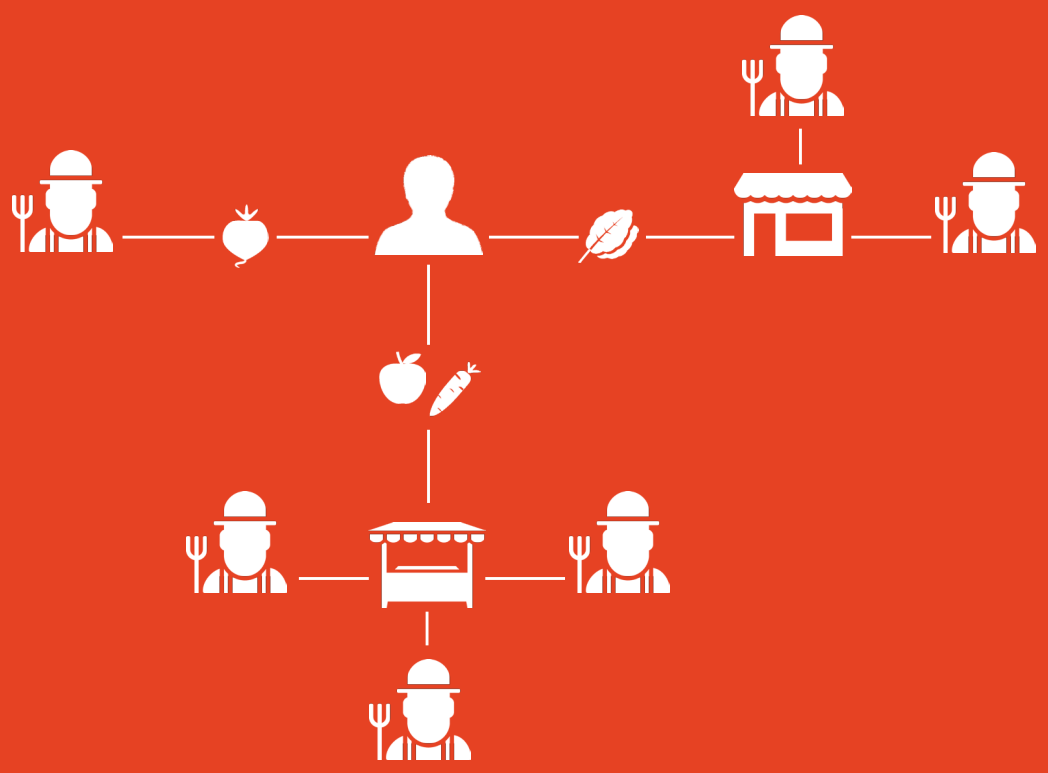
Building Food Communities



Michael Peterson

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For my mom, who taught me to value local foods long before I understood why.

Abstract

As food systems have become industrialized, information about food production has been obscured, causing threats to food security. Local food systems provide an alternative, and consumers and producers are increasingly using them. However, local food systems present their own challenges. Employing participatory research methods, including contextual conversations with producers and diary studies with consumers, this thesis explores the design of the Community Foods service which allows consumers to more easily connect and communicate with producers. As part of the service, I propose a greater involvement of locally-owned stores in food systems as they increase access to local foods without increasing the time required from producers. The main aspect of the Community Foods service is a digital platform that allows consumers to explore and search the local food opportunities across stores, markets, and individual producers within a community. Through these methods, the Community Foods service provides greater access to local foods, proposing new connections within a community and ultimately new ways of moving through it based on food.

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1 Introduction

Since 2010 I have worked in a number of roles within local food systems: as the operator of a farmers' market store, grocery buyer for a health food store, and assistant to a local food producer. These experiences helped me understand why and how people participate in local food systems as well as the challenges they face and left me with a strong desire to contribute to local food systems through design.

As part of my literature review, I examined how large, industrial food systems, through which most people now access their food, centralize control away from communities, creating numerous challenges. Consumers often face a lack of access to the nutritious foods necessary for a healthy lifestyle. For producers, the influence of the industrial food system has meant a reduced ability to support themselves off farm income. And for the environment, the growing and manufacturing processes involved in industrial food systems are causing increased pollutants and other ecological concerns.

Also through this secondary research I looked at how local food systems can be an alternative that moves control back to consumers, producers, and their communities. While a number of recent studies have explored consumer motivations for and perceived barriers to buying local food, less attention has been paid to the decision-making stages a consumer goes through when buying local and how convenience affects their purchase decisions. As well, local food producers and stores have received little study. Within precedent research, I examined local food services, digital platforms, and print communications to understand how these support local food systems and to understand the gaps that exist.

To gain a deeper understanding within a single community, I based my primary research in my hometown of Saskatoon, SK, which allowed me to build from existing relationships there. I had conversations with local food producers and store representatives as well as performing research with local food consumers. From this research I identified the main challenges within local food systems, including the challenges that consumers and producers face in connecting and communicating.

To address these challenges I designed the Community Foods service. It focuses on improving connection and communication within local food systems rather than on the operations of individual producers, markets, and stores, proposing a greater inclusion of locally owned stores as intermediary sellers. The primary aspect is a digital platform that allows consumers to explore local food opportunities across producers, markets, and stores within a community. The Community Foods service also involves printed materials that support store staff in providing information to consumers. And it involves face to face interactions to introduce a service within a community. Through these methods, the Community Foods service provides greater access to local foods while proposing new ways of building connections within a community, and ultimately new ways of moving through it, based on food.

1.1 Characteristics of local food

Local

"Existing in a particular locality or neighbourhood" (Oxford English Dictionary, 2015).

Canadian Food Inspection Agency

"Food produced in the province or territory in which it is sold, or food sold across provincial borders within 50 km of the originating province or territory" (Canadian Food Inspection Agency, 2014).

FARMA

"Local is defined as a radius from the market. A definition of 30 miles is ideal, up to 50 miles is acceptable for larger cities and coastal or remote towns and villages…The definition of local may also be a county boundary or other geographic boundary such as a National park that is similar in size to the radius option" (FARMA, 2015).

Saskatoon Farmers' Market

"Members of the Saskatoon Farmers' Market "make it – bake it -grow it – sell it," offering only what they produce, thus ensuring the high quality of products, and allowing consumers direct, personal contact with producers." (Saskatoon Farmers' Market, 2015)

There is no universal definition for "local food" (Martinez, 2010; Timmons, 2006; Zepeda and Leviten-Reid, 2004; Zepeda and Li, 2006). Building from the definition for local, it could be defined as food that "[exists] in a particular locality or neighbourhood," (Oxford English Dictionary, 2015). However, this fails to address the variety of values that people refer to when using the term.

As Martinez et al. (2010) explain, definitions used by government agencies, farmers' markets, and other organizations vary widely: local food is partly "a geographical concept related to the distance between food producers and consumers," (p. 3), but can also be defined using social and supply chain characteristics. Distance-based definitions, whether denoted by the distance traveled or by a political boundary, are the most common. For example, the Canadian Food Inspection Agency and the U.K.'s National Farmers' Retail & Markets Association (FARMA) incorporate both distance traveled and political boundary in their definitions for local food (see sidebar). While less common, some organizations, such as the Saskatoon Farmers' Market, use definitions based on social values (see sidebar).

