm, which makes the assumption that all economic agents possess perfect information, perfect competition, no barriers to entry to the market, and treats the firm as a black box, turning inputs into outputs without considering the firms rationale for existence, organization, or relationship with other firms. The Coasian approach recognizes costs associated with using the market mechanism, including the cost of discovering what prices should be (information costs), the costs of negotiating individual contracts for each exchange transaction (negotiation costs) and the costs of accurately specifying the details of a transaction in a long-term contract (monitoring or enforcement costs) (Arrow, 1970; Hobbs, 1996).

These costs occur before, during, and after the transaction (Hobbs, 1996). Before a transaction has occurred, when searching for information about products such as prices, inputs, and buyers or sellers, firms undertake informational costs. The process of carrying out the transaction, including negotiating and writing contract, incur negotiation costs. Finally, the monitoring of quality and ensuring that pre-agreed terms of the contract are met, are examples of monitoring costs which occur after the transaction is made. Information plays a key role in all three circumstances.

Transaction costs affect the organizational structure of a firm (Hobbs, 1996). Production firms fall somewhere on the spectrum of vertical coordination, at one extreme are spot markets where goods are exchanged in the current time period “as is” – with price as the sole determinant. At the other end of the spectrum lies full integration, where products move through various stages of the production-processing-distribution chain based on the goals of the firm, rather than the direction of prices. A firm decides where is falls on this spectrum based on what is most efficient for their business model. Firms can elect to coordinate economic activity through a variety of methods, including the formation of strategic partnerships, formal written contracts, or vertical integration. Strategic alliances are mutual agreements entered into by two independent firms to work towards a mutually beneficial, common goal. Through formal written contracts firms outsource certain aspects of the supply chain, such as marketing, production management, and market outlet, to a buyer. Vertical integration exists on a variety of levels:

- Quasi-vertical integration refers to a long-term contractual relationship between buyers and sellers who both invest resources in the relationship (such as a joint venture).
- Tapered vertical integration occurs when a firm augments its supply with product from another seller, or transfers a portion of output forward to another buyer.
- Full vertical integration occurs when one firm performs two or more consecutive stages of the production distribution chain. This can take place downstream, into distribution or retail functions, or upstream, into supply functions.

A firm will decide where it falls on this spectrum based on the nature and level of transaction costs associated with each step in the supply chain. The key characteristics of these transactions include: the degree of uncertainty surrounding the transaction, the degree of asset specificity, and the frequency of the transaction (Williamson, 1979). If a product has a low level of uncertainty, meaning a good which is non-specific in nature or produced with non-specific assets, it lends itself to spot market transactions, which require little information about the product for it to be sold (Hobbs, 1996). As asset specificity increases, more formal type of supply chain management and a higher level of vertical integration is necessary. This can be conceptualized as the decision to "make or buy." A firm seeking an input that is homogenous, readily available, requires little information to purchase, and has a big market would be driven towards spot markets – the "buy" end of the spectrum. Firms that require inputs that are rarer, specialized, complex, and require specific production and high level if information transfer would be driven towards the "make" end of the spectrum, which is where higher levels of vertical integration and the formation of strategic partnerships are more evident.

2.3.2. Values-based supply chains

For retail or institutional buyers, direct-to-consumer channels are not a feasible option for acquiring local food. The mainstream supermarket distribution system favors large-scale supplier and facilities long distance movement of product. Fresh fruits and vegetables are often not branded, making them more challenging for maintaining strong linkages between consumers and producers (R. King, Gomez, & DiGiacomo, 2010). Local product can also be more expensive to manage and sell and small farms often don't produce enough to meet the cutoff for quantity and consistency. It takes time for farmers to build a client base and requires multiple invoices and payment schedules on the side of the retailer (Abatekassa & Peterson, 2011). The direct-to-consumer market channel is also difficult for producers who are too large for the short chain direct markets, but too small for large commodity markets. These actors rely on *values-based supply chains* (VBSCs), also known as *value* chains, which are characterized by partnerships throughout the supply chain from producers to buyers and a shared commitment to environmental, social and economic values (Bloom & Hinrichs, 2011; G. H. Feenstra, Shermain. , 2016; G. Stevenson & Pirog, 2013; G. P. Stevenson, Richard. , 2013).

Value chains offer an alternative model for the regional food system that operates on a larger scale than direct marketing while ensuring the transfer of social, environmental and economic benefits for supply chain participants (Bloom & Hinrichs, 2011). Value chains differentiate their product by including the "story" of the food, such as attributes such as how, where, and by whom the food was produced (D. Conner, Campbell-Arvai, & Hamm, 2008). This type of differentiation adds value to the product through processing or labeling practices and highlighting characteristics that address consumer demand (e.g. organic or hormone an antibiotic-free) (Bloom & Hinrichs, 2011).

VBSCs strive to provide greater economic stability for producers and others along the supply chain while delivering high quality, regional food to consumers. One way that VBSCs provide more economic stability is by working to get producers a better price for their product. This is done by cutting down on transactions costs. By developing and fostering close relationships with producers and buyers, VBSCs encourage consistent product availability and purchasing which creates more financial stability for both parties (Hobbs, 1996).

Benefits of actors operating within VBSCs include:

1. More *transparency* than conventional supply chains; values are communicated throughout the chain, providing buyers and consumers with information they need to pay more for these foods,
2. *Higher prices* to participating farmers due to the chain's strategic partnerships and the fact that buyers are willing to compensate farmers for particular values,
3. More willingness to negotiate with farmers and often manage some of the transaction costs and *work with farmers or ranchers to source products* on an on-going basis (Feenstra & Hardesty, 2016; Stevenson et al., 2011).

Differentiated products that are built out of a variety of strategic partnerships have lower transaction cost because all involved parties have closer relationships, do business on the same scale, and take part in repeated, fair transactions. In contrast to less frequent transactions of a larger magnitude, which is more common for traditional food supply chains, the value chain players work more closely and can better ensure the quality and consistency of the product.

2.3.3. How values-based supply chains differ from traditional supply chains

Traditional food supply chains embody a competitive atmosphere, where most companies seek to buy as cheaply as possible in order to maximize profit. With each player aiming to get the best deal possible, inter-organizational mistrust can strain these relationships. Value chains approach this relationship from a different perspective. Producers working together are treated as "strategic partners," each with their own responsibilities in the production chain. Each partner has the right to shared information and decision-making, as well as takes on equal risk (essentially ensuring that all partners have equal skin in the game) (G. Stevenson & Pirog, 2013).

These two different dynamics can be represented on either end of the make-or-buy spectrum. Traditional food supply chains reflect more of a "buy" nature, as their business model depends on contracting out different aspects of the business to the lowest bidder. Instead of making inputs themselves, it is more cost effective for these types of businesses to hire others to do this work. (Hobbs, 1996). This greatly increases the number of parties involved in the food supply chain, meaning products will change hands multiple times before ending up with the consumer. Because they are simply "buying" from others, traditional supply chains view this with a traditional economic perspective – whoever can produce the cheapest gets their business. This means that businesses are in close competition, cutting costs wherever possible. This can lead to the maltreatment of employees, bad work environment, and inability to take better care of the environment and community (Hobbs, 1996).

Value chains embody more of the “make” end of the spectrum by facilitating the growth of strategic partners that work together to create the needed inputs along the supply chain (Hobbs, 1996). Instead of hiring another business to take care of an element of production, partnerships are created to address this need, resulting in positions that simultaneously benefit both parties.

Scale is another characteristic that is addressed differently in value chains versus traditional supply chains. Traditional supply chains are increasingly operating on the national and international scale. Wherever is most cost effective for the company to produce in the short run is where they will target their business. Value chains coordinate business locations on the same scales, while committing to fair profit margins, wages, and business agreements amongst partners (G. Stevenson & Pirog, 2013).

Food hubs are a distinct element of food value chains that have developed across the country. Food hubs are networks of food system stakeholders, such as producers, distributors, retailers, institutions, restaurants, and community players, who collaborate to challenge barriers and expand opportunities for the local food systems.

2.4. Food Hub business model

Food hubs are a proposed solution to the challenges related to gaps in the infrastructure faced by consumers and producers of locally grown food. Food hubs are an example of a strategic partnership designed to manage transaction costs in the food supply chain. Specifically, food hubs manage information, negotiation, and monitoring (enforcement) transaction costs by performing any of the following practices (Hobbs, 1996):

- *Information costs:*
  - Increase market access
  - Increase market share by bundling
  - Increase market share by extending season
  - Provide technical assistance & producer development
- *Negotiation costs:*
  - Brokerage services
  - Product assurances
- *Monitoring (enforcement) costs:*
  - Information flow & sharing
  - Risk sharing
  - Reliable transportation & distribution
  - Maintaining a consumer-producer connection

Merriam-Webster dictionary defines a hub as “a center of activity” or “focal point” through which many parties meet, mingle, and diverge. A food hub is simply that, a physical or virtual entity that aids various players in the movement of food from farm to table. Food hubs connect multiple producers to customers such as retailers, wholesalers, institutions, and individuals. The USDA’s working definition of a food hub is “a centrally located facility with a business management structure facilitating the aggregation, storage, processing, distribution, and/or marketing of locally/regionally produced food products” (Barham et al., 2012).

Food hubs are integral members of local food value chains. They expand market options and revenue opportunities for producers who want to move beyond direct-to-consumer markets but don't have access to the traditional wholesale supply chain. Hubs provide infrastructure to store, process, and distribute products for producers who don't have the available capital or access to do so themselves. A growing locavore scene and interest in local foods appears to be the ultimate push for the formation of food hubs, however additional drivers such as traceability, food attribute retention, energy consumption and food miles, as well as flavor and taste arising from local soils and climate (similar to the *terroir* of wines) must be considered (Matson & Thayer, 2013).

The business model of these entities strives to meet the triple bottom line (economic, social, and environmental) by taking a value chain-based approach. Many hubs have evolved from an educational or social mission to bring together the various players in the marketplace (Barham et al., 2012). Through selling local foods, hubs often strive to educate their buyers. These educational or social missions often take precedence over economic growth, differentiating them as a new generation of community-based food hubs who focus on shortening the supply chain to deliver more than just economic returns (Hand, 2010).

Food hubs are generally classified by their legal business model, which provides an idea of the management structure, keeps track of who has invested which resources, determines opportunities for growth, and defines tax liability, general risk management, and liability exposure (Matson & Cook, 2013; W. Thompson, Polk, & Hayenga, 2008). Different business models for food hubs, as defined by the USDA's Regional Food Hub Resource Guide, include nonprofit, cooperative, for-profit, and mixed (Barham et al., 2012). Nonprofit food hubs may be more tied to their social mission than to business profitability and emphasize products that match that mission, although they may be more expensive to source but highly valued by their consumer base (ex. Organic and Fair-trade products). The cooperative structure is owned and democratically controlled by its members and takes the form of an established community entity with strong roots in agriculture. This structure prioritizes the needs of its members, such as providing a fair return on products sold, arranging transportation of goods to end consumers, promoting a certain production practice, or serving a certain geographic area. For-profit food hubs are the result of entrepreneurs and established businesses that have noticed the surge in the market for local foods and have pursued local hubs as a potential area for profit. Finally, some hubs are a combination of several different business models and legal structures depending on their stakeholders, mission statement, and client demand (Matson & Cook, 2013).

To clarify the different structures and goals of food hubs, Diamond & Barham published a 2012 report of case studies from eight different food value chains, food hubs and co-op (both entities that aggregate and distribute local food), that examined the aggregation, distribution, and marketing strategies through an analysis of their daily operations, challenges faced, and prospects. To classify these 8 models, Diamond and Barham distinguished four different distribution models – retail-driven, producer-driven, non-profit driven, and consumer driven, as well as three different stages of development – start-up/nascent, developing/emerging, and mature/developed. Producer-driven models are characterized by an individual producer or group of producers that claim greater ownership over the supply chain by performing the aggregation and distribution functions, instead of contracting out to a third party. Non-profit driven models are commonly a part of a greater nonprofit organization, which aim to fulfill their mission by supporting small-scale producers through distribution and marketing services to create new wholesale market opportunities. Retail-driven operations take on the distribution aspect to maintain their competitive advantage and service their customers' demand for locally grown food. Consumer-driven models aim to link consumers with producers and actively engage consumers in the aggregation and distribution of products (A. Diamond & Barham, 2012).

Most food hubs are on the small end of the business spectrum; however there seem to be scale effects involved in their operations. Smaller ventures, including those in the start-up/nascent category, often are founded from strategic partnerships or grants that help with establishment and startup costs, and can continue to fund operations over a period of years. More established entities operating at the larger end of the scale often built significant infrastructure around the aggregation and distribution of foods and have coordinated outside agreements and partnerships to expand their reach (Matson & Thayer, 2013).

2.4.1. Services provided by Food Hubs

Food hubs play a crucial role in the value chain for local food by offering a variety of operational services, producer services, and community/environmental services. The core components of a food hub include aggregation and distribution services, active coordination of supply chain logistics, and permanent facilities for storage and/or processing. Hubs either pick food up directly from the farm or serve as a drop-off point while maintaining attributes such as source-identification and production practices. The management team at the hub is responsible for seeking new markets for producers and coordinating efforts with distributors, processors, and buyers to move more local food into the marketplace. Some hubs boost this effort by providing a space and equipment for food to be stored and lightly processed, packed, palletized, and in some cases sold under a Hub’s regional label (Fisk et al., 2011).

By aggregating food from a variety of local producers, many or all of whom do not produce enough to do business with traditional wholesalers, food hubs compile a selection of products from which buyers can chose from and pay for on a single invoice. This attracts buyers and wholesalers who would otherwise not have purchased locally do to the high transaction costs of seeking out the variety of products from individual producers. Transaction costs are the costs of carrying out an exchange between firms in a marketplace (Hobbs, 1996). Food hubs provide these services to save the producer the time of delivering food to individual buyers. Producers make one stop at the hub, or in some cases the food is picked up from the farm, saving the producer time and capital which can be invested in the production of the food, rather than the distribution (Barham et al., 2012).