Definitions provided by consumers and organizations also vary widely. The most common are based on distance as well, followed by definitions based on ecological and social values. In a focus group study conducted by Zepeda and Leviten-Reid (2004), the most common definition for local food provided by consumers was the time it would take for the consumer to drive to where the food was produced. The second most common was political boundary (p. 3). Definitions based on social values included food grown within the consumer's community or food grown by someone they know, while ecological definitions included foods that require less fuel and transportation costs to reach the consumer, (Zepeda and Leviten-Reid, 2004, p. 3). The inclusion of social and ecological values in definitions of local food brings into question whether distance alone is what consumers value in local foods, or whether buying local is seen as a method to find foods that meet these other values.

In a survey of 530 shoppers, Darby, Batte, Ernst, and Roe (2008) found that localness, defined in terms of distance, is valued independently of other factors (p. 485). However, they found that localness was one of a number of factors valued by consumers, and that these other factors were often less easily verifiable, such as the freshness of the produce or production methods that are "less corporate" (Darby et al., 2008, p. 485).

Since social and ecological values such as those cited above are often perceived rather than certified, there is the possibility for a disconnect between what a consumer values when they acquire local food and the ways in which it is produced. For example, though consumers often associate lower food miles with reduced greenhouse gas emissions, some local foods may have higher greenhouse gas emissions than their imported counterparts (Berners-Lee 2011, 100).

To avoid this discrepancy, some have called for a method to certify local foods. However, as discussed on p. 16-17, as was the case with both the organic and Fair Trade movements, certification often leads to a lessening of the standards and ability for industrial food producers to develop practices that meet these lessened standards, thereby reducing the ability of these movements to serve as an alternative. As well, since different values exist amongst local food consumers, the fixing of one set of values for local foods would reduce their ability to serve as a method for people with different values to find foods that match these.

In his seminal book on local food, *The Omnivore's Dilemma,* Pollan (2006) does not define local food, rather describing characteristics about how consumers acquire it. As he explains, local food systems allow, and their lack of certification necessitates, a consumer to "look at the farm for himself, or look the farmer in the eye and ask him about how he grows his crops or treats his animals," (p. 337). Pollan similarly describes industrial foods as those which do not allow a consumer this form of knowing and asking (see sidebar).

Industrial Food
"Any food whose provenance is so complex or obscure that it requires expert help to ascertain." (Pollan, 37).

Building from this discussion, local foods can best be described in terms of their ability to enable the type of communication described by Pollan above. As such, when referring to local food in this thesis, I will be referring to foods which embody the following three characteristics:

- *the distance between consumer and producer is sufficiently short that the consumer could, within their means, visit the place of production and meet the producer*
- *the production and transfer of local foods, whether direct or through an intermediary, preserves the ability for the consumer and producer to know and communicate with each other*
- *the production and transfer of local foods meet the individual needs and values of both the consumer and producer*

1.2 Keywords and definitions

Local food

Farmers' market

"[A] common area where several farmers gather on a recurring basis to sell a variety of fresh fruits, vegetables, and other farm products directly to consumers," (Martinez et al., 2010, p. 3).

Local food path

Specific to an individual local food producer and an individual food consumer, a path connecting them, possibly through intermediary sellers or locations, such that the consumer is able to obtain local food that originates with the producer. Similar to short food supply chain (see below).

Local food system

Specific to a community, the set of all local food paths among local food producers and consumers in that community.

Short food supply chain (SFSC)

A food supply chain that "facilitates some form of connection between the food consumer and producer... [so] that the product reaches the consumer embedded with information... [enabling] consumers to connect with the place of production and, perhaps, the people involved and methods used to produce the product." (Martinez et al., 2010, p. 2).

Local food consumer

Broadly, the role a person embodies when they consume local food. For the purposes of the design of the Community Foods service, this term is used more narrowly to refer to the role a person embodies when they purchase local food from a local food producer, either directly or through a local food system.

Local food producer

Similar to local food consumer, broadly, the role a person embodies when they produce local food, whether this involves growing a crop, raising livestock, processing value-added products, such as jams or baking, or another means. For the purposes of the design of the Community Foods service, this term is used more narrowly to refer to the role a person embodies when they sell local food, either directly or through a local food system.

Service Design

Backstage The channels (see below) of a service that support the user experience but which the user does not see (Polaine, Lovlie, & Reason, 2013, p. 91). Examples of backstage channels in local food systems are the ordering and stocking a local food store does in order to carry local products.

Channel "[T]he overall medium [of a service offering], such as email, telephone, and face to face" (Polaine et al., 2013, p. 81).

Customer food journey A customer journey (see below) involving food.

Customer journey A single path a user takes through a service, over time and across touchpoints (see below). While elsewhere in this thesis I use the term consumer rather than customer, I use *customer journey* to stay consistent with existing terminology.

Customer journey map A diagram of a customer journey across a service blueprint.

Frontstage The channels of a service that the user sees and experiences (Polaine et al., 2013, p. 92). An example of frontstage channels in local food systems are local food stores and farmers' markets, as well as digital platforms that allow the user to explore local food opportunities.

Service Services are comprised of "interactions among people, technology, and processes" (Polaine et al. 2013, p. 36). Services usually consist of multiple touchpoints (see below) which a user can interact with over time.

Service design "[D]esigning for relationships and experiences over time" (Polaine et al., 2013, p. 36). This involves considering customer journeys over time and across touchpoints.

Service safari A design research method where the designer visits other services, placing themselves in the role of customer to gain an understanding of services from the user perspective (Polaine et al, 2013, p. 59).

Service blueprint A service blueprint provides a map of the offerings for a service. It is generally laid out in a grid, with the individual channels comprising the rows while the various phases of time in the customer journey comprise the columns (Polaine et al., 2013, p. 94).

Touchpoint "[A]n individual moment of interaction within [a] channel," (Polaine et al., 2013, p. 81). Touchpoints comprise the intersections of the individual channels with the phases of time in a service blueprint or customer journey map.

1.3 Defining the problem space

Industrial food systems pose a number of concerns for consumers, producers, and the environment. They centralize control of how food is grown, distributed, and sold, moving it away from individuals and communities into the hands of a small number of corporations. As well, they remove the ability for consumers and producers to know and communicate with each other.

Local food systems provide an alternative that emphasizes communication and places control in the hands of individual producers and consumers. Producers are able to choose a production method that supports their lifestyle and then find consumers who value their production enough to spend the extra time and money often required to buy locally; consumers are able to set the values they are looking for in their food and its production and then find producers whose methods meet these.

An increasing number of people are accessing local food systems but certainly not everyone desires to. While my early design exploration looked at ways to influence those not participating in local food systems to start doing so, the Community Foods service focuses on improving access and communication for local food consumers and producers so they can increase their participation. In the terminology of BJ Fogg's (2009) Behavior Grid, in relation to consumers the type of behaviour change moved from encouraging a new behaviour, *buy local food*, to encouraging an increase in an existing behaviour, *buy more local food* (p. 2).