Food hubs invest significant time and energy into developing relationships with both producers and buyers, and act as a broker. Hubs often provide packaging and repacking, light processing, product storage, and a host of marketing materials to attract buyers and aid in the use or resale of the product. These services can help smaller growers who don’t have the capital to invest in the infrastructure needed to perform them themselves and cut down on transaction costs for both parties. In addition, hubs provide branding and market promotion, which add value to the product by preserving and conveying valuable qualities such as identity preservation, traceability, sustainable production methods, and product attributes that differentiate these products from similar, conventional counterparts. Hubs employ effective marketing strategies and invest time building relationships with various buyers and wholesalers, something producers may not have the time or staff capacity to develop. Buyers and wholesalers can more feasibly purchase local food, as transaction costs are decreased by food hubs who offer foods from various farms on a single invoice (Barham et al., 2012).

Food hubs can seek out greater markets for farmers, allowing the farmer to spend more time on production. This takes a great deal of market research, contact with buyers, and relationship building to build a repertoire of consistent and worthwhile buyers. In addition to finding markets, food hubs often provide technical assistance to producers in the form of production and business planning, season extension, sustainable production practices, food safety, and post-harvest handling. If the hub doesn't offer these services, it is common for them to develop or find a partner organization to help producers meet wholesale requirements such as quality, volume, consistency, packaging, liability, and food safety (Barham et al., 2012).

Food hubs work closely with buyers to ensure that the value added to the produce by the farmer (whether that be sustainable farming practices, the story behind the creation of the farm/family farm legacy, or strong connection to the land) is communicated to the consumers. Buyers/consumers can feel comfortable purchasing food from food hubs instead of through direct exchange when the authenticity and transparency is clearly communicated (Matson & Thayer, 2013). Food hubs must ensure identity and value preservation from producer to consumer as a way to establish marketing claims and negotiation position with buyers (A. Diamond & Barham, 2012). These types of food value chains require product differentiation to be competitive in the marketplace. To ensure the integrity of these claims, a robust identity preservation system must be implemented by the hub in order to drive consumer demand. Distribution entities (including buyers who then sell to the end user) use packaging, communication strategies, and farm inspections to establish a bond between producer and consumer. Food hubs are important intermediates that share messages directly with consumers. For instance, hubs provide branding and marketing promotion which add value to the product by preserving and conveying the value added by the producer, such as identity preservation, traceability, sustainable production methods, and product attributes that differentiate these products from similar, conventional counterparts.

According to the literature, there are a variety of methods used by food hubs across the United States to maintain identity preservation (Barham et al., 2012). Hubs have created labels that include the farmer's name, photos of the farm and the animals, and stories about the farm that go on the different products. This can be done in the form of bags and containers, stickers, stamps, twist ties, and other packaging design.

In-store signage and product labeling is a feasible option for retail venues. These are effective methods for differentiating locally grown products from conventional products. Hubs and buyers use weekly email newsletters and other media to profile farms and producers, promote seasonal specials, and remind customers of their economic and social missions.

Food hubs may also facilitate the transmission of social values. The sense of social connection, exchange and trust that is associated with the direct marketing experience can be absorbed into the social mission of the hub (Day-Farnsworth et al., 2009; S. H. Martinez, Michael; De Pra, Michelle; Pollack, Susan; Ralston, Katherine; Smith, Travis; Vogel, Stephen; Clark, Shellye; Lohr, Luanne; Low, Sarah; Newman, Constance., 2010; Matson & Thayer, 2013). Food hub business models with strong social missions and close association with producers may not need the same high levels of identity preservation, as it is their brand that carries a high level of legitimacy to its consumers (A. Diamond & Barham, 2012).

Not only working with producers and consumers, hubs are also known for having a strong community presence. Hubs often partner with community foundations addressing health, hunger, or environmental causes, spread awareness of how the food system works and the benefits of buying local (Barham et al., 2012). One way that hubs interact with the local community is through serving institution markets, conducting business and providing support with schools, institutions, and restaurants in the community.

Food hubs must ensure identity and value preservation from producer to consumer as a way to establish marketing claims and negotiation position with buyers (A. B. Diamond, J., 2012). These types of food value chains require product differentiation to be competitive in the marketplace. To ensure the integrity of these claims, a robust identity preservation system must be implemented by the hub in order to drive consumer demand. Distribution entities (including buyers who then sell to the end user) use packaging, communication strategies, and farm inspections to establish a bond between producer and consumer. Food hubs are important intermediates that share messages directly with consumers. For instance, hubs provide branding and marketing promotion which add value to the product by preserving and conveying the value added by the producer, such as identity preservation, traceability, sustainable production methods, and product attributes that differentiate these products from similar, conventional counterparts.

According to the literature, there are a variety of methods used by food hubs across the United States to maintain identity preservation (Barham et al., 2012). Hubs have created labels that include the farmer's name, photos of the farm and the animals, and stories about the farm that go on the different products. This can be done in the form of bags and containers, stickers, stamps, twist ties, and other packaging design.

Consumers are increasingly purchasing local and regional foods that reflect values such as environmentally friendly production practices, supporting family farms and the local economy, high quality, freshness, and nutritional value, and supporting a food system that reinforces social relationships (Brown, 2003; S. A. Low, Aron; Beaulieu, Elizabeth; Key, Nigel; Martinez, Steve; Melton, Alex; Perez, Agnes; Ralston, Katherine; Stewart, Hayden; Suttles, Shellye; Vogel, Stephen; Jablonski, Becca. , 2015; T. Selfa & Quazi, 2005; T. Q. Selfa, Joan., 2005). These values can be considered credence qualities, which cannot be evaluated in normal use and rely on labels or other kinds of informational signaling to establish the credibility of the seller (Darby & Karni, 1973; Grunert, 1997). Credence regarding food products can refer to categories related to health, production methods environmental and social orientation, local production and origin, certification systems and other labels (R. Moser, Raffaelli, & Thilmany-

McFadden, 2011). According to this definition, local food and the variety of associated values are credence qualities that can only be ascertained through extrinsic cues, such as brand, label, price, packaging, and retailer reputation (Fernqvist & Ekelund, 2014). However, this information must be clearly communicated through each step in the supply chain. From producer to end consumer, the origin of the food along with other intrinsic values must be effectively transferred through a variety of transactions. Food hubs use different methods and practices, mentioned above, to communicate this value so that *buyers* can effectively sell local food to their consumers. Consumers are actively seeking out food with these qualities and buyers need to know that the information they receive and pass on is accurate and credible. Their reputation as a retailer is heavily dependent on the food hub to communicate these credence cues.

2.4.2. National Food Hub Scene

The growing success of the food hub model has led to a variety of research studies focused on the prevalence and performance of food hubs in the U.S. The National Good Food Network (NGFN), a product of the Wallace Center at Winrock International, is a collaboration between people from all parts of the food system dedicated to scaling up local and regional food sourcing and access. The NGFN provides a variety of resources, produced by the US Department of Agriculture, research programs at colleges and universities, and individual entities, as well as a biannual Food Hub Conference, which has taken place in 2012, 2014, and 2016. The NGFN resource center aims to compile a database of food hubs across the country, host webinars, provide access to new and relevant research, and touch upon modern food safety issues.

Michigan State University's Center for Regional Food Systems, in collaboration with the NGFN and Wallace Center at Winrock International, conducted a National Food Hub Survey in 2015 to provide a broad look at current national activity surrounding food hubs. This was a follow up survey to a similar study conducted in 2013, providing the start of a longitudinal study tracking food hubs over time (Fernqvist & Ekelund, 2014).

The 2015 survey, which was conducted online, included 151 hubs (Hardy, Hamm, Pirog, Fisk, & Fischer, 2016). Findings indicate that many new food hubs are opening (one-third of responding hubs opened in the last two years) and those that are already established are continuing to operate and thrive. Key findings from the study include:

- Food hub suppliers and customers are almost entirely regional.
- Food hubs are good for small and medium agricultural operations.
- Food hubs strive to increase community food access and improve health outcomes.
- Food hubs are addressing challenges that include compliance with the Food Safety and Modernization Act (FSMA).
- Food hubs turn to communities of practice and networks for information.
- Food hubs are concerned about maintaining product supply and keeping up with business growth.

These results indicate that food hubs could be a promising option for scaling up the local food scene. As hubs continue to address the challenges local and regional farms face when attempting to expand we will see if, and how, these businesses are able to effect change on a larger scale while maintaining the goals and values of the local food system.

2.4.3 Vermont Food Hub Scene

Many citizens and organizations in Vermont are invested in the success of a self-sufficient food system in the state. Vermont's food production, which has developed a reputation for quality with the success of its maple syrup, artisan cheese, craft beer and cider, local apple, and prominent dairy industries, has been an integral part of the Vermont economy and identity since its inception. More recently, from 2007 to 2012, food system economic output expanded 24%, from $6.9 billion to $8.6 billion. Over 60,000 Vermonters are directly employed in Vermont's food system, reflecting a 9.9% increase (5,589 jobs) in food system employment from 2002 to 2013 (Fischer et al., 2013; NASS, 2012, 2014). Despite these strengths, there are still a number of recurring issues, gaps, barriers, and structural problems that are impeding the growth of the Vermont food system. The Farm to Plate (F2P) Initiative, directed by the Vermont Sustainable Job Fund, was approved at the end of the 2009 Vermont legislative session and outlines a 10-year strategic plan to strengthen Vermont's food system. The primary goals of the legislation are to:

1) Increase economic development in Vermont's food and farm sector
2) Create jobs in the food and farm economy
3) Improve access to healthy local foods

By highlighting local, regional, and national and international markets, the F2P plan is designed to support all types and scales of agricultural-related production and processing, from small-scale diversified production to commodity dairy production and from on-farm processing to commercial scale food manufacturing. The ten-year plan, which outlines milestones from 2010 to 2020, encompasses all of the elements of the

Vermont food system, as defined by the F2P report – resources (e.g., land, soil, crops, equipment), activities (e.g., growing, harvesting, researching, processing, packaging, transporting, marketing, consuming, and disposal of food), and people (e.g., farmers, bakers, policy makers) (see figure X) (Plate, 2013a). The plan aims to analyze all food system inputs, agricultural products, processing, distribution, market outlets, environmental returns, and crosscutting issues such as education, workforce development, and energy.

Food hubs exist to serve a variety of the F2P goals depending on their business structure and mission, however two of these goals are at the core of the food hub model:

- Goal 7: Local food production – and sales of local food – for all types of markets will increase
- Goal 12: A sufficient supply of all scales and types of on-farm and commercial storage, aggregation, telecommunications, and distribution services will be available to meet the needs of increasing year-round food production and consumer demand.

This outlines potential for small distributors, such as food hubs, to significantly increase the amount of Vermont-grown product consumed in Vermont restaurants, institutions, and retail stores through collaboration with several producers in order to ensure a steady supply of product. Food hubs also address many of the additional market development needs outlined in Chapter 3 of the F2P Strategic Plan, such as workforce development, education, network development, financing, technical assistance and business planning, research marketing and public outreach, and physical infrastructure and technology (Fund, 2011).

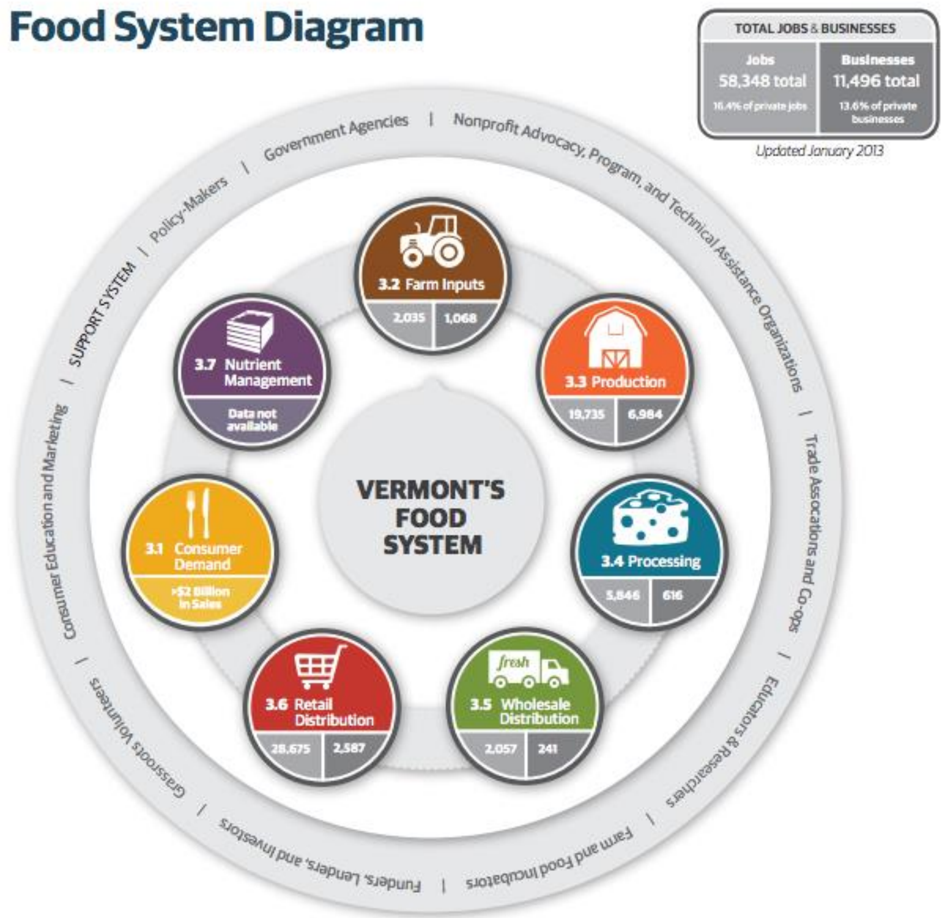

Figure 1: Food Systems Diagram

(Fund, 2011)

The Leblanc et al. study of 2012 builds upon the definitions and typologies of food hubs developed in the Diamond and Barham papers to narrate the current Vermont food hub scene (Barham et al., 2012). The study found that amongst the nonprofit food hubs in the state in the year 2012, no food hubs existed that fit into the developed/mature category, which includes a high level of market development, financial stability, and structure and process improvements. These food hubs, however, did more than just aggregate and distribute food. These businesses highly prioritize their additional services and program offerings as an important aspect of supporting their food hub work. These programs support the hub as they are important for acquiring funding and increasing its resilience (LeBlanc, Conner, McRae, & Darby, 2014).

Nonprofit food hubs reported an array of support services and outreach that educate the community and farmers. Community members are educated in how to incorporate local ingredients into regular life, along with the potential economic and environmental benefits of buying from local farmers. Farmers are educated in how to best sell their product in their local communities, on developing successful relationships with buyers, and technical support in the form of business planning and farm practices. The work that nonprofit food hubs do in the community, instilling the underlying knowledge of why consumers should buy local, is crucial in developing their customer base and advancing the goals of the local food movement (LeBlanc et al., 2014).

2.4.4. Scaling up the local food scene

Food hub studies have progressed towards the controversial concept, ‘scaling up’ the local food system. To ‘scale up’ a business means to perform an action or a set of actions that result in a significant increase in the economic growth of the business. This action is a potential threat to the legitimacy and values that food value chains are built upon (Mount, 2012), such as the transparent supply chain and communication of value evident in direct-to-consumer transaction.

As the producers scale up and aim to increase production, the food hubs can facilitate this value sharing transaction with more prospective buyers than the farms could do on their own. Food hubs also aim to attract more consumers to local food purchasing. This takes the form of community outreach, education and marketing. Food hubs can provide these services for buyers in the hopes of attracting more customers and higher purchasing (Matson & Thayer, 2013). This model has been successful in Vermont and nationally, with 62% of food hubs across the country starting within the years 2008-2013 (Fischer et al., 2013).

The next step for food hubs, and the greater local food movement, is to scale-up, develop more producers and consumers, and strive for broader impact. Barriers to this growth include accounting for the true price of local food (including all the intangible qualities that it represents), maintaining the sharing of goals and values between producer and consumer as each party grows, and recreating the authenticity and trust that comes with direct exchange transactions (Mount, 2012). Food hubs can provide essential tools for addressing these issues and helping local food scale-up by performing the tasks required of both producers and consumers, tasks that require additional time to perform (as compared to exchanges between producers and consumers in the conventional food chain). These tools and services, such as communication liaison and marketing materials, are key elements of the food hub model, and a better understanding of the effectiveness of these services is needed to grow the local food movements and broaden impact.

2.5. Research Gap

Consumers across the United States have indicated a growing interest in local and regional food due to their perceived attributes such as better quality, strong environmental missions and social embeddedness. Values-based supply chains are attempting to scale-up the quantity of local food sold in the marketplace while preserving and communicating the social, environmental, and economic benefits that are found in traditional direct marketing transactions. Food hubs are filling this role by providing aggregation and distribution services to a network of local producers, buyers, and consumers, as well as technical support and community engagement services. To effectively replicate direct market transactions, food hubs must serve as liaison between producers and consumers, ensuring that the attributes of the food are properly communicated and its true value is retained in the marketplace.

While food hubs have the capacity to share important messages about food safety, origin, and production methods with consumers, little is known about if, and how effectively, food hubs communicate the information necessary to meet consumer demand for these products. This is crucial when attracting buyers and assuring value to consumers, which is necessary for the long-term sustainability of the food hub model. Food hubs rely on a broad and consistent consumer base to operate profitably and continue working to enhance the local food scene. Price is often cited as the number one barrier to local purchasing, however food hubs across the country have a large customer base of organizations that operate on limited budgets – such as schools, hospitals, and prisons, and are still able to incorporate local purchasing into their food service. There are limited studies that explore *how* food hub buyers address the price issue. A deeper understanding of the existing customer base is essential for the food hub model to attract new buyers and grow, and more research is needed to further identify and understand communication methods and practices, which can impact the long-term viability of food hubs and local agriculture, as well as community health and economic stability.

CHAPTER 3: RESEARCH METHODS

3.1. Research Context

Vermont is known for its dedication to local food system development, which has made way for the emergence of local food hubs and businesses throughout the state. Vermont has a well-established local food network which involves a concentration of hubs that are older than the majority of hubs across the nation (Fischer et al., 2013). For this reason, as well as the presence of previous studies in the field from which to base our research, we chose to focus on mature hubs located within the state of Vermont. This study is comprised of two segments, the first focusing on food hub business structure in Vermont and the second narrowing in on food hub buyers and the communication of value and transparency throughout the supply chain. The study was limited to established food hubs which conduct aggregation and distribution services in order to better understand these services and how they impact the organizations time, budget, and mission statement. The part of the study focusing on food hub buyers examines the buyers from two specific food hubs in diverse areas of Vermont who fall into the category of retail, institutional, or restaurant vendors. Data was collected through semi-structured interviews and an online survey.

The first part of the study focused on food hub executive directors. Through previous studies of Vermont food hubs and using contacts of David Conner's, from previous research work, Vermont Farm to Plate, and other local food system related activity, we established a list of operating food hubs in Vermont that conducted aggregation and distribution services. This caveat, limiting our study to food hubs that conducted aggregation and distribution services, was included so that additional data related to food hub financials and profitability could be conducted during the interviews. These five interviews were conducted as a part of a research project for David Conner's HATCH grant on the economic impact of food hubs on the Vermont economy. I collected this financial data, as well as qualitative data about the food hubs mission, operations, and the food hub executive directors view on the challenges, barriers, opportunities, and future of the food hub model. This thesis presents the information learned from the qualitative aspect of the food hub director interviews, while the financial data is included in a separate study.

Analyzing the qualitative data from the food hub director interviews painted a picture of the current food hubs scene in Vermont, as well as providing insight into daily operations and strategy for adapting to the challenges and opportunities presented in the future. From this point, the study focuses on the buyer perspective of food hub's products and services. This direction was taken by request of two of our food hub partners, who needed to learn more about what their customers think of their products and services in order to better serve them and grow their customer base. We worked closely with two food hub executive directors in order to develop an interview guide and survey and recruit participants. This study discusses big themes learned from the interviews and surveys, but the complete statistical results have been shared with their partners for them to use when determining where to focus their energy and capital.

The following section goes into detail on the methodological process used when designing the two interview guides and survey, recruiting participants, and analyzing data.

3.2. Interviewee Recruitment

Eleven supply chain actors were interviewed in this study. These were chosen based a maximum variability sampling strategy, which was used to select a sample that represented diversity in sector, size, business structure, geography, and place within the supply chain (Glesne, 2015). Specifically, I considered the actors' location within the state, if they conducted aggregation and distribution services, and their ability and willingness to partake in the interview process. Five food hub managers participated in the study, representing both non-profit and for profit, mission-oriented organizations who have been conducting food hub services in the state of Vermont for five or more years. We interviewed six buyers from two specific to provide the buyer perspective on food hub services and distributed an online survey to 38 buyers from the same two food hubs. The buyer participants interviewed were selected from a list of 18 buyers compiled by our partners at Green Mountain Farm to School and Windham Farm and Food based on buyers' willingness and ability to participate.

3.3. Data Collection

The term 'semi-structured interview' is used here to refer to a qualitative approach, in this case involving interviews that have some explicit structure to them, but are not completely structured. Semi-structured interviews refer to the fact that the interviewer does not need to ask only the predetermined questions (Glesne, 2015). Two rounds of semi-structured interviewing were conducted, one round with food hub directors in 2015 and another round with food hub buyers in 2016 and 2017. We, myself with the support of my thesis committee and our partners, devised an interview protocol, which included a standard set of predetermined questions to be asked of all participants. These questions were pilot tested and reviewed by experts in the field. I began the interviews with general, broad questions to establish rapport and then dived into deeper questions which ask the respondents for their personal opinions, purpose for doing what they do, and stories from their work life. The conversation had the flexibility to flow and shift from the interview protocol, which allowed me to expand upon relevant and interesting topics that arose during conversation (Heyl, 2002).

These collections can be done in a variety of manners, including face-to-face, on the phone, and over the Internet. I tried to conduct as many face-to-face interviews as possible, but due to time and scheduling constraints, I collected a mix of both face-to-face and phone interviews. These interviews were tape recorded to ensure accuracy, and carefully examined at a later date.

Semi-structured interviews were the best method for this project, as opposed to highly structured or unstructured interviews, due to the complexity and abstract nature of some of the questions (Patten, 2017). While some questions were straight forward and asked the participant about observations she or he may have made in the field, other questions asked the respondent to provide their own interpretation of undefined, abstract concepts related to the food system as a whole. If a participant did not seem to understand a question, I as the interviewer had the freedom to rephrase the question to verify accurate understanding, as well as ask additional questions if the response was too terse.

Additionally, I was able to probe with additional questions outside of the predetermined questions in order to explore unexpected or unusual material revealed by the participant.

Interviews were conducted with food hub directors, who served as key informants from each organization to broadly define their work, firmographic characteristics, the services offered and how those relate to components of their mission statement, and how they are positioning themselves as organizations to adapt to the ever-changing marketplace. I used an interview guide tailored for food hub operators and another interview guide for the six interviews conducted with food hub buyers. The questions focused on local food marketing strategies and practices, motivations for buying local, consumer behavior, firmographic characteristics, communication, challenges, opportunities and relationships. When interviewing food hub managers, I collected diverse answers in terms of firmographic characteristics, management, and business structure. However, there were noticeable patterns and similarities when discussing relationships, challenges and opportunities in the market. When interviewing food hub buyers there were many common responses regarding what the food hub does well and their general satisfaction with the food and customer service. The most recurrent area of departure from the script occurred when interviewing food hub buyers. I asked a series of questions regarding the authenticity, transparency, and credibility of the food system as a whole, as well as their experience and relation with the food hub. The term "authenticity" surprised and, at times, confused some participants, but with some brief context I collected answers from all participants.

Due to the variety of sectors interviewed during the food hub buyer interviews I was constantly changing my use of the word "customer." This term refers to students, shoppers, prisoners, hospital staff and visitors, and restaurant patrons. Depending on the sector I was interviewing I departed from the script briefly when questioning the participant about customer reactions and experienced with the food. For example, instead of asking if certain marketing materials has increased willingness-to-pay amongst students I changed the wording to willingness-to-participate in school lunch. This was necessary for other sectors as well.

I conducted these interviews between December 2015 and June 2017. Each interview generally lasted for 1 hour. All interviews were recorded and transcribed, and notes were taken at the time of the interview to ensure accurate data collection. These interviews are augmented by additional primary sources such as financial reports, websites, and independent publications of the entities studied.

Of the six food hub buyers interviewed, five were interviewed via telephone and one was interviewed in-person and on-site. These interviews generally lasted for one hour and were recorded and transcribed, as well as supported by notes taken at the time of the interview.

These interview questions focused on how buyers interpret the methods and messages used by food hubs to communicate the value of local food, specifically in regards to marketing practices. These themes were developed through gaps in knowledge within existing food hub literature, as well as needed information identified by our partners.

In addition to interviews, an online survey of food hub buyers was conducted. The online survey was a collaboration with food hub executive directors at Green Mountain Farm Direct and Windham Farm and Food. The survey asks buyers about their current purchasing habits, experience with materials and services provided by the hub, and challenges and opportunities buyers face in regards to increasing their local food purchasing in the future. The format of the questions varied – some asked the respondent to select from a dropdown list, while others provided a text box for the respondent to type in their answer. There were also frequent occasions for the respondent to provide comments, which added depth to the findings. The survey was built using LimeSurvey, a survey software, and distributed by the food hub managers to their network of buyers. 38 buyers responded to the survey. Combining the online surveys with the semi-structured interviews ensures a broad review, while the interviews provided an in-depth examination of these themes.

These methods were chosen to gain a deeper understanding of the practices employed by food hubs in Vermont and their buyer's perspective on these practices, yet there are limitations to the chosen research methods. By choosing to limit my study to food hubs within Vermont, the scope was limited and important observations and patterns about food hubs outside the state are not included in this study.

3.4. Data Analysis

I collected 19 pages of food hub buyer interview transcripts and 15 pages of food hub manager interviews. These transcripts are analyzed using grounded theory, a methodological approach to "demonstrate relations between conceptual categories and to specify conditions under which theoretical relationships emerge, change or are maintained" (Charmaz, 2002). The data that I have gathered is coded, categorized, and compared (between participants and against comparable studies done in the field) in order to generate my conclusions. This method was chosen because it provides explicit, sequential guidelines for conducting qualitative research, streamlines and integrates data collection and analysis, and legitimizes qualitative research as scientific inquiry (Charmaz, 2014).

Actors Interviewed	Date	Method	Sector
Food Hub Director A	January 25, 2016	Face-to-face interview	Producer-driven food hub focusing on expanding market opportunities for producers
Food Hub Director B	January 29, 2016	Face-to-face interview	Nonprofit-driven food hub focusing on forwarding their social mission
Food Hub Director C	February 8, 2016	Face-to-face interview	Consumer-driven food hub focusing on feeding the community by increasing the supply of local food available
Food Hub Director D	February 12, 2016	Face-to-face interview	Producer-driven food hub focusing on expanding market opportunities for producers
Food Hub Director E	February 16, 2016	Face-to-face interview	Retail-driven food hub focusing on expanding distribution networks and maintaining a competitive advantage
Buyer from Food Hub A	February 4, 2017	Phone interview	Restaurant
Buyer from Food Hub A	January 27, 2017	Face-to-face interview	Hospital
Buyer from Food Hub A	January 25, 2017	Phone interview	Corrections
Buyer from Food Hub A	January 25, 2017	Phone interview	School
Buyer from Food Hub A	April 7, 2017	Phone interview	Retail

Buyer from Food Hub B	April 5, 2017	Phone interview	School

Table 1: Description of Supply Chain Actors Interviewed

These transcriptions and audio files are coded using either HyperResearch or NVivo, both computer software designed to aid in the coding of qualitative data. I have done two rounds of coding (Strauss & Corbin, 1990). First, I conducted a round of preliminary open coding that identified predominant themes. This is an interpretive process by which the data is broken down analytically and given conceptual labels so that conceptually similar responses can be grouped together into categories. I conducted a second round of coding which identified emergent categories, better organized the results, and created a final codebook which will encapsulate the strong themes from the interviews.