In addition to producers and consumers, the problem space for the Community Foods service involves local food stores as intermediary sellers since they can increase the availability of local foods without increasing the time required from producers. The service has three touchpoint channels: a digital platform which is the main service channel, printed product knowledge sheets that support local food stores in providing information about producers and their products, and face-to-face interactions when the service is first introduced in a community. While numerous challenges exist within local food systems, the Community Foods service focuses on improving the ability for local food consumers, producers, and stores to connect and communicate. Other barriers, such as operational challenges for or created by producers and stores, are outside the scope of the service.

The Community Foods service focuses on urban areas as this population density, both of potential consumers in the city and producers in the surrounding area, is necessary to build a user base for the service. As well, as Martinez et al. (2010) explain, "[p]roduction of locally marketed food is more likely to occur on small farms located in or near metropolitan counties," (p. vi). In particular, the site for my research and design is Saskatoon, SK, my hometown, since my previous experience in local food systems there allowed me to build upon existing relationships and draw from my existing knowledge.

1.4 Thesis statement

Industrial food systems move control of how food is grown, distributed, and sold away from communities, creating numerous challenges to food security and the prosperity of producers. Local food systems provide an alternative that allows individuals and communities more control over their food, but present challenges for consumers and producers in finding and meeting with each other. The design of a local food service, involving locally-owned stores as intermediary sellers, can improve access to local food systems for both consumers and producers while strengthening their ability to communicate both directly and through stores.

1.5 Project objectives

Use design methodologies and practices to:

- enable local food consumers and producers to more easily connect and communicate, both directly and through local food stores;
- provide the framework for local food stores to carry more local food while preserving the ability for consumers and producers to connect and communicate through them;
- through backstage processes, support store staff in providing producer information in a way that does not interrupt a consumer's experience of the store.

1.6 Document overview

I begin **Section 2: Literature review**, by providing an overview of industrial food systems and the challenges they present for consumers, producers, and the environment. I then discuss organic and Fair Trade movements as examples of alternative food systems, examining how their move to labeling and certification weakened their ability to be alternatives. Finally, I provide an overview of the sometimes limited research into motivations for and challenges to participation in local food systems.

Section 3: Precedent review, examines precedents for local food retailers, explaining how individually their support for local food systems is limited as they are only able to represent a small number of local food producers. I also review digital platforms and print materials for local foods, as these are the two main touchpoints for the Community Foods service. While some digital platforms allow users to explore local food opportunities across a community, they present these opportunities in a non-intuitive way. Print materials, though often ineffective at presenting information directly to consumers, can support store staff in providing this information.

Section 4: Primary research, explains my process of: service safaris to markets, fruit stands, local food stores, and supermarkets; conversations with producers and a local food store representative; and diary studies with consumers. I explain the insights I gained from this research, including a better understanding of consumers' and producers' challenges to and motivations for participating in local food systems.

Section 5: Design process, documents the design of the Community Foods service. I began with service blueprints, customer journey maps, and other tools both to understand how current food systems are meeting consumers' needs and the opportunities for a service to improve access to local food systems. Building from the information gathered through these tools, I designed the Community Foods service which involves three service channels: face to face interactions during the introduction of the service within a community; printed materials that support stores in providing information about producers and products; and the main aspect of the service, a digital platform that allows users to explore and search local food opportunities across their community.

Finally, in **Section 6: Conclusion**, I discuss future directions for the development of the Community Foods service. I explain my plans to live test the service with a small group of producers and consumers in Saskatoon and then provide three levels of organizations I can approach about implementing the service with their members: farmers' markets and other civic-level groups, provincial-scale producer organizations, and municipalities.

2 Literature review

My literature review begins by examining industrial food systems. Through the writing of Michael Pollan and Wendell Berry, I discuss the impacts these systems are having on consumers, producers, and the environment: by taking control of their food away from individuals and communities, industrial food systems are increasing food insecurity for consumers, removing the ability of farmers to support themselves through their farms, and causing environmental concerns including increased pollution and degradation of the land.

As the issues mentioned above are not recent, numerous alternative food systems have been created. I examine two of these, the organic and Fair Trade movements. For both, the adoption of labeling and certification methods allowed industrial producers to meet the required standards, reducing the ability of these movements to serve as alternatives. I present this discussion as a caution to any attempt to certify or guarantee "localness".

Finally, I review a number of recent studies that examine the motivations for consumers to buy local food, as well as barriers to consumers and producers participating in local food systems.

2.1 The industrial food system

Berry (2002a) describes industrial food production as involving animal factories and monocultures, "the cultivation or growth of a single crop or organism especially on agricultural or forest land" (Merriam-Webster, 2015). Similarly, Pollan (2006) describes monoculture as "the hallmark of the industrial food chain" (p. 28). Berry (2006) argues that industrial food systems see agriculture as "an analogue of an industrial system" (p. 127).

In their distance and complexity, industrial food systems obscure the histories of the foods they produce. Berry (1989b) argues that for many urban eaters, food is an abstract idea – they know it is produced on farms, but this is where their knowledge ends; they do not know what farms their food comes from or the skills involved in production (p. 173). Processing, a key component of industrial food systems, allows foods to appear as "products of culture rather than nature" (Pollan, 2006, p. 159). With this loss of knowledge, consumers have little ability to understand their role within food networks or to find foods that embody the values important to them.

Supermarkets and other industrial food stores are starting to carry more local foods (as evidenced in part through service safaris, see p. 42-49). They market and sell local foods differently than industrial foods. One of the best examples is provided by the international health food supermarket chain Whole Foods.

Whole Foods and local foods

The experience of shopping at Whole Foods is one of choosing between different stories in addition to different packages and products (Pollan, 2006, p. 182). Pollan argues these stories are an attempt to make a food network more transparent (Pollan, 2006, p. 183). An alternate reading is that information provided in such a way is another marketing tool; by providing just enough information to allow a consumer to feel confident they are buying local but no opportunity for any communication or building of a relationship beyond the purchase, information presented in this way turns local into yet another label.

The effectiveness of Whole Foods in selling local foods is questionable. In an article written by Stacy Mitchell (2007), local producers in Maine stated that they were experiencing lower sales than through smaller stores. In Canada, Whole Foods has been criticized in the past for carrying a small amount of local foods (Corporate Knights, 2008).

2.2 Challenges for consumers

"Food security is clearly linked to health."

- 1996 World Food Summit

Despite a continued growth in global food production (GRID-Arendal, 2014), food security, defined as "access to sufficient, safe, nutritious food to maintain a healthy and active lifestyle," (World Health Organization, 2015), remains a concern for millions of people including in Canada. As Tarasuk, Mitchell, & Dachner (2014) note, over 4 million Canadians experienced some form of food insecruity in 2012 (p. 2). This suggests food security is linked less to production volume and more to the methods of production, distribution, and use that are employed in current food systems. The World Health Organization (2015), defines three pillars of food security:

> **Food availability:** sufficient quantities of food available on a consistent basis.
>
> **Food access:** having sufficient resources to obtain appropriate foods for a nutritious diet.
>
> **Food use:** appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation (para. 2).

While in North America many foods, both fresh and processed, are available in supermarkets year-round and on a consistent basis, Wendell Berry and Michael Pollan argue that the industrial food systems which supply these foods are fragile and prone to interruption. Berry (1978) argues industrial food production's size and dependency on outside economic and industrial organizations means it "can be gravely impaired or stopped by any number of causes, none of which need be agricultural" (p. 28). Among the causes that Berry proposes are a trucker's strike, an oil shortage, and manufacturing error. Pollan (2006), suggests industrial food systems' heavy reliance on a single crop, corn, leads to a lack of resiliency (p. 45). As Berry (1978) explains, the threat these factors pose is magnified because most people are now dependent on industrial food systems and do not have an alternative method to obtain their food (p. 28).

1 in 3 children born in the U.S. will develop diabetes (Pollan, 2006, p. 143).

In addition to possible interruptions to food availability, industrial food systems' reliance on processed foods means the foods that are readily available often do not meet consumers' nutritional needs. As Pollan (2006) explains, processed foods' use of high fructose corn syrup means they are often high in sugar (p. 143). In the U.S., the increase in processed foods has coincided with an increase in diabetes rates (see sidebar) and obesity. In fact, as Pollan notes, worldwide more people now suffer from overnutrition than from malnutrition (p. 143).

The chemicals and practices involved in both animal and crop production at the industrial scale can also create public health concerns outside of food systems. Berry (2002b) argues that the chemicals used in industrial agriculture result in the development of new diseases: "[t]he animal factory becomes a breeding ground for treatment-resistant pathogens, exactly as large field monocultures become breeding grounds for pesticide-resistant pests" (p. 18). Pollan (2006) describes ways in which water systems become polluted. At feedlots, the large amounts of manure cause heavy metals and hormone residues in the manure produced at feedlots (p. 116) and from excess nitrogen from the application of chemical fertilizer can build up in water systems, causing the water to become unsafe to drink, especially for children (p. 74-75).

2.3 Challenges for producers

> *"There's money to be made in food, unless you're trying to grow it."*
>
> **- Michael Pollan (2006), p. 136**

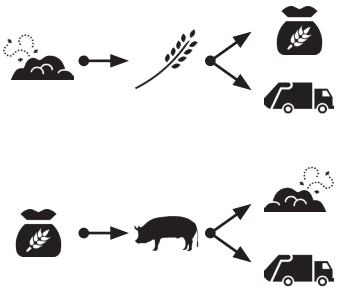
While farmers often perceive industrial agricultural as improving their quality of life, these practices often support farmers less than the more traditional methods involved in local production. As Pollan (2006) suggests, many farmers see a move to monocultures as allowing them to both increase the amount of land they are able to farm and reduce the time farming requires of them (p. 66). Unfortunately, monocultures often do not provide the income farmers assume will come with the increase in production.

Though a single farm or farmer is able to produce more food now than in the past, farmers are often less able to support themselves off their farm. Pollan (2006) provides an example of a farm that, in 1919 produced enough food to feed the family living on it and a dozen other people but now grows enough food to feed 129 (p. 58). He explains how this increase in production is made possible by a move from growing or raising a diversity of around a dozen different plants and animals on a single farm, which could together meet the nutritional needs of the family, to monocultures of corn and soy, commodities which must be processed or fed to animals before being eaten by people and which yield increasingly lower profits for farmers (Pollan, 2006, p. 58-59). As a result, a move to monocultures can have the effect of not only reducing a farmer's income but also their ability to feed themselves from the foods they grow.

2.4 Agriculture's environmental impacts

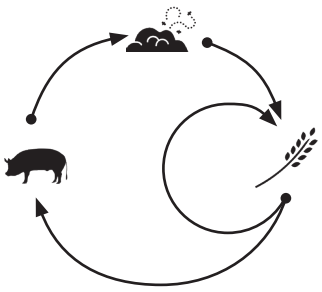
"Feeding ourselves from nature need not be a zero-sum proposition, one in which if there is more for us at the end of the season, then there will be less for nature – less topsoil, less fertilizer, less life"

- Michael Pollan, 2006, p. 177.



According to Berry (2002b) industrial agriculture can never be sustainable because it is dependent on outside inputs for soil and crop fertility, and because it produces more waste than the farm can absorb (p. 21). Pollan (2006) references farmer Joe Salatin who similarly describes industrial agriculture as an industrial system with inputs and outputs (p. 280). Due to the lack of diversity of industrial agriculture, where crops are grown there is generally little or no livestock, and where there is livestock there are not sufficient crops to feed them; as a result, a producer raising livestock must bring in feed, and the waste of the animals must be shipped to other farms as manure or disposed of as waste (Pollan, 2006). Berry (2002b) argues that through these methods industrial farms increase and concentrate ecological risks (p. 20).

By contrast, Berry (1989a) states that small-scale, diversified farms have the potential to be sustainable when "the nature of place" (p. 15) is used as the standard by which decisions are made rather than an industrial or economic standard. Berry (2002b) defines sustainable agriculture as "[a] way of farming that can be continued indefinitely because it conforms to the terms imposed upon it by the nature of places and the nature of people(s)" (p. 21). Similarly, Salatin argues that small, organic farms can produce zero waste and require zero or little inputs (Pollan, 2006).



In sustainable agriculture the concept of waste ceases to exist. As Pollan describes, what would be considered the waste of livestock is used to feed the soil and therefore the crops in the form of manure, and what would be considered the waste of crops is used to feed both the livestock in the form of trimmings and hay as well as the soil, and therefore the crops again, in the form of compost (p. 281). Salatin describes this as an ecological rather than industrial system and states that "the farm is more like an organism than a machine, and like any organism it has its proper scale" (as cited in Pollan, 2006, p. 281). Since all elements are connected in an ecological system, changing one affects all the others.

Carbon efficiency

Though local foods have the potential to be more carbon-efficient than the same foods when shipped, and in most cases are (Berners-Lee, 2011, p. 181), the shorter distance that local foods travel is not a guarantee for a lower carbon footprint. As Berners-Lee (2011) explains, shipped produce generally has much lower associated carbon emissions than the same produce grown locally in heated greenhouses (p. 100). Similarly, a New Zealand study found that production and storage methods can contribute more to greenhouse gas emissions than transportation, even over long distances: the carbon footprint of foods such as apples and lamb is lower when shipped from New Zealand than when grown or raised in the UK (as cited in Saunders, 2007, p. 1).

Even in a situation where the carbon emissions from production and storage are equal, the shorter distance local food travels cannot be assumed to generate lower carbon emissions. As Zepeda and Li (2006) discuss,

> a tractor-trailer transporting 30,000 pounds of produce 1000 miles uses about 0.0067gallons of fuel per pound transported. A pickup truck or SUV transporting 100 pounds of produce ten miles uses slightly more fuel per pound transported: 0.0071 gallons (p. 3, emphasis added).