Buyer Interviews

Code Book

Preliminary Code	**Predominant Themes**
Advertising	Info Sharing
Authentic	Values
Challenges	Adaptation
Communication	Info Sharing
Culture Shift	Adaptation
Customer Awareness	Info Sharing
Freshness	Values
Keep Doing	Adaptation
Large Scale Distributors	Adaptation
Local Economy	Values
Local Food Motivation	Values
Mission	Values
Opportunities	Adaptation
Prices	Info Sharing
Purchasing Behavior	Info Sharing
Quality	Values
Start Doing	Adaptation
Transparency	Info Sharing
Trust	Values

Table 2: Code Book

CHAPTER 4: RESULTS

4.1. Vermont Food Hub Profiles

The five food hubs represented below show a diverse representation of the types of food hubs present in the state of Vermont. The following profiles highlight the similarities and differences in the operations and business structure of these Vermont value chain actors. This information will help the reader understand the variety of models before exploring a detailed case study of two hubs, with a focus on the perspective of their buyers.

Producer-driven Nonprofit

Operational since 2007, this hub was founded by grant funding as a means for opening new markets for the producers they were supporting through other aspects of their nonprofit work (farm incubator and business planning programs). As part of a larger nonprofit organization, the food hub exists as an additional way for the organization to strengthen community food systems, however embodies its own philosophy in terms of the producers they choose to work with. Services additional to aggregation and distribution logistics are available to both consumers and producers working with the hub. As of 2015, the hub is covering operational expenses through earned revenue by servicing CSA and wholesale markets. In the coming year the organization expects an increase in sales, which exhibits a similar trend, albeit slower growth rate than the early years.

Nonprofit-driven Nonprofit

This organization represents one part of a co-dependent partnership with a fellow nonprofit organization whose roots are embedded in Farm to School programming. Responding to a big gap in the distribution system, specifically delivering to schools, this hub has been operating since 2010 and is driven to “cultivate healthy food and farm connections in classrooms, cafeterias, and communities.” The hub has decreased its grant funding from 100% initially, down to 10% in the past year. They serve predominately institutions, along with restaurants and retail markets, and provide additional services to both consumers and producers. Though it’s not imbedded in their mission, serving retail markets provides the resources they require to offer their other services. The hub anticipates an increase in sales in the following year and no dependency on grant funding.

Retail-driven Nonprofit

This hub is a part of a larger nonprofit which aims “to build a regenerative, locally based, healthy food system by engaging the greater community though collaboration opportunities, educational outreach and providing infrastructure.” This hub identified a gap in the local food system, which included distribution, processing, storage, and support for small businesses and receives grant funding to fill these gaps by facilitating producer-consumer relationships, offering a variety of additional services to both, and providing the physical infrastructure necessary for processing. The hub has been servicing institutional and retail markets since the year 2010 and generates enough revenue to cover the cost of operations. A growth in sales is expected in the following year.

Consumer-driven Nonprofit

This hub was founded in 2008 as a response to demands from schools in their community to have access to local food. It is a vital part of an organization focused on Farm to School programming with a mission “to deliver the freshest possible fruits and vegetables while working towards a more food secure northeast region.” A grant funded operation, this hub services predominately institutions and retail markets and provides additional services to both consumers and producers. The hub expects growth in the next year.

Producer-driven LLC

Since 2011 this hub has been coordinating a distribution system that channels local produce into chain retail establishments. The hub is an online platform that makes use of existing infrastructure to sell local produce in a wholesale market at a competitive price. It foresees growth in the next year and follows a mission “to deliver the freshest possible fruits and vegetables while working towards a more food secure northeast region.” This entity reported the highest dollar amount in gross revenue, but outside of coordinating aggregation and distribution, the hub provides no additional services to consumers or producers.

4.1.2 Themes

For the sake of increasing business viability and extending their mission, growing sales is a priority for these hubs. However, they face economic challenges in consumer purchasing habits and competition within the produce market as a whole, as well as the niche local produce market. The nonprofit hubs interviewed, all of whom coordinate their own distribution system, are not equipped with the physical resources to rival the mainstream agricultural distribution system. Securing a fair price for the local produce is difficult when competing with large scale growers in other parts of the country.

Additionally, hubs are struggling to reach conventional consumers who have not already begun to buy local produce. A barrier to this is access, which can involve not selling local produce where most consumers shop, in chain grocery stores, or a lack of retail settings that prioritizes education and social impact, where consumers feel more engaged in the local food system.

Beyond competing for consumers on the community scale, food hubs are in business against large conventional broad line distributors, who can offer the same distribution services as the nonprofit hubs – selling local food – without the technical assistance and relationship building that is a cornerstone of the nonprofit model. A threat to business, as expressed by the nonprofit cases interviewed, is the potential for bigger companies to "greenwash" their consumers by using the same words, but not applying the triple bottom line.

Next, this study examines a group of buyers from the nonprofit-driven and the consumer-driven food hub models, focusing on purchasing habits, motivation for local purchasing, communication techniques, marketing materials, budgeting strategy, and business mission.

4.2. Food Hub Buyer Profiles

The online survey reached 38 buyers This study reflects a broad representation of sectors, 11 in total, with the majority of participants falling into the category of school, hospital, or buying club. These hubs have purchased from one of the two food hubs for an average of 3.66 years. Years of purchasing ranged from 1-10 years, with 51.5% of buyers within the 1-2 year range, 30.3% of buyers in the 3-5 year range, and 18.2% of buyers in the 6-10 year range.

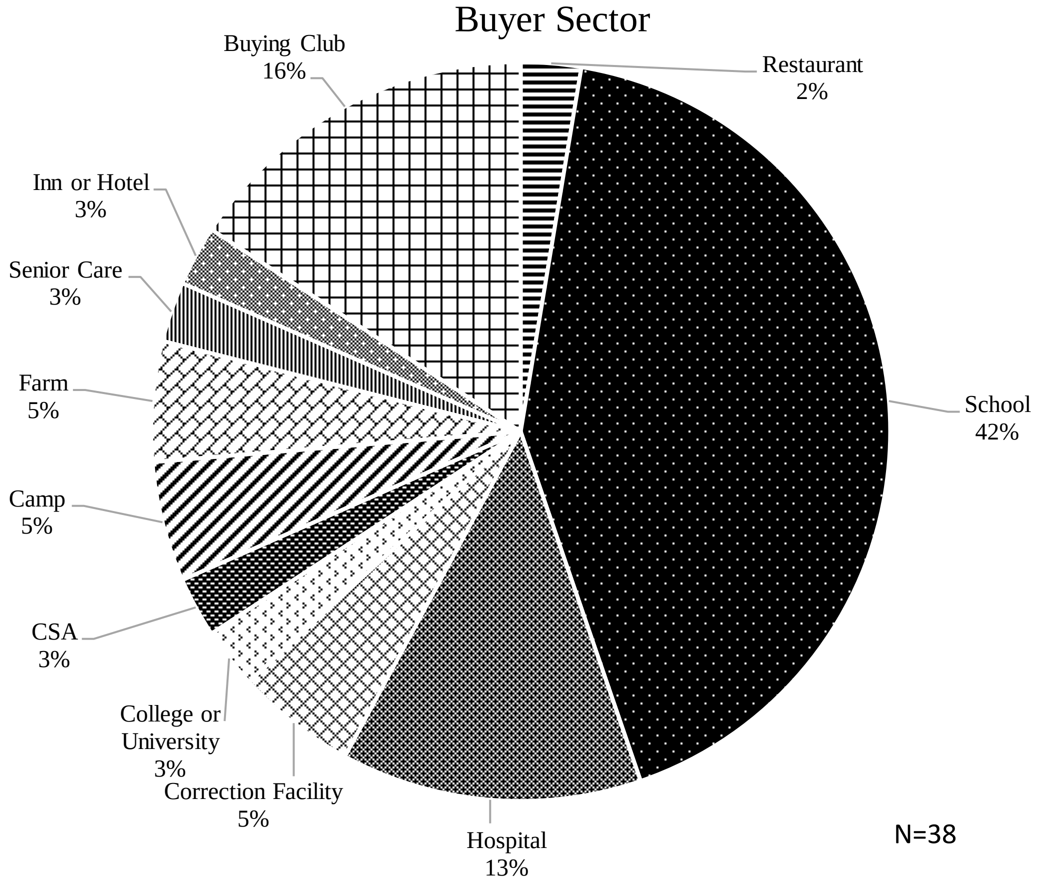

Figure 2. Food Hub Buyer Sector

Figure 3. Years of Purchasing from Food Hub

4.2.1. Purchasing Behavior

The majority, 68%, of buyers have increased their purchasing since the food hub opened. In the last year 55% of buyers reported increasing the amount of local food purchased through the hub. 93.1% of buyers reported that, in the last year, their purchasing either stayed the same or increased. The majority of buyers reported Price (75.9%), Delivery Days (55.2%), Availability (55.2%), and Seasonality (51.7%) as one of their top five barriers preventing them from increasing their purchasing. A small minority reported infrastructural barriers as significant preventions, such as equipment to process and prepare (3.4%) and labor to process and prepare (17.2%). Lack of demand was only sighted as a barrier by 13.8% of buyers.

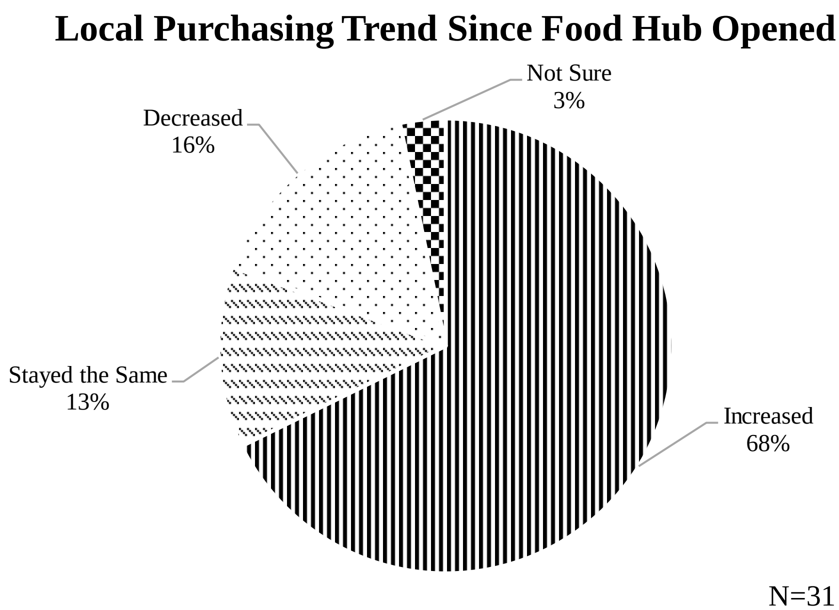

Figure 4. Local Purchasing Trend Since Food Hub Opened

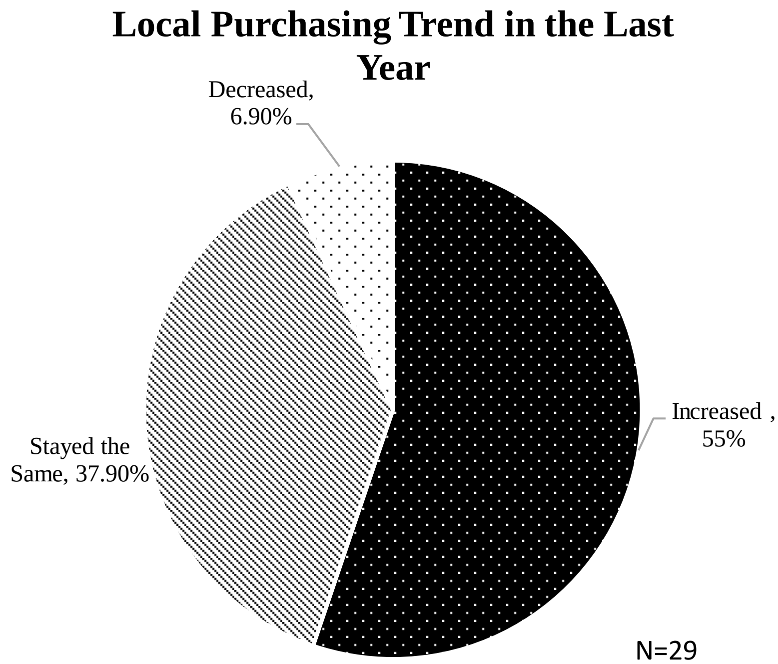

Figure 5. Local Purchasing Trend in the Last Year

4.3. Buyer Motive

4.3.1. Supporting their Mission

The majority of buyers are motivated to purchase local through the food hub in order to support local vendors (87.2%) and because of product quality (56.4%). Other strongly influencing factors include environmental reasons (43.6%), source identification (39.5%) and ease of purchasing (30.8%). The majority of buyers, 92.9%, are either satisfied or very satisfied by the services provided by the food hub.

Reason for Purchasing Through Food Hub

Supporting Local Vendors	87.2%
Product Quality	56.4%
Environmental Reasons	43.6%
Source Identification	39.5%
Ease of Purchasing	30.8%
Product Access	28.2%
Marketing Potential	15.4%
Affordability	12.8%
	N=39

Table 3. Reason for Purchasing Through Food Hub

In their own words, buyers are motivated to purchase more due to the increase in quality, availability, and local awareness from their customers. An increase in the products available and the increased attention buyers have noticed in the local food movement have encouraged them to build their food program around purchasing quality, seasonal, and locally produced product. Schools and school districts expressed an increase in demand and awareness. Hospitals reported purchasing through the hub due to the local food being the best practice for their patients and staff, as well as the ability to support the local community and buy great quality food from the food hub.

Buyers are heavily motivated to purchase through the food hub in order to fulfill various pillars of their business mission.

"We like the fact that it's right from our community – from people who live and work here."

Other pillars of food hub buyer's business missions involve strengthening the Vermont agricultural network, facilitating bridging through education and awareness, and encouraging environmentally sustainable practices. Buyers purchase locally through the hub to support the network of farmers, many of whom have been in business together for years, but have moved away from direct sales to purchasing through the hub in order to support the hub's work and mission. In addition, the hub provides resources and materials the buyers can employ through farm-to-school programming and community awareness campaigns, which is a service that would not be possible through other distributors. Buyers expressed increased confidence in the production methods of local farmers, noting that getting to know the producers through hub coordinated events has helped increase understanding.

4.3.2. Top Quality Customer Service

Buyers reported positive experiences with customer service interactions, which was a motivating factor in their decision to purchase local food through the hub. Buyers are able to put in requests for certain products or quantities and have flexibility around their ordering schedule, which is especially accommodating for those buyers operating around a school schedule. Depending on the storage capacity of the business purchasing local food, their processing facilities, and menu variability, buyers need a variety of different accommodations in order to incorporate local foods into their buying practices.

Buyers report successful communication and implementation of these unique accommodations, which has made it feasible for them purchase (or increase the purchasing of) local foods.

Buyer Satisfaction		
Very Satisfied	32.1%	
Satisfied	57.1%	
Somewhat Dissatisfied	7.1%	
Dissatisfied	0%	
		N=28

Table 4. Buyer Satisfaction

"We buy berries through the hub. We use them a lot in the kitchen but they're in these big zip lock bags and we didn't have a frozen local berry. I didn't want to have to put these huge bags that I have to sell at a high price in the freezer and I didn't want to have to bag them myself so I was able to call and say, "hey is there a way they can do a smaller packaging" and they were like, "yeah, okay, no problem." It was a quick, easy conversation and totally solved the problem."

These requests range from additions to product selection, packaging or processing adaptation, to delivery time and fluctuating orders on a month-to-month basis. In-person communication, via phone or email, and a quick response rate is reassuring for buyers.

Any issues have been resolved quickly, requests or alterations are processed duly, and requests for information are delivered transparently. Buyers also reported that the opportunity to give feedback and provide their perspective made for a more confident transaction and repeat business.

"I am able to communicate my needs/feedback with the hub. I can just email the coordinator about something I am looking for, for example what I did yesterday was just email the coordinator and they are right on it."

4.3.3. Increased Information

From the suite of marketing strategies offered by the food hub, the most effective overall are the comprehensive list of all local products sourced from the buyer and the ability to consistently purchase local products all year long. Additionally, shared identity and stories form the farm or producer were reported to be very effective by the majority of buyers.

Table 5. Marketing Strategy Effectiveness

Marketing Strategy	*Very Effective*	*Somewhat Effective*	*Neither Effective or Ineffective*	*Somewhat Ineffective*	*Very Ineffective*	*Not Applicable*	
List of Locally Sourced Products	69.6%	17.4%	4.3%	4.3%	4.3%	0%	N=23
Consistency – Ability to Serve a Local Product All Year	61.9%	23.8%	14.3%	0%	0%	0%	N=21
Sharing Stories from the Farm or Producer	60%	25%	10%	0%	5%	0%	N=20
Sharing the Name of the Farm or Producer	54.2%	29.2%	8.3%	8.3%	0%	0%	N=24
Highlighting Dishes that Use Local Products	47.8%	34.8%	17.4%	0%	0%	0%	N=23
Your Percentage of Local Purchasing	29.4%	35.3%	0%	17.6%	11.8%	5.9%	N=17

"You're putting trust in the food hub to deliver these products and investing in these products and you want to work with someone who cares about this and has a stake

in this because if I'm just talking to some executive, they're just looking at that bottom line - he's just going to tell me what I want to hear. A stakeholder vs. a salesman."

Many of the buyers included in this study used the point-of-sale, education, and promotional materials provided by the hub. The food hub provides services such as marketing materials showing the farms and families, calendar and recipe cards, harvest of the month campaign, signage, and promotion through newsletters and word of mouth, which are a few of the tactics that were reported to be most successful. These practices attracted consumer attention, prompted further question and inquiry by the consumer, and helped spread general awareness about the business practice. Buyers found these methods of communication to be an opportunity to share information with the public, but also touted generally as "just good business." The buyers involved in this study represented a range of consumer interest, but reported increased awareness and appreciation in each diverse setting.

"The bigger distributors do this to an extent, they have a lot of resources and they come through with a lot of materials but its targeted more for selling the food and getting you to buy more and less for creating more transparency through the supply chain."

Barrier	*Percent of Buyers Identifying as top 5 Barrier*
Price	75.9%
Delivery Days	55.2%
Availability	55.2%
Seasonality	51.7%
Storage Space	37.9%
Quantity	34.5%
Existing Buying Obligations or Contracts	27.6%
Labor to Process and Prepare	17.2%
Other	17.2%
Lack of Demand	13.8%
Menu Compatibility	13.8%
Equipment	3.4%
	N=29

Table 6. Barriers to Purchasing

4.4. Do food hubs provide necessary information to satisfy consumer demand?

There is a prominent link between consumer demand for local food in the marketplace and what motivates buyers to purchase through food hubs. According to the

2011 U.S. Grocery Shopper Trends study by the Food Marketing Institute, the top reasons for buying locally grown food were freshness (83 percent), supporting the local economy (68 percent), and taste (53 percent) (Institute, 2015). Consumers also reported interest in factors such as the environmental impacts of growing food and supporting family farms, the nutritional value of local food, and supporting a food system that reinforces social relationships (Brown, 2003; T. Selfa & Quazi, 2005). These mirror the top reasons that buyers chose to purchase through food hubs – the number one reason being supporting local vendors (87.2%) and the second being product quality (56.6%) (Product quality can be linked to consumer desire for freshness and taste). Buyers also reported being motivated to purchase from food hubs due to environmental reasons (43.6%), which was included in the top reasons that consumers chose to purchase local food. Other factors important to consumers, including growing social networks and providing nutritionally beneficial food, were discussed in detail during the interviews with food hub buyers, and is evident through the diverse buyer sectors we were able to reach through – including schools and hospitals, both of whom are responsible for nurturing vulnerable members of our population.

Recent observations in the marketplace allude to a change in consumer priority – customers are more interested in purchasing local foods than purchasing organic (L. Zepeda & Deal, 2009). This pattern was reported by food hub buyers in interviews, who reported observing more customers asking about the origin of the product and if it was local rather than if it was organically produced. Additionally, customers took more notice or had more interest in food that was promoted as local, rather than food that was labeled or certified organic. The 2009 study by Zepeda & Deal cite trust as a major reason why customers have a higher desire for local than organic food. Customers feel wary that large corporations such as Wal-Mart sell organic products, as they are known for having a lack of respect for the environment, cheap or poor-quality products and being solely focused don making a profit. The literature reports customers feel purchasing organic food is a way to combat the takeover of the food system by corporations, and encompasses attributes of trust, integrity and 'people who care'. These themes came up during interviews with food hub buyers, who emphasized their trust in the food hub to provide them with quality produce that is truly local and authentic.

4.4.1. Buyer Motivation and Consumer Demand

Buyers are aware of the increasing consumer demand for local food and are incorporating those values into their own business models and missions. However, to ensure those values buyers seek out information that was once only available through traditional direct-to-consumer transactions. Food hubs provide a suite of services to fill role.

A main pillar of the food hub business model is to expand markets for farmers by getting their produce in more retail locations. Food hubs take on the sales and distribution duties that farmers must engage in when selling direct-to-consumer. These direct-to-consumer sales, such as sales that take place at farmers markets, have been successful as they provide an opportunity for the producer to tell their story, interact with their buyers in person, create relationships, establish their presence in the community, and provide more transparency in regards to food production (Carson et al., 2015; Marsden et al., 2000). This type of information sharing allows consumers to better connect with the producers and the place where it was produced, while offering a platform to ask any questions regarding the credence qualities or associated attributes of the food that are most important to them. Food hubs recreate the direct-to-consumer sale by providing a suite of services to both the producers and buyers in order to maintain that level of transparency throughout the supply chain.

This study looked at the marketing services offered to buyers by food hub. These include providing detailed information on the source of the product, sharing information, stories and photos from the farm, tabulating the buyer's percent of local purchasing, highlighting dishes or recipes that use seasonal local products, and consistently serving local products throughout the year. These serves are comparable to the conversations that may take place in the face-to-face, direct-to-consumer transactions (one of the most novel elements of the experience). In addition, buyers expressed ease and assurance in their ability to call or email the hub when looking for specific attributes or nutritional information about the food products, meaning that they have an efficient way to get additional information if sought by the consumer.

This comparison forms a strong argument in favor of the food hub business models' ability to recreate the direct-to-consumer transaction. Food hub services are meeting consumer demand, and buyers feel good about it. The majority of buyers in this study have increased the amount of local purchasing from the hub over time and report being satisfied or very satisfied with the food hub.

Food hubs use these services to attract and retain buyers, as they are one of few sources buyers can use to acquire all of the information they need to satisfy their customers and maintain their business mission. Buyers have many positive things to say about these services and have experienced success employing these materials to convey information from the producer to the consumer.

4.5. How do buyers afford to buy local through food hubs?

4.5.1. Quantity

"Local is definitely more expensive, some of it is organic. My philosophy is I will save it someplace else, if I'm going to buy it from the hub I need to save some place else and it hasn't been a problem."

Buyers determine how much local food they can purchase through the hub on varying budgets based on different determinants. Buyers will often source from a mix of vendors in order to fulfill their produce needs within their budget, while also incorporating local food into the mix. Purchasing through the hub can be more expensive than buying from larger distributors or direct from farmers. This is financially balanced by supplementing local purchasing from the hub with produce from those other vendors. To do this, many buyers compare prices for different products across the board. This task, though seemingly very time consuming, was reported to be a practice that is feasibly incorporated into the cost analysis that is necessary whether or not local food is purchased. This can also be done on a per-meal basis, as buyers reported successfully incorporating local food from the food hub into school meals with about 20 cents to spend per serving. However, buyers did identify a spending limit. When the prices difference between local and non-local is too high, buyers look for options elsewhere.

"First, I look at volume because unfortunately everything comes down to money, so I'll start with volume. I'll try and figure out how many pounds of that item we're going to use per week and if it's high volume I have to justify the extra cost with local. The lesser of something I use the easier it is to justify."

While generally more expensive than its conventional counterpart, local food can sometimes be the more financially advantageous purchase. Food hubs work with buyers to find the best deals, whether those be second-quality produce or large harvests from their farmers. Other factors, such shrink-yield, can help buyers justify spending more on local products. More delicate products with shorter shelf lives, such as salad greens, hold up better and can be used for longer periods of time if purchased locally.

"If I buy locally I'm generally only getting a 2-4% shrink yield, the outer leaves that need trimming or things like that. If I'm talking about a commercial product that comes from across the country I'm talking a minimum of 7 days before it lands on my dock from when it was harvested. This brings dehydration, decay, and other factors that usually cost anywhere from 5-9% yield. So that gap is affording me to buy something here at a more expensive price because I'm saving anywhere from 3-5% so I can really pay a bit more there and I'm still break even."

4.5.2. Quality

The quality of the food is crucial for strategically incorporating local food into purchasing practices. Buyers are attracted to the freshness, quality, and flavor that they get from local sources. This factor influences buyer's decision to buy from one source over another. Buyers reported basing these decisions on their experience with and perception of the quality of the food for sale, especially when the prices did not differ drastically. Not only does taste and presentation motivate local purchasing, but their fresh condition allows for longer shelf life, beneficial to the vendor and the end consumer.

"We can add time to the produce we purchase locally, it has just been picked and washed and so we can add another week to the life of that item, it lasts longer for us and our customers."

An additional strategic factor for incorporating local food is based on the application of the food purchased. Buyers who processed the food purchased from food hubs, such as restaurant and school chefs, reported investing in high-quality, local food that would be apparent in the final product. Recipes which star the local inputs are viewed as a better investment – the quality is more apparent to the end consumer, thus more heavily emphasizing the connection between producer and consumer. This reinforces the business mission and adds to the perceived value of the food. When asked how they made decisions about buying local, one buyer described the importance of quality:

"I look at if it's something I really want to use and how I'm going to use it and if the quality is going to be there. The beef is a great example, it is more expensive but we justify it because we make our own burger patties and those compared to other beef is just night and day. It is well worth the expense."

4.5.3. Convenience & Customer Service

Businesses are able to incorporate more local purchasing into their model with the convenience of the food hub. Buyers save time ordering through the hub instead of buying direct from a variety of sources. Many buyers studied demand high volume of singular products, which is a difficult quota to reach when working with an individual producer. Working with the food hub has saved time, eased bookkeeping and budgeting, and expanded the range of products available for purchase.

"More convenient the more you can buy from one place, saves time. Price – it's cheaper if we buy it direct, but that hasn't impacted our decision when purchasing through the hub. You're paying for the convenience factor."

A predominant element of the business missions studied is that of building and sustaining the local and regional economy. By buying local food, buyers expressed feelings of reciprocity among growers and patrons, citing the common occurrence of their producers patronizing the establishment. The hub preserves the producer identification for the food it distributes, ensuring that businesses have the information they need to create and further this link between consumer and producer. This link serves as to educate, promote, and celebrate the pride associated with food that was produced from the people that live and work in the community. This aligns with the motive to invest in the health of the community and the local economy. Buyers purchased local food with the intention of offering more information regarding production methods and health information. This is only feasible through the hub, as they offer up the transparency that buyers need to follow through on this mission.