As the above discussion highlights, a move to locally-grown foods cannot be assumed to be an improvement in the foods' carbon-footprint. At the same time, as Berners-Lee (2011) states, when looking at food "climate change is not the only issue" (p. 99), including other issues such as the treatment of animals and workers as well as the health of the land. Local food systems provide consumers the opportunity to ask questions and check for themselves whether foods are produced in a way that meets their standards.

2.5 Alternative food systems

While a number of food movements have been started as alternatives to industrial food systems, their ability to bring about systemic change is questionable. In the case of the organic and Fair Trade movements, their adoption of certification and labeling allowed foods baring these labels to be incorporated into industrial systems, reducing the movements' abilities to serve as alternatives.

Organic

While the organic movement advocates for changes to food production, such as the elimination of synthetic additives, that are beneficial to the environment, the carbon footprint of *industrial,* organic production is similar to, if not higher than, that of non-organic, industrial production (Berners-Lee, 2011). As well, due to the high tilling of soil required to manage weeds in organic monocultures, soil health can actually be worse with organic production (Pollan, 2006). Organic foods do provide health benefits for consumers (Pollan, 2006) and a reduction of environmental pollutants (see discussion, p. 12), but when incorporated back into industrial systems they are not sufficient to displace these systems' inherent unsustainable practices. One of the methods that allows for alternative systems to be re-incorporated is the adoption of certification and labeling, as explained further below in regards to the Fair Trade movement.

Fair Trade

Fair trade began as alternate trade in the 1960s. It prioritized the health and well-being of people and the environment over profit. Alternate trade products were sold through specialty stores in a distribution network outside of, but parallel to, the mainstream network, (Renard, 2003, p. 89). As Renard explains, that alternate trade products were only available in specialty stores limited their sales – the time investment in going to a specialty store to buy these items was a greater deterrent for many customers than the items' higher prices (p. 90).

To enable greater access to their products, alternate trade organizations began to sell and distribute through traditional, industrial networks. A Fair Trade label was created as certification for the consumer that production of these goods continued to embody the same values, including that workers were paid a fair wage. The higher prices of these goods, as compared to similar products not labeled as Fair Trade, were maintained as it was thought customers would be willing to pay as long as they knew the price differences would benefit the producers, not the middlemen (Renard, 2003, p. 90).

Under this model, sales of Fair Trade products have grown steadily (Renard, 2003, p. 90). These products are still sold in alternate stores (for example, Ten Thousand Villages). However, Renard asserts it is their sale through traditional networks, facilitated by the Fair Trade label, that has allowed the sale of these products to be so widespread and to benefit the number of growers and producers that they do (p. 90). This does not mean, though, that labels do not create issues for the Fair Trade movement.

As Renard explains, since labels based on quality, like Fair Trade labels, are not industry standards but rather a set of collective principles that growers and distributors agree to adhere to, companies can create their own labeling systems that purport similar values but involve lower standards. The proliferation of these labels and the devaluing of the qualities represented can lead to a trivialization of the labels and a lack of consumer attention paid to them (Renard, 2003, p. 88).

The examples of Fair Trade and organic production suggest that rather than strengthening alternative movements, labels allow industrial producers to meet the required standards, reducing the ability of these movements to serve as alternatives. The Community Foods service does not certify or guarantee "localness". Rather, it creates conversational spaces where consumers and producers can discuss and negotiate their values. As discussed in the next section, the more a food becomes a commodity - the more it can be labeled - the less there is the ability for this conversational space to exist.

From Food to Commodity

> *"The invention of commodity grain severed any link between the producer of a food stuff and its ultimate consumer. A commodity is like a filter, stripping qualities and histories from the harvest of a particular farm or farmer."*
>
> **- Michael Pollan, 2006, p. 92**

Another reason food labels are problematic is their ability to turn foods into commodities. It was the introduction of a grading and labelling system for corn in 1856 that led to it being grown and regarded as a commodity (Pollan, 2006, p. 91). The guarantee provided by the label removed the buyer's need to meet the producer and sample the product prior to buying, as had been the practice. The label also replaced the name of the farm on the packaging, meaning corn could no longer be traced back to where and by whom it was produced. This removed the ability for producers and consumers to communicate: consumers could no longer know the producer or the history of the produce; producers could no longer know who was buying their crop, removing as well the responsibilities that came with this knowledge (Pollan, 2006, 91).

2.6 Local food systems

While the Fair Trade and organic movements' emphasis on labels and certification lessened their ability to serve as alternatives to industrial food systems, local food systems provide the ability for consumers to find out whether a food meets their ethics through the ability to ask questions of producers directly.

While little research has been done on sales of local food through intermediaries, such as stores, C. Clare Hinrichs (2000) provides an insightful analysis of direct sales transactions through the lens of economic sociology. Hinrichs identifies three factors present in all market transactions: *embeddedness*, which refers to non-economic (generally social) factors; *marketness*, which refers to the role the economic market, or price, plays; and *instrumentalism*, which is the involvement of individual motivation (p. 300). Hinrichs explains how, though embeddedness is thought to be the dominant factor in direct market transactions, this does not preclude the motivation for individual gain nor price considerations. While customers must feel they receive good value to continue purchasing from a producer, the strong embeddedness of direct sales does mean prices can be higher before customers look elsewhere (Hinrichs, 2000, p. 302).

Consumer motivations for buying local food

As discussed above, studies that seek a consumer definition for local food often ask consumers what they think a universal definition of local food is, rather than asking them what values they are looking for when they buy local food. As service design focuses on consumer needs and desires, understanding consumer motivations for buying local is more important than their perception of a local food definition. A number of studies have been conducted in the United States, both nationally and regionally, asking consumers what they value in their local food purchases.

As Martinez et al. (2010) explain, while demographically local food consumers have little in common, their motivations are similar (p. 27). Across both national and regional surveys in the U.S., the main reasons consumers provided for buying local are freshness, support for the local economy, and the localness of production.

A national U.S. survey conducted by the Farm Marketing Institute (2009) found the main motivations for local food consumers were freshness (82%), support for the local economy (75%) and knowledge about a product's source (58%) (as cited in Martinez et al., 2010, p. 27). Freshness and support for the local economy were also mentioned as important factors in a study conducted by Bond et al. (2009), while a survey of consumers attending a Tennessee farmers' market cited freshness, quality, and locally produced food as their main motivations (Eastwood et al., 1999, p. 64). In a survey of 336 farmers' market attendees at 21 farmers' markets in New Jersey, Govindasamy et al. (1998) found the factors most affecting consumers' food purchasing decisions were quality and freshness (p. 10). In the same survey, 90% of respondents agreed with the statements that freshness and direct contact with producers are the main motivators for people to shop at farmers' markets and that farmers' markets support local agriculture (Govindasamy et al, 2008, p. 18).