"We are trying to build and keep the local economy growing and we often see those farmers in the dining room once or twice a week and morally it just makes a lot more sense."

By providing such a high level of customer service, buyers are motivated to continue a relationship with the food hub long after the first transaction.

Transparency plays a huge role in the motivation behind buyer purchasing through the food hub. Food hubs provide easy access to the information buyers need in order to deliver on different business missions. Buyers can receive information from the hub about where the food was produced, who produced it, and production methods through a variety of information streams. In these specific cases, that information is listed on the order screen, so buyers know exactly where the food was produced at the time of purchase. In addition, buyers expressed ease and assurance in their ability to call or email the hub when looking for specific attributes or nutritional information about the food products.

The food hub conducts business in such a way that buyers feel confident purchasing local food through the hub. They feel a close connection between the producers and the hub, as evidenced by the level of information the hub was able to provide about the food. Meet-and-greet events put on by the hub also helped increase the transparency within the supply chain. In addition, these food hubs have established themselves as a credible source for this transparency through the personal approach and communication that is a staple of the food hub business model. The hub is invested in furthering the same mission as its buyers, making it more of a stakeholder in the local food system rather than a salesman. These tactics have motivated buyers to increase purchasing, by informing them of other local products available in their area.

"Bottom line is they call themselves farm direct and its true, they source directly from the source. Other companies, short of reading the labels on the box, it's almost impossible to know where the food is from. Those companies are sourcing out of a warehouse so they are one step removed, or added, already a loss of connection happens between the source and the warehouse then direct. And scale too, we are a lot smaller of a chain then the other companies."

CHAPTER 5: DISCUSSION

Overall, buyers expressed great satisfaction with current food hub practices and performance. However, there is ample opportunity to address the challenges and capitalize on the opportunity voiced by food hub buyers.

5.1. Comparison of National Data

The five food hubs included in this study are all mission-driven businesses. These missions include themes such as strengthening the local food system, increasing sustainability and resiliency, strengthening ties and collaboration between farms, schools, and community, growing markets for farmers, providing training to farmers in regards to business planning and sustainable production, providing the infrastructure needed to work towards a more food secure region, and increase access and availability to fresh fruits and vegetables. This represents a population that is heavily invested in the value areas categorized by the 2015 national study (Hardy et al., 2016). These themes correspond to the top values most encompassed in the mission statements of hubs across the country – increasing small/mid-sized farmers'/ranchers' access to markets, ensuring producers/suppliers receive a fair price, promoting environmentally sensitive production practices, and improving health in your community.

5.2. Implications

Analysis of the data provides insight into the following questions: how food hub buyers can increase ordering, how buyers can sell more local product, and how buyers can better market local food. In the following section I will discuss these findings and what they mean for the food hub business model and the local food system.

5.2.1 How can buyers increase ordering?

Buyers identified aspects of the food hub model that limit their capacity to increase order size. Ordering a week in advance was a challenge for many buyers, as it requires more advanced planning and coordinating amongst staff. Similarly, delivery times can also pose a challenge for buyers operating on alternative schedules, such as schools and institutions. Delivery time can be difficult to coordinate with kitchen hours and school calendars. Facilities must also have the infrastructure to store the produce for the week, which poses a significant challenge for many buyers. Additionally, as the inventory online isn't live, occasionally buyers will place an order to find that the hub doesn't have adequate volume, which can be a risk for buyers relying on the hub for certain products.

"I don't buy as much as I think we should. I think I would buy more if the delivery was more than once a week. I don't have the storage space to keep things and then space it out over the week. Storage for us is tight."

Buyers are also limited by elements such as the diversity and seasonality of the product selection and labor needed to process the produce. Many buyers are operating on tight budgets, which doesn't allow for much flexibility on price point. Buyers identified these challenges, however each had found ways to work with the food hub to create a relationship that made buying local feasible and increasingly more convenient.

Food hubs can use this data when considering changes to business structure and services. When considering scaling up certain aspects of their operation, this data indicates that changes in delivery times and frequency would make it possible for hubs to increase their purchasing.

5.2.3. How can buyers sell more local products?

"Hanging up the farmers picture and sharing where produce came from them is just good business"

The buyers interviewed are committed to their local mission. However, in order to purchase a higher quantity of local food it is crucial that they increase sales, participation, and consumer and community education. Buyers have been working independently and with food hubs to reach consumers through a variety of creative education and marketing campaigns. Buyers see great opportunity increasing sales and consumption of prepared meals through programs such as the harvest of the month, which promotes seasonal foods through advertising materials and signage, and farm to school programming, which gets students and teachers involved in the local food mission. Buyers report successful implementation of this type of programming, however more is needed in order to continue to increase their purchasing power and grow the local food scene.

5.2.3. How can buyers better market local food?

Buyers have many positive things to say about the marketing materials provided by the food hub. Many buyers have continually relied on staff to communicate local product to the consumer, however these buyers have also incorporated the materials and signage provided by the hub into their marketing plan. The strategies mentioned by buyers as most effective include informative pieces about the families and farms who produce the food, recipe cards, labeling using vendor name or radius, social media and online promotion, and posters and signage.

"We have come across this when marketing our specials and you email it, put signs up, promote it on social media, but it's the huge displays that really stop people and grab attention. That's harder for us in smaller spaces. We have limited space so that is a challenge for stores our size trying to promote these foods."

However, these strategies are not one-size-fit-all. Buyers have to adapt these strategies to work effectively in their unique environment. Elements that must be considered when adapting these strategies are: space and size of building, age of audience, and nature of the venue.

"*This is actually one thing that we fail to monopolize on – its hard to put the word about how much we buy and use, part of that is being a new business and not realizing the potential that could create for us"*

Buyers report varied levels of customer awareness based on these different tactics. Much of the material geared for schools solicited enthusiastic responses from students as well as school staff. Buyers are skeptical as to whether or not these materials actually increase student and staff participation in lunch, however there are many claims that these promotions are key in starting conversations and increasing awareness.

Those vending prepared foods or groceries also noted customers making new connections between the food and its source as a result of the promotional material from the hub, recognizing local producers, and being more willing to try new products.

"I think the perception around local is, too expensive, can't afford it. And I think to a certain extent that's true but what I would like to see is somehow still have a connection with the farmers – a time when buyers and producers could meet and talk about pricing and affordability and what is realistic – we don't want to insult anyone by only paying a certain amount but we are so constrained by budgets that it's a conversation we have to have."

Looking forward, buyers expressed the desire to make local food more accessible through partnership and collaboration – a rich opportunity for the food hub. Communicating and reinforcing the value of local food through product sales accompanied by promotional materials, more physical exposure to the farms and farmers for students (i.e. field trips, farmer visits, farmers markets in schools), and more creative labeling for store settings were a few of the ideas expressed by buyers.

5.3. Outreach and strategy

The buyers interviewed are committed to their local mission. However, in order to purchase a higher quantity of local food it is crucial that they increase sales, participation, and consumer and community education. Buyers have been working independently and with food hubs to reach consumers through a variety of creative education and marketing campaigns. Buyers see great opportunity increasing sales and consumption of prepared meals through programs such as the harvest of the month, which promotes seasonal foods through advertising materials and signage, and farm to school programming, which gets students and teachers involved in the local food mission.

Buyers report successful implementation of this type of programming, however more is needed in order to continue to increase their purchasing power and grow the local food scene. Buyers have many positive things to say about the marketing materials provided by the food hub. Many buyers have continually relied on staff to communicate local product to the consumer, however these buyers have also incorporated the materials and signage provided by the hub into their marketing plan. The strategies mentioned by buyers as most effective include informative pieces about the families and farms who produce the food, recipe cards, labeling using vendor name or radius, social media and online promotion, and posters and signage.

Buyers report varied levels of customer awareness based on these different tactics. Much of the material geared for schools solicited enthusiastic responses from students as well as school staff. Buyers are skeptical as to whether or not these materials actually increase student and staff participation in lunch, however there are many claims that these promotions are key in starting conversations and increasing awareness.

Those vending prepared foods or groceries also noted customers making new connections between the food and its source as a result of the promotional material from the hub, recognizing local producers, and being more willing to try new products. Looking forward, buyers expressed the desire to make local food more accessible through partnership and collaboration – a rich opportunity for the food hub. Communicating and reinforcing the value of local food through product sales accompanied by promotional materials, more physical exposure to the farms and farmers for students (i.e. field trips, farmer visits, farmers markets in schools), and more creative labeling for store settings were a few of the ideas expressed by buyers.

This information can be used by buyers to attract and retain new buyers, grow sales, and further their mission. By incorporating buyer testimonials into promotional material, hubs can offer a trustworthy source for fielding frequently asked questions, sharing strategy, and attracting customers who may have otherwise deemed local food as having to many barriers to purchasing. This data can be used to inform food hub marketing practice by understanding from the buyer perspective where hubs should invest the most energy and capital into their programming. Additionally, there are areas of growth identified by the buyers that can help the hubs adapt their programming to be more accessible to buyers.

This study plays an important role in defining the role of the food hub in a complicated food system that is becoming ever more complicated as retailers of varying scales have begun to offer local food options. As buyers are approached with the option to purchase local food from larger scale distributors, this study begins to understand why buyers chose to take the extra steps (often investing more time and energy) to purchase through the food hub instead of one mainline distributor, where they often do the bulk of their purchasing. This study finds that buyers utilize the information sharing service provided by food hubs that aren’t found with conventional distributors. Food hubs are filling this information gap. Consumers are seeking out information about the food so that they can make their purchasing decisions align with their values and beliefs. Food hubs are working to convey this information by increasing transparency throughout the supply chain, maintaining their reputation as credible merchants and sources of knowledge, and preserving the authentic nature of the direct-to-consumer transaction on which the local food movement was born.

5.3. Future research

Further research should be directed towards understanding what types of marketing materials will effectively communicate these values in the different sectors that sell local food. More specification is needed to effectively communicate the range of consumers that the food hub reaches through its diverse buyers. More research and collaboration is needed to understand how to adapt these marketing materials and communication methods based on the demographics of the consumer and the characteristics of the vendor space. I believe that growing this approach will boost buyer’s confidence in buying local products, as well as have an impact on customer participation. Customers are demanding more local food, we are scaling up production and infrastructure, however the methods of communication must be grown and developed at an equal rate in order to ensure the authenticity of local food, without which it loses so much of its inherent value.

CHAPTER 6: CONCLUSION

6.1. Food Hubs Bridging the Information Gap

It is evident that there is growing consumer demand for local food. Consumers are using their purchasing power to seek out products that align with their values and beliefs (Zepeda & Deal, 2009). Customers will even pay a price premium for food with certain attributes, depending on how highly they prefer them of how much utility they gain from them (C. Bond, Thilmany, & Keeling Bond, 2008). The restaurants, grocery stores, retail locations, institutions, and other establishments included in this study have embraced this consumer trend and begun increasing the amount of local food offered. In some instances, these establishments have held these values and mission for many years, but as the local food scene has grown and local food has become more available, they are able to increase their local purchasing.

As the local food scene grows, the unique role of the food hub in the food value chain must be better understood. This study examined food hub services from the perspective of buyers to understand why buyers chose to purchase their local food from them. Different types of distributors and companies are beginning to offer local food options for buyers along with their traditional conventional choices. One can anticipate that these options will continue to grow if consumer interest in local food continues to trend upwards.

The second round of interview coding revealed three large themes, information sharing, values, and adaptation. The first two themes, information sharing and values, are two critical pieces of the food hub business model that have been cited as ways of preserving transparency in the supply chain. Information sharing, or simply, increased knowledge about the food products is the way to expand demand for locally produced food. Bond et al. claims that from a marketing standpoint, expanding demand for locally produced food "may depend critically on the extent that production practices provide and give assurances with respect to private, rather than public benefits" (Bond et al., 2009). This sharing of information can influence and inform consumers' attitudes and purchasing behavior (Brown, 2003; Mirosa & Lawson, 2012; Robinson-O'Brien et al., 2009). This information has customarily been shared face-to-face in direct-to-consumer transactions, but must be scaled up to meet the demands of the growing local food system. A study found that consumers who shop for food based on their beliefs or values place value in certifications of public attributes, such as organic, GMO free, free range, grass-fed, etc. (C. Bond et al., 2008). However, currently there is no certification for local food or any of the attributes that are associated with it. Consumers are seeking out information about the food so that they can make their purchasing decisions align with their values and beliefs and food hubs are providing the information necessary to make this happen.

6.2. Study Limitations

This study reports on the strategies that food hubs use convey information from the producer to the consumer. The success of this often relies on the involvement of establishments that buy from the food hub, who then deliver the product to the end consumer. This study includes buyer opinion on what services provided by the food hub are successful in improving business and transferring information, as well as reviews and recommendations on logistical elements of the business model that would help improve the capacity of the buyers to increase their purchasing. We included many different sectors in our study, which resulted in the discovery that a “one-size-fits-all” strategy for developing marketing materials would not be useful for many buyers. However, these diverse buyers all faced similar challenges, such as tight budgets and limited time, which they addressed using methods and strategies described in this study.

This study was limited to the buyers of two distinct food hubs in the state of Vermont. Future research that expanded the population would provide insight into if and how differently food hubs convey information based on their business structure, customer base, mission, etc.

REFERENCES

Abatekassa, G., Peterson, H.C. (2011). Market Access for Local Food through the Conventional Food Supply Chain. *International Food and Agribusiness Management Review, 14*(1), 41-60.

Arrow, K. (1970). The organization of economic activity: issues oertinent to the choice of market versus non-market allocation. *Public Expenditure and Policy Analysis*, 59-71.

Azuma, A., & Fisher, A. (2001). *Healthy Farms, Healthy Kids: Evaluating the Barriers and Opportunities for Farm-to-School Programs*. Retrieved from Venice, CA: http://foodsecurity.org/pub/HealthyFarmsHealthyKids.pdf

Barham, J., Tropp, D., Enterline, K., Farbman, J., Fisk, J., & Kiraly, S. (2012). *Regional Food Hub Resource Guide*. Retrieved from Washington, DC:

Bazzani, C., & Canavari, M. (2017). Is local a matter of food miles or food traditions? *Italian Journal of Food Science, 29*(3).