By comparison, factors relating to organic production or the health of foods, though often associated with local production, were not found to be motivating factors for purchase. Zepeda and Li (2006) found that attitudes toward health and the environment were not indicative of local food purchasing. As well, in a survey of 530 shoppers in the Midwest, Darby, Batte, Ernst, and Roe (2008) found that consumer demand for local food (with local defined in terms of distance) does exist independently from other attributes that are associated with local food (p. 485).

Consumer challenges to buying local foods

In studies conducted with local food consumers, the main barrier to shopping at farmers' markets was found to be lack of convenience, being mentioned in four separate studies conducted by by Eastwood (1996, p. 23), Eastwood, Brooker, and Gray (1999, p. 69), Govindasamy et al. (1998, p. 29), and Hardesty (2008, p. 1289). Other factors that were mentioned include not knowing where markets are located (Govindasamy et al., 1998, p. 29), and high prices of foods at markets (Eastwood, 1996, p. 25; Eastwood et al., 1999, p. 68). One of the reasons the Community Foods service advocates for a greater inclusion of stores in local food systems is the potential they provide to increase the accessibility and convenience of local foods.

Demographics of local food consumers

Local food consumers are demographically diverse, and studies disagree about their demographic characteristics. Martinez et al. (2010) discuss the disagreement among six studies as to whether educational and income levels are indicative of a consumer's likelihood to buy local (p. 27). Though I did not include educational level, in a survey I conducted in 2012 (included as Appendix B, p.151-161 and discussed in more detail on p. 83), while a majority of respondents had annual household incomes over $40,000, 10.1% had incomes under $20,000, suggesting a strong diversity in income levels among attendees at the Saskatoon Farmers' Market as well. In terms of other demographic characteristics, in their survey of 336 attendees at farmers' markets in New Jersey, Govindasamy et al. (1998) found that a majority of respondents (54%) were 51 years of age or older and the average household size was 2.72 people (p. 19).

Producer challenges

A number of studies have explored challenges for producers both to enter into local food systems and to expand their operations. However, these studies have mainly focused on production-side challenges that fall outside the scope of this thesis. Martinez et al. (2010) discuss thirteen studies which discuss production challenges for producers including: producing in sufficient quantity to meet demand, maintaining consistent quality, making deliveries, and maintaining availability out of season (Martinez et al., 2010, p. 21). More relevant to this thesis is the suggestion by Martinez et al. (2010) that the time involved in direct sales may impede small producers' abilities to increase production volume (p. 21). Hardesty (2008) adds labour involved in direct sales can be a barrier for producers.

Local food stores

Little research has been done on the role of retailers in local food systems (Ilberry and Maye, 2006). The information that has been collected generally refers to retailer's perceptions of the reasons consumers desire local foods (Martinez et al., 2010, p. 32), suggesting that stores' main reason for selling local food is consumer demand. Lawless et al. (1999) did find that both retailers and farmers believe there are opportunities to increase sales of local foods by selling through stores, though the farmers and retailers they interviewed focused on larger stores.

2.7 Service design

Polaine et al. (2013) define service design in part as "designing for relationships and experiences that evolve and change over time," (p. 36). They emphasize the importance of consistency in the service experience.

Polaine et al. (2013) describe services as comprising "interactions among people, technology, and processes," (p. 36). Rather than an individual product or interaction, they describe the service experience as consisting of a user's interactions with multiple products or aspects of the service (Polaine et al., 2013, p. 23). In service design terminology, the aspects of a service with which a user interacts are referred to as touchpoints. Polaine et al. emphasize the importance of consistency in the service experience, explaining that "service quality can be defined by how well the touchpoints work together for the customer," (Polaine et al., 2013, p. 23). Service design is focused on designing services as a whole and addresses the context within which services are used.

Service blueprint

One of the main tools used to map a service over time and across touchpoints is the service blueprint. Service blueprints are generally laid out in a grid, with the individual channels (such as face to face interactions, print materials, and a digital platform) comprising the rows while the various phases of time in the customer journey (such as planning, shopping, and post-shopping) comprise the columns. Touchpoints form the intersections of the rows and columns.

Service blueprints are useful in organizing and designing for services because, as Polaine et al. (2013) explain, they allow a designer to view both the overall service experience and details of each touchpoint. The notion of zooming in to touchpoint details and then out to the overall concept is fundamental to service design, as it allows for the design of touchpoints within their context of use (Polaine et al., 2013, p.107).

One other aspect of the service blueprint is the separation of channels into frontstage and backstage processes. The frontstage processes are those which the user experiences (for example, a grocery store), while the backstage processes are ones the user does not see but which support the user experience (for example, ordering, stocking, and merchandising products). The separation of the frontstage and backstage processes is referred to as the "line of visibility" (Polaine et al., 2013, p. 91).

Once the grid of the service blueprint is established, the customer journey can be plotted. The resulting diagram is referred to as the customer journey map (Polaine et al., 2013, p. 104) and plots the customer journey over time and across touchpoints.

Time in relation to a service

As Polaine et al. (2013) explain, there are two ways to view time in relation to a service: relationship time and frequency. They define relationship time as that which is represented by the customer journey, stressing the importance of designing for how a user's needs from and use of a service may change as they gain experience with it; frequency describes how often a user interacts with a service over a given period of time (Polaine et al., 2013, p. 139).

I took both aspects of time into account while designing the Community Foods service. I considered relationship time in terms of how the service could hold value for users beyond an initial exploration of their community. I accommodated frequency of use in designing the digital platform both for producers who want to post regular news about their crops and those who do not want to interact with it beyond their initial account set-up.

2.8 The design of digital platforms for local food systems

Increasingly, designers are approaching food system challenges through the design of digital platforms. Carl DiSalvo has been one of the more active participants in this area. His ongoing project with Thomas Lodato and Amanda Meng, Food Data Hacks, looks at how design can support local food systems. As they explain, the first event in the project "explored ways that digital media could be used to support local food initiatives and to grow a community of producers and stakeholders," (DiSalvo, Lodato, & Meng, 2013). Another project of DiSalvo's, GrowBot Garden, was structured around participatory workshops and critical discourse on small-scale agriculture technologies (DiSalvo, Fries, Lodato, Schechter, & Barnwell, 2010).

The increasing design of digital platforms to support local food systems is also discussed in *Eat Cook Grow: Mixing Human-Computer Interactions with Human-Food Interactions*, a collection of essays that survey a wide variety of digital designs for local food systems. Editors Choi, Foth, and Hearn (2014) advocate for "the need to explore opportunities to create interfaces that help make legible potential uses toward healthy, socially inclusive, and environmentally sustainable food futures (p. 4-5). This is similar to Manzini's (2008) statement that the role of design in local development should be, in part, "developing an effective communication in the process," (p. 451). The role of design in creating connections within food communities is also discussed by Anne Galloway (2014), who argues that "the most successful uses of technology do not seek to replace existing eating experiences, but instead offer the opportunity to forge new, complementary relationships among people, places, and food," (p. 10).

It is within the space described by Galloway, Manzini, and Choi et al. that I situate the Community Foods service. Rather than proposing changes to the operations of producers or farmers' markets, the Community Foods service creates a greater ability for consumers to become aware of these local food opportunities in their community. As well, it improves communication within local food systems, both when conducted directly between consumers and producers and when mediated through intermediaries such as local food stores.

2.9 Summary

Industrial food systems remove control of their food from individuals and communities, creating numerous challenges for consumers, producers, and the environment. Local food systems provide an alternative method through which an increasing number of people are addressing their food needs. For consumers, being able to meet the people who grow their food provides them a greater ability to find foods that meet their dietary needs and allows them to communicate their food values. For producers, local food systems offer an opportunity to produce and sell in a method that supports the lifestyle they desire. And for the environment, small-scale, local farms have the ability to be run in an agriculturally sustainable way that supports rather than takes from the environment.

While a growing body of literature supports the benefits that local food systems can bring, less research exists around the operation of certain areas of local food systems. A number of recent studies have examined the motivations and barriers for local food consumers, but little research exists on the shape and context of their local food journeys, particularly the extent to which time and context affect their decisions to purchase local and where in their journeys these decisions are made. For producers, research into the challenges local food systems pose is growing, but little study has been done into their reasons for participation beyond the alternative to industrial systems that local foods offer. Finally, the space of local food retailers has received little attention. Generally, stores' motivations are attributed to meeting customer demands, but such a generalization misses other potentially important factors. In the next section I review two local food retailers to provide a fuller understanding of stores' motivations for participating in local food systems.

3 Precedent review

I reviewed precedents of local food retailers and distributors as well as print and digital resources. The retailers, the *Saskatoon Farmers' Market's Little Market Store* and *Sustainable Produce Urban Delivery (SPUD)*, provide two very different models. The Little Market Store was extremely local, selling the products of farmers' market vendors and situated within that social community. SPUD's focus is on food and convenience, providing home delivery of both local and non-local foods. While both prioritized local products, they were limited in the number of producers they could represent.

Discovery Organics, a produce distributor who prioritizes relationships with their growers, offered an understanding of how a service could support stores in providing information about their products, both through an online producer database and printable bios for some producers. I discuss how, though both offerings were limited in their ability to provide information directly to consumers, to varying degrees they supported store staff in doing so.

The digital and print resources I reviewed offer precedents for the touchpoints of the Community Foods service. Both digital platforms, *Local Harvest (Australia)* and *Local Harvest (United States)*, provide a wealth of information about local food opportunities but do so in a visually dense manner that makes it difficult for a consumer to sort through this information to find what they are looking for. While both the *Discover Organics grower cards* and the *Cascade Harvest Coalition farm guide* were largely ineffective from a consumer perspective, they offer suggestions for the design of print touchpoints to support store staff.

3.1 Local food retailers

The Little Market Store at the Saskatoon Farmers' Market

Located within the Saskatoon Farmers' Market (which is a year-round, indoor market), the Little Market Store sold vendors' products throughout the week, extending their availability beyond market days. The store also sold products from local producers who were not market members and brought in produce not available from farmers locally (including imported foods such as bananas and ginger). I managed the Little Market Store on behalf of the Saskatoon Farmers' Market from January to August, 2013.

As the market wanted the store to stock each item from only one producer at a time, the store represented a small percentage of the producers at the market. As well, some producers chose not to sell through the store, either because they did not want to lose the 33% commission the store received or did not have sufficient supply. Foot traffic and sales were low on non-market days, and as such it was not viable as a stand-alone business. Due to the time and management costs involved in running the store, the Saskatoon Farmers' Market chose to close it in late 2013.

Assessment

- The store provided a model of how producers can sell collectively to extend the availability of their products without increasing the amount of time they have to be present.
- For consumers, purchases at the store were often social; I developed relationships with a number and had brief conversations with them during their weekly visits.
- Consistent with Hinrich's (2000) description of farmers' market purchases, though consumers valued the store's social interactions, price remained a factor in their purchase decisions; for non-market goods, the prices at the store were often higher than they would be at a grocery store, which deterred some consumers from purchasing these products.

Fig. 1: The Little Market Store at the Saskatoon Farmers' Market
A small space, the Little Market Store consisted of two walls of packaged goods, a display stand for produce, and a fridge and freezer for meat, dairy, and eggs.

Sustainable Produce Urban Delivery (SPUD)

Service Model

SPUD is a food retailer that allows customers to order products online and have them delivered to their home. While SPUD does carry imported products, they prioritize distance in their purchasing decisions. They provide a large amount of information for each product on their website, including: its growing method; the distance it traveled; and, especially for local products, a producer bio.

Assessment

- SPUD sources each product from a limited number of producers at a time (often only one), providing a very limited ability for a consumer to explore and choose from the producers within their community; rather, a consumer's choice is largely whether or not to trust SPUD's ethics and the choices they have made.
- SPUD's prices are often higher than a grocery store when comparing the same products, meaning price can become a barrier for consumers.

Fig. 2: SPUD homepage
Screenshot from SPUD's homepage (www.spud.ca). Their main values (local and organic), are emphasized through the text and image.

Figure 2 has been removed due to copyright restrictions. The image was a screenshot of SPUD's homepage, www.spud.ca.

3.2 Local Food Distributors

Discovery Organics

Service Model

Discovery Organics, a produce wholesaler, was started in 1999 to help small-scale BC farmers gain access to the larger commercial marketplace in order to better support their families and communities. Discovery Organics has worked with over 90 BC growers, helping many move to larger, more financially stable operations. As well, they have extended their network to include growers outside BC, continuing to prioritize relationships with growers and the health of local communities. Their expansion started in Western Canada and then moved internationally down the U.S. Pacific coast and into Mexico and South America (Discovery Organics, 2013). Discovery Organics makes information about their producers available both on their website and through printable grower cards (reviewed as a precedent for a print touchpoint on p. 35). I ordered produce through Discovery both during my time at Saskatoon Herbs 'n' Health and the Little Market Store.

Assessment

- In my experience, consumers were not aware of Discovery's online grower profiles. As a result, it became the responsibility of store staff to provide information about growers, which was challenging as for many products the supplier changed with each order. This provides an example of how a backstage producer information system can be difficult for stores to implement if it becomes too large and a reason stores may want to limit the number of local producers they source products from.

Fig. 3: Discovery Organics grower profile

Screenshot of Discovery's grower profile for Harker's Fruit Ranch. © Discovery Organics. (2015). Harker's Fruit Ranch [Website, screen capture]. Retrieved May 10, 2015 from http://www.discoveryorganics.ca.

3.3 Digital Platforms

Local Harvest (Australia)

Local Harvest is "a community project … with a view to providing a resource to make it easy to find local and more sustainable food options" (Local Harvest, n.d.). They take a broad approach to local foods, providing a listing of 23 different types of local food access including: producers, local food stores, restaurants, markets, food box programs, community gardens and community organizations that support local foods, among other options. They organize these into five overarching categories named according to the opportunities they provide for the user: *Eat Out*, *Buy Direct*, *Grow & Share*, *Learn & Participate*, and *Meet The Farmer* (Local Harvest, n.d.). Their homepage features a map showing the options within each category using colour-coded icons (see facing page). They rely on producers, retailers, and consumers to add listings. Though they state they were inspired by Local Harvest (United States, see p. 34), there is no indication of affiliation.