Bloom, J., & Hinrichs, C. (2011). Moving local food through conventional food system infrastructure: Value chain framework comparisons and insights. . *Renewable Agriculture and Food Systems, 26*(1), 13-23.

Bond, C., Thilmany, D., & Keeling Bond, J. (2008). Understanding Consumer Interest in Product and Process-Based Attributes for Fresh Produce. *Agribusiness, 24*(2), 231-252. doi:10.1002/agr.20157

Bond, C. T., Dawn; Keeling Bond, Jennifer. (2008). Understanding Consumer Interest in Product and Process-Based Attributes for Fresh Produce. *Agribusiness, 24*(2), 231-252. doi:10.1002/agr.20157

Brown, C. (2003). Consumers' preferences for locally produced food: A study in southeast Missouri. *American Journal of Alternative Agricultural, 18*(4), 213-224. doi:10.1079/AJAA200353

Bureau, U. S. C. (2015). Total retail and food services sales in the United States from 1992 to 2015 (in trillion U.S. dollars).

Carson, R., Hamel, Z., Giarrocco, K., Baylor, R., & Mathews, L. (2015). Buying in: the influence of interactions at farmers' markets. *Journal of Agriculture and Human Values, 33*(4), 861-875.

Charmaz, K. (2002). Qualitative interviewing and grounded theory analysis *Handbook of interview research* (pp. 675). Thousand Oaks, CA: Sage.

Charmaz, K. (2014). *Constructing grounded theory*. Thousand Oaks, CA: Sage.

Chase, L., & Grubinger, V. (2014). *Food, Farms and Community: Exploring Food Systems*: University Press of New England,.

Coase, R. H. (1937). The nature of the firm. *Economica, 4,* 386-405.

Congress, t. (2008). *Food, Conservation, and Energy Act of 2008 - Title I: Commodity Programs*.

Conner, D., Campbell-Arvai, V., & Hamm, M. (2008). Value in the Values: Pasture-Raised Livestock Products Offer Opportunities for Reconnecting Producers and Consumers. *Renewable Agriculture and Food Systems, 23*(1).

Conner, D., Colasanti, K., Brent Ross, R., & Smalley, S. B. (2010). Locally Grown Foods and Farmers Markets: Consumer Attitudes and Behaviors. *Sustainability, 2*, 742-756. doi:10.3390/su2030742

Conner, D., King, B., Koliba, C., Kolodinsky, J., & Trubek, A. (2011). Mapping Farm-to-School Networks Implications for Research and Practice. *Journal of Hunger & Environmental Nutrition, 6*, 133-152.

Conner, D., Smalley, S., Colasanti, K., & Brent Ross, R. (2010). Increasing Farmers Market Patronage: A Michigan Survey. *Journal of Food Distribution Research, 41*(2), 26-35.

Council, I. o. M. a. N. R. (2015). *A Framework for Assessing Effects of the Food System* (Vol. 5). Washington (DC): National Academies Press (US).

Darby, M., Karni, D. (1973). Free competition and optimal amount of fraud *Journal of Law and Economics, 16*, 67-88.

Day-Farnsworth, L., McCown, B., Miller, M., Pfeiffer, A. (2009). *Scaling up: meeting the demand for local food*.

Definition of local and locally grown, 2465a, The Vermont Statutes Online, Title 09: Chapter 063: Subchapter 001 Stat. (2007).

Diamond, A., & Barham, J. (2012). *Moving Food Along the Value Chain: Innovations in Regional Food Distributions*. IDEAS Working Paper Series from RePEc. Working Paper. Federal Reserve Bank of St Louis.

Diamond, A., Barham, J., & Tropp, D. (2009). *Emerging market opportunities for small-scale producers: Proceedings of a special session at the 2008 USDA Partners Meeting.*, Washington, D.C.

Diamond, A., Tropp, D., Barham, J., Muldoon, M., Kiraly, S., Cantrell, P. (2014). *Food Value Chains: Creating Shared Value to Enhance Marketing Success*. Retrieved from Agricultural Marketing Service.

Diamond, A. B., J. (2012). *Moving Food Along the Value Chain: Innovations in Regional Food Distributions*. IDEAS Working Paper Series from RePEc. Working Paper. Federal Reserve Bank of St Louis.

Feenstra, G. (2002). Creating space for sustainable food sustems: lessons from the field. *Agriculture and Human Values, 19*(2), 99-106.

Feenstra, G., & Hardesty, S. (2016). Values-Based Supply Chains as a Strategy for Supporting Small and Mid-Scale Producers in the United States. *Agriculture, 6*(39).

Feenstra, G. H., Shermain. . (2016). Values-Based Supply Chains as a Strategy for Supporting Small and Mid-Scale Producers in the United States. *Agriculture, 6*(39).

Fernqvist, F., & Ekelund, L. (2014). Credence and the effect on consumer liking of food - a review. *Food Quality and Preference, 32*, 340-353.

Fischer, M., Hamm, M., Pirog, R., Fisk, J., Farbman, J., & Kirlay, S. (2013). *Findings of the 2013 National Food Hub Survey*. Retrieved from http://kresge.org/sites/default/files/2013-national-food-hub-survey.pdf

Fisk, J., Barham, J., Collier, K., Carmody, D. (2011). Food Hubs Viable Regional Distribution Solutions. *An NGFN Webinar*. [Webinar]

Fund, V. S. J. (2011). *Farm to Plate Strategic Plan, Executive Summary*. Retrieved from

Glesne, C. (2015). *Becoming qualitative researchers: an introduction* (5 ed.): Pearson.
Grebitus, C., Menapace, M., & Bruhn, M. (2011). Consumers' use of seals of approval and origin information: evidence from the German pork market. *Agribusiness, 27*(4), 478-492.
Grunert, K. G. (1997). What's in a steak? A cross-cultural study on the quality perception of beef. *Food Quality and Preference, 8*, 157-173.
Gunderson, G. (2015). National School Lunch Act. Retrieved from https://www.fns.usda.gov/nslp/history_5
Guptill, A., & Wilkins, J. (2002). Buying into the food system: Trends in food retailing in the US and implications for local foods. *Agriculture and Human Values, 19*(1), 39-51.
Hand, M. (2010). *Local Food Supply Chains Use Diverse Business Models to Satisfy Demand.* . USDA Economic Research Service.
Hardy, J., Hamm, M., Pirog, R., Fisk, J., & Fischer, M. (2016). *Findings of the 2015 National Food Hub Survey* Retrieved from Lansing, MI:
Heyl, B. (2002). Ethnographic interviewing. In A. C. P. Atkinson, S. Delamont, J. Loflandm & L. Loftland (Eds.) (Ed.), *Handbook of ethnography* (pp. 369-383). Thousand Oaks, CA: Sage.
Hinrichs, C. C. (2000). Embeddedness and local food systems: notes on two types of direct agricultural market. *Journal of Rural Studies, 16*(3), 295-303.
Hobbs, J. (1996). A transaction cost approach to supply chain management. *Supply Chain Management: An International Journal, 1*(2), 15-27.
Hughes, D., Eades, D., Robinson, K., Carpio, C., Isengildina, O., & Brown, C. (2007). *What is the Deal with Local Food Systems: Or, Local Food Systems from a Regional Science Perspective*. Working Paper. Department of Applied Economics and Statistics. Clemson University. Clemson, South Carolina.
Ilbery, B., & Maye, D. (2006). Regional Economies of Local Food Production: Tracing Food Chain Links Between 'Specialist' Producers and Intermediaries in the Scottish-English Borders. *European Urban and Regional Studies, 13*(4), 337-354.
Institute, F. M. (2015). *U.S. Grocery Shopper Trends 2015 Executive Summary*. Retrieved from Arlington, VA: http://www.fmi.org/docs/default-source/document-share/fmitrends15-exec-summ-06-02-15.pdf
Izumi, B., Alaimo, K., & Hamm, M. (2010). Farm-to-School Programs: Perspectives of School Food Service Professionals. *Journal of Nutrition Education and Behavior, 42*(2).
Izumi, B., Wright, D. W., & Hamm, M. (2009). Farm to school programs: exploring the role of regionally-based food distributors in alternative agrifood networks. *Agriculture and Human Values*.
King, R., Gomez, M., DiGiacomo, G. (2010). Can Local Food Go Mainstream? *The Magazine of Food, Farm and Resource Issues, 25*(1).
Lancaster, K. (1966). A New Approach to Consumer Theory. *Journal of Political Economy, 74*(2), 132-157.
LeBlanc, J., Conner, D., McRae, G., & Darby, H. (2014). Building resilience in nonprofit food hubs. *Journal of Agriculture, Food Systems, and Community Development, 4*(3). doi:http://dx.doi.org/10.5304/jafscd.2014.043.005

Lee, H., & Hwang, J. (2016). The driving role of consumers' perceived credence attributes in organic food purchase decisions: a comparison of two groupd of consumers. *Food Quality and Preference, 54*, 141-151.
Low, S., Adalja, A., Beaulieu, E., Key, N., Martinez, S., Melton, A., . . . Jablonski, B. (2015). Trends in U.S. Local and Regional Food Systems. *U.S. Department of Agirculture, Economic Research Service, AP068*.
Low, S. A., Aron; Beaulieu, Elizabeth; Key, Nigel; Martinez, Steve; Melton, Alex; Perez, Agnes; Ralston, Katherine; Stewart, Hayden; Suttles, Shellye; Vogel, Stephen; Jablonski, Becca. . (2015). Trends in U.S. Local and Regional Food Systems. *U.S. Department of Agirculture, Economic Research Service, AP068*.
Marsden, T., Banks, J., & Bristow, G. (2000). Food Supply Chain Approaches: Exploring their Role in Rural Development. *Sociologia Ruralis, 40*(4).
Martinez, S., Hand, M., De Pra, M., Pollack, S., Ralston, K., Smith, T., . . . Newman, C. (2010). Local Food Systems: Concepts, Impacts, and Issues. *Economic Research Report, 97*.
Martinez, S. H., Michael; De Pra, Michelle; Pollack, Susan; Ralston, Katherine; Smith, Travis; Vogel, Stephen; Clark, Shellye; Lohr, Luanne; Low, Sarah; Newman, Constance. (2010). Local Food Systems: Concepts, Impacts, and Issues. *Economic Research Report, 97*.
Matson, J., Cook, C. (2013). *The Role of Food Hubs in Local Food Marketing*.
Matson, J., & Thayer, J. (2013). The Role of Food Hubs in Food Supply Chains. *Journal of Agriculture, Food Systems, and Community Development, 3*(4). doi:http://dx.doi.org/10.5304/jafscd.2013.034.004
Mirosa, M., & Lawson, R. (2012). Revealing the lifestyles of local food consumers. *British Food Journal, 114*(6).
Moser, R., Raffaelli, R., & Thilmany-McFadden, D. (2011). Consumer preferences for fruit and vegetables with credence-based attributes: A review. *International Food and Agribusiness Management Review, 14*, 121-141.
Mount, P. (2012). Growing local food: scale and local food systems governance. *Agriculture and Human Values, 29*(1), 107-121.
NASS, U. S. D. o. A. N. A. S. S. (2012). 2012 Census of Agriculture, United States Summary and State Data. *1*(51).
NASS, U. S. D. o. A. N. A. S. S. (2014). *Vermont State and County Data*. Retrieved from https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_State_Level/Vermont/vtv1.pdf
Nelson, P. (1970). Information and consumer behaviour *Journal of Political Economy, 78*(311-329).
North, D. C. (1987). Institutions, transaction costs and economic growth. *Economic Inquiry, 25*(3), 419-428.
Ostrom, M. (2006). Everyday Meanings of "Local Food": Views from Home and Field. *Community Development, 37*(1), 65-78. doi:http://dx.doi.org/10.1080/15575330609490155
Patten, M. (2017). *Understanding research methods* (9 ed.). New York, NY: Routledge.
Pirog, R. (2009). *Local foods: farm fresh and environmentally friendly*. Retrieved from Ames, IA.:

Plate, V. F. t. (2013a). *Vermont Farm to Plate Strategic Plan*. Retrieved from http://www.vtfarmtoplate.com/uploads/F2P Executive Summary.pdf
Plate, V. F. t. (2013b). *Vermont Farm to Plate Strategic Plan*. Retrieved from http://www.vtfarmtoplate.com/assets/plan_sections/files/Chapter 2_Getting to 2020_MAY 2013_high res.pdf
Robinson-O'Brien, R., Larson, N., Neumark-Sztainer, D., Hannan, P., & Story, M. (2009). Characteristics and dietary patterns of adolescents who value eating locally gorwn, organic, nongenetically engineered, and nonprocessed food. *Journal of Nutrition Education and Behavior, 41*(1), 11-18.
Sage, C. (2003). Social embeddedness and relations of regard:: alternative 'good food' networks in south-west Ireland. *Journal of Rural Studies, 19*(1), 47-60. doi:http://dx.doi.org.ezproxy.uvm.edu/10.1016/S0743-0167(02)00044-X
Schafft, K., Hinrichs, C. C., & Bloom, J. D. (2010). Pennsylvania Farm-to-School Programs and the Articulation of Local Context. *Journal of Hunger & Environmental Nutrition, 5*(1), 23-40.
Schaufele, I. H., U. (2017). Consumers' perceptions, preferences and willingness-to-pay for wine with sustainability characteristics: a review. *Journal of Cleaner Production, 147*, 379-394.
Selfa, T., & Quazi, J. (2005). Place, taste, or face-to-face? Understanding producer-consumer networks in "local" food systems in Washington State. *Journal of Agriculture and Human Values, 22*, 451-464.
Selfa, T. Q., Joan. (2005). Place, taste, or face-to-face? Understanding producer-consumer networks in "local" food systems in Washington State. *Journal of Agriculture and Human Values, 22*, 451-464.
Sirieix, L., Delanchy, M., Remaud, L., Zepeda, P., & Gurviez, P. (2013). Consumers' perceptions of individual and combined sustainable food label: A UK pilot investigation. *International Journal of Consumer Studies, 37*, 143-151.
Stevenson, G., & Pirog, R. (2013). Values-Baed Food Supply Chains: Strategies for Agri-Food Enterprises-of-the-Middle.
Stevenson, G. P., Richard. . (2013). Values-Baed Food Supply Chains: Strategies for Agri-Food Enterprises-of-the-Middle.
Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: grounded theory procedures and techniques*. Newbury Park, CA: Sage.
Thompson, W., Polk, W., & Hayenga, W. (2008). Business Entity Planning. In T. T. A. M. University (Ed.), (Vol. Bulletin E-171): Texas Cooperative Extension
Trienekens, J., Wognum, P., Beulens, A., & van der Vorst, J. (2012). Transparency in complex dynamic food supply chains. *Journal of American Ethnologist, 26*(2), 55-65.
USDA. (2016). USDA Results: Local and Regional Food Systems. *Results*. Retrieved from http://origin.www.usda.gov/wps/portal/usda/usdahome?contentidonly=true&contentid=usda-results-local.html
Weiss, B. (2012). Configuring the authentic value of real food: farm-to-fork, snout-to-tail, and local food movements. *Journal of American Ethnologist, 39*(3).