Assessment

- They provide a large number of listings, especially for a service that is largely reliant on the public to upload information: as of March 12th, 2015, they had over 2100 listings across Australia.
- All five categories of listings are shown on the map simultaneously when their site loads. While users can select which listings to show, this has to be done individually for each of the 23 types. Showing all listing categories at once does not support how a consumer would search for food. For example, if a consumer is looking for carrots for an upcoming meal, CSAs would most likely not provide quick enough access, while restaurants provide a method of access that does not support the consumer's reasons for wanting to buy carrots.
- Local Harvest provides little support for exploration or searches based on products. When I searched "carrot" in their keyword search the results provided only one listing. Searches for other foods produced similar results.
- Within individual producer listings, information is limited, often to contact information. When further information is provided, this is done in a single narrative that is difficult for a consumer to scan. Organizing information into sections would allow a consumer to more easily find what they are looking for, would provide consistency among listings, and would support producers in knowing what information to provide.

Fig. 4: Local Harvest (Australia) homepage
© Local Harvest. (n.d.). [Website, screen capture]. Retrieved March 11, 2015 from http://www.localharvest.org.au. Licensed under CC BY-NC-SA 3.0 AU.

Local Harvest (United States)

Local Harvest provides a national directory of family farms and farmers' markets, as well as local food stores and restaurants that feature local food. According to the information they provide, they have over 30,000 directory listings and over 7 million people search their directory annually (Local Harvest, 2015). Producers are responsible for creating their own listings.

Centred around urban areas, Local Harvest's directory allows consumers to explore and search within the listing of each included city. Within individual producer listings, consumers are able to move between the various methods a producer offers for acquiring their products (see below). As well, Local Harvest provides an online shop through which users can purchase products from participating producers.

Assessment

- Both Local Harvest's large number of listings and high visitor count support the potential for a digital local food platform to depend on producers to input and maintain their information. As a counterpoint, some listings have not been updated for up to 10 years, arguing for the necessity of oversight from a representative from the digital platform to ensure listings remain current.
- Similar to Local Harvest (Australia), when a consumer searches for a specific product, both producers and markets are listed together in the results though they often occupy different roles in a customer food journey.

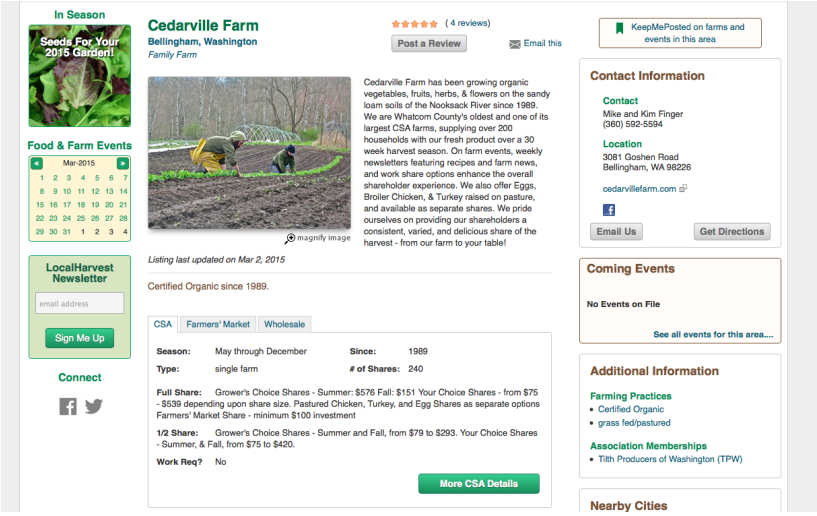


Fig. 5: Local Harvest (US) individual producer page

The listing provides three methods to buy from the producer: CSAs, Farmers' Markets, and Wholesale. © Local Harvest, Inc. (2015). Cedarville Farm [Website, screen capture]. Retrieved March 11, 2015 from http://www.localharvest.org/cedarville-farm-M449.

3.4 Print materials

Discovery Organics grower cards

To support stores in providing producer information, Discovery Organics provides printable grower information cards for some producers. The cards include a brief producer bio, information about their growing methods, and, when applicable, the social benefits of the Fair Trade premiums the producer receives. Both at Saskatoon Herbs 'n' Health and the Little Market Store I printed, laminated, and displayed grower cards with the produce.

Assessment

- Given the limited space available in local food stores, displaying the cards (which measure roughly 5" x 7") was difficult without blocking consumers' sight lines to produce.
- Few people engaged with the cards, and fewer still took the time to read them. At the Little Market Store, the cards functioned most often as a trigger for people to ask me about the growers. As such, the cards were most effective as a backstage method of providing me (representing store staff) with producer information to pass on to consumers, rather than presenting this information to consumers directly.

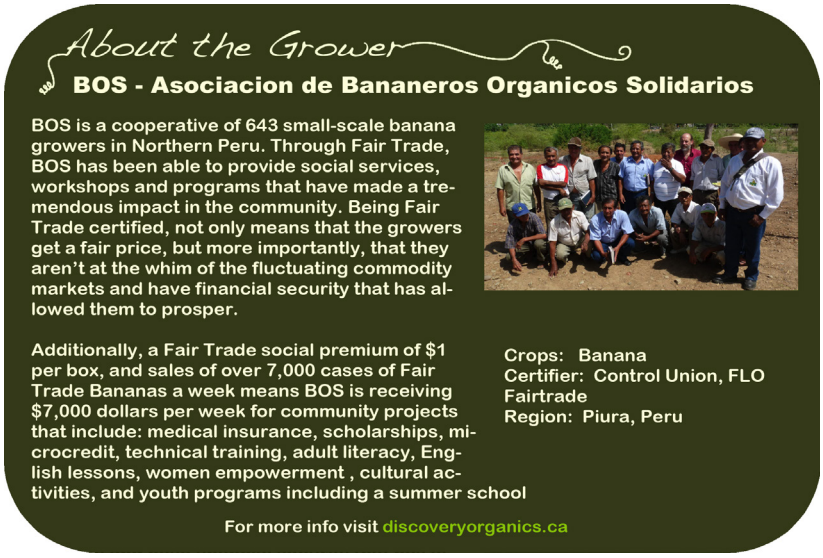


Fig. 6: Discovery Organics grower profile card

Discovery Organics grower profile card for BOS Solidarios, a collective of banana growers in Peru. The card shown is an old version but was the one used during my time at Saskatoon Herbs 'n' Health and the Saskatoon Farmers' Market. © Discovery Organics. (2013). BOS [pdf]. Retrieved October 20, 2013 from http://www.discoveryorganics.ca.

Cascade Harvest Coalition farm guide

Cascade Harvest Coalition is "a non-profit organization dedicated to 're-localizing' the food system in Washington State by connecting consumers and producers," (Cascade Harvest Coalition,). They produce a Washington farm guide available at Pike Place Market, Seattle, Washington.

Assessment

- The guide's