Williamson, O. E. (1979). transaction cost economics: the governance of contractual relations. *Journal of Law and Economics, 22*, 233-261.
Zepeda, L., & Deal, D. (2009). Organic and local food consumer behaviour: alphabet theory. *International Journal of Consumer Studies, 33*, 697-705.
Zepeda, L., & Leviten-Reid, C. (2004). Consumers' Views on Local Food. *Journal of Food Distribution Research, 35*(3).

APPENDIX A: Food Hub Director Interview Guide

What motivated you to get involved in the food hub business? (What they were they responding to, etc.?)

What is the mission/commitment statement of your organization?

How many years has the organization been in business?

What is the ownership structure of the food hub? (Is the organization privately owned, publically owned, or a NGO, other?)

What aspects of the business do you find most rewarding? Why?

What do you find most frustrating? Why?

What are some things you would like to do more of?

What are the barriers to achieving this?

Are there certain services that your food hub provides that are essential for staying in business? Which ones? Why?

Are there any you could outsource? Which ones? How might that work?

Would you describe the organization as Retail-driven, Nonprofit-driven, Producer-driven, or Consumer-driven? Why?

Are there any other organizations that you work with outside of farmers and consumers? Who are these partner organizations? What is the nature of your partnership or collaboration?

Is your organization funded by any grants? What are the objectives of the grant-funded projects?

About what percentage of the operating costs are covered by grant funding? Or, what percent of revenue currently comes from grants?

Can you describe any infrastructure gaps that hinder the growth of your business?

What was the average hourly wage in 2015?

How have your sales changed over the years since the food hub first started?

What do you anticipate your sales to be like in 2016? How much growth do you anticipate? What will it look like? Increase/decrease in terms of $ or % change? We will use this information to make estimates on impact on local economy

Are there any volunteers working for your organization? Are they essential for any of the services or market channels you provide? If so about how many hours a year does that represent? Do you plan to hire them when financially able to?

What are your perceived environmental impacts? How do you measure them?

What are your perceived social impacts? How do you measure them?

To close the interview, what do you feel is the biggest threat to food hubs in the next five years?

What do you feel is the biggest opportunity for food hubs in the next five years?

What have been the barriers to working with other brick and mortar stores (other than city market and healthy living)?

APPENDIX B: Food Hub Buyer Interview Guide

Why have you decided to work with food hubs?

How do prices from the food hub compare to prices from producers or other distributors? How are you affording to purchase from food hubs? Do contracts with other food hubs impact your purchasing? How?

What characteristics do you associate with source-identified foods? What attributes define quality?

Food hubs have built their business around the idea that local food is more authentic than its conventional counterpart. When thinking of the food system as a whole, what does the term "authenticity" mean to you? What characteristics can food have that make it "authentic?" Does working with a food hub create a more authentic transaction than working with other distributors? Can you tell me a story of a time that the food hub communicated authenticity to you? What do you consider your role is in communicating authenticity to the consumer? Can you tell me a story or describe an experience when you communicated authenticity to the consumer?

Increasing transparency is also a key element in the food hub business plan. In your opinion, where is there and isn't there transparency in the modern food system? Where does there need to be more transparency? Does working with a food hub result in more transparent transactions than with other distributors? Can you describe an experience you've had working with the food hub that has resulted in greater transparency between yourself and the consumer?

Do customers know what food was purchased through the food hub? How is that communicated? Do you believe customers who purchase food that has come from the food hub are provided more information about the food as opposed to food that has not come from a food hub? Can you give an example of this?

How would you describe your interactions with the food hub? Does purchasing from a food hub lend a certain credibility to the transaction? If so, how? What services do the food hub provide that make these transactions more credible?

Are you aware of the mission statement of the food hub? Does that impact your buying preferences and/or the buying preferences of your customers? Are you reassured of the quality of food sold by the food hub because of its reputation and/or mission statement?

Which marketing services provided by the food hub do you utilize? Which do you not? How did you market local foods before? What has changed as a result of the food hub's *help? How has that impacted your business? Can you tell a story about the customers interactions with the marketing materials?*

What services are provided by the hub that make that food more authentic and transparent? If none, what services or resources are needed to communicate the transparency and authenticity to the consumer?

Have the marketing services provided by the food hub been effective in increasing consumer's willingness to pay for local food? Which services? How do you know?

Have the marketing services provided by the food hub been effective in communicating certain values of the food, such as the way in which it was produced, the positive impact it has on the local economy, rare or heirloom variety, etc.? Which? How can you tell?

What are consumer reactions to the marketing services you use?

Do the market assistance activities provided by the food hub offer the opportunity for you to pass information about consumer preferences back to the producers? Do you do this? Have you witnessed any changes based on this communication?

To what extent can you trace marketing assistance with increased sales?

What do you wish they food hub would:

- *Start* doing that the do not do now?
- *Keep* doing because it works?
- *Stop* doing?
  - *Why?*

APPENDIX C: Food Hub Buyer Online Survey

Food Hub Buyer Survey

Thank you for participating in this survey! Please answer each question to the best of your ability. If a question doesn't apply to your institution, please select "no answer."
There are 23 questions in this survey

Buyer Survey

[]Which sector are you?

Choose one of the following answers

Please choose **only one** of the following:

- ◯ Restaurant
- ◯ School (public, private)
- ◯ Hospital/Healthcare Facility
- ◯ Correctional Facility
- ◯ College or University
- ◯ Grocery Store
- ◯ Farm Stand
- ◯ CSA
- ◯ Camp
- ◯ Farm
- ◯ Senior Care Center
- ◯ Inn/Hotel
- ◯ Buying Club

[]How many years has your organization purchased through the food hub?

Only numbers may be entered in this field.

Please write your answer here:

[]Why do you purchase through the food hub? If you have a reason that is not listed, please check "other" and type your response in the comment section.

Comment only when you choose an answer.

Please choose all that apply and provide a comment:

- ☐Ease of Ordering
- ☐Affordability
- ☐Product Access
- ☐Supporting Local Vendors/Producers
- ☐Source Identification
- ☐Product Quality
- ☐Marketing Potential
- ☐Environmental Reasons
- ☐Other:

[]Please estimate the percentage of your budget spent on local food from the following sources

Please write your answer(s) here:

- The Food Hub
- Other Local Vendor(s)

[]Since the food hub opened, has your local food purchasing increased, decreased, or stayed the same?

Choose one of the following answers

Please choose **only one** of the following:

- ○ Increased
- ○ Stayed the Same
- ○ Decreased

- Not Sure

[]What percent of your annual budget did you spend on local food before purchasing through the food hub?

Choose one of the following answers

Please choose **only one** of the following:

- 0-5%
- 5%-10%
- 10%-15%
- 15%-25%
- 25%-50%
- 50%-75%
- 75%-100%

[]What percent of your current annual purchases of the products below do you purchase from the food hub?

Please choose the appropriate response for each item:

	0-25%	25%-50%	50%-75%	75%-100
Apples				
Bagels				
Beef				
Berries				
Bread				
Carrots				
Cheese				
Leafy Greens				
Lettuce/Salad Mix				

	0-25%	25%-50%	50%-75%	75%-100
Pork	○	○	○	○
Potatoes	○	○	○	○
Winter Squash	○	○	○	○
Yogurt	○	○	○	○

[]How has your local food purchasing changed since last year?

Choose one of the following answers

Please choose **only one** of the following:

- ○ Increased
- ○ Stayed the Same
- ○ Decreased
- ○ Unsure

[]What are the reasons for this change in local food purchasing over the last year?

Please write your answer here:

[]If the food hub did not exist, how would you access local foods?

Please write your answer here:

[]

Answer only if you purchase from Windham Farm and Food (otherwise select "no answer"): Which of the activities listed below are most effective in increasing your local food purchasing? If this marketing assistance activity does not apply to your organization, please select "no answer."

Please choose the appropriate response for each item:

	Not at all helpful	A bit helpful	Somewhat helpful	Very helpful	Most helpful
Weekly marketing email with product specials, images, producer highlight, recipes, etc.	○	○	○	○	○
Monday remember to order email	○	○	○	○	○
Sales calls by phone	○	○	○	○	○
Sales call in person	○	○	○	○	○
Producer/customer meeting	○	○	○	○	○
Marketing posters	○	○	○	○	○
Harvest of the Month marketing materials	○	○	○	○	○
Plaques/window clings	○	○	○	○	○
Monthly newsletter	○	○	○	○	○
Peer to peer sales	○	○	○	○	○
Sample baskets	○	○	○	○	○
Social media cross-promotion	○	○	○	○	○
Local food champion	○	○	○	○	○

	Not at all helpful	A bit helpful	Somewhat helpful	Very helpful	Most helpful
Other	○	○	○	○	○

[]Answer only if you purchase from Green Mountain Farm Direct (otherwise select "no answer"): Which of the activities listed below are most effective in increasing your local food purchasing? If this marketing assitance activity does not apply to your organization, please select "no answer."

Please choose the appropriate response for each item:

	Not at all helpful	A bit helpful	Somewhat helpful	Very helpful	Most helpful
Weekly marketing email	○	○	○	○	○
Monday reminder	○	○	○	○	○
Sales calls	○	○	○	○	○
Annual meeting	○	○	○	○	○
Marketing posters	○	○	○	○	○
HOM marketing	○	○	○	○	○
Window clings	○	○	○	○	○
Sample baskets	○	○	○	○	○

[]

When marketing local food purchasing to buyers/customers/stakeholders, how effective are the following strategies/messages?

Please choose the appropriate response for each item:

	not applicable	very ineffective	somewhat ineffective	neither effective or ineffective	somewhat effective	very effective
Your percentage of local purchasing	○	○	○	○	○	○
Sharing name of the farm/producer	○	○	○	○	○	○
Sharing stories from the farm/producer (producer info cards/photos)	○	○	○	○	○	○
List of locally sourced products	○	○	○	○	○	○
Consistency - ability to serve a local product all year	○	○	○	○	○	○
Highlighting dishes	○	○	○	○	○	○

	not applicable	very ineffective	somewhat ineffective	neither effective or ineffective	somewhat effective	very effective
that use local produce						
Other	○	○	○	○	○	○

[]Consider the list of stakeholders below. How important is each in driving your decision to buy local food?

Please choose the appropriate response for each item:

	Not important	Somewhat important	Very important
Customers	○	○	○
Peers (others in the same field)	○	○	○
Supervisors	○	○	○
Other	○	○	○

[]Think of ALL the local products that you currently purchase through the food hub. What percentage of those items did you purchase locally *before* you began purchasing through the food hub?

Choose one of the following answers

Please choose **only one** of the following:

- ○ 0-5%
- ○ 5%-10%
- ○ 10%-25%
- ○ 25%-50%
- ○ 50%-75%
- ○ 75%-100%

[]When you began purchasing food through the food hub, did you discontinue purchasing those types of foods from other vendors?

Choose one of the following answers

Please choose **only one** of the following:

- ○ Yes
- ○ Somewhat
- ○ No

[]What additional local products would you like to see on the food hub product list?

Please write your answer here:

[]What are the barriers that keep you from buying more local food? Identify top 5 barriers and rank them on significance, entering numbers 1-5 in the text box - 1 being the least significant and 5 being the most significant.

Comment only when you choose an answer.

Please choose all that apply and provide a comment:

- ☐ Price
- ☐ Delivery days
- ☐ Quantity
- ☐ Availability
- ☐ Seasonality
- ☐ Menu compatibility
- ☐ Storage space
- ☐ Existing contracts/buying obligations
- ☐ Labor to process and prepare
- ☐ Equipment to process and prepare

- ☐Lack of demand
- ☐Other

[]What suggestions do you have for addressing one or more of the barriers in the previous question?

Please write your answer here:

[]What would help you buy more from the food hub?

Please write your answer here:

[]Rate your experience with the food hub...

Check all that apply

Please choose **all** that apply:

- ☐ Dissatisfied
- ☐ Somewhat dissatisfied
- ☐ Satisfied
- ☐ Very satisfied

[]Would you recommend the food hub to another customer?

Comment only when you choose an answer.

Please choose all that apply and provide a comment:

- ☐Yes, why?
- ☐No, why?

[]Suppose the food hub needed to make changes to the pricing structure to better cover costs of operations. Which of the following, if any, would you be willing to do?

Comment only when you choose an answer.

Please choose all that apply and provide a comment:

- ☐Pay a higher mark-up on products
- ☐Pay an annual membership fee
- ☐Pay a delivery fee

- ☐Increase the size of your weekly order
- ☐Other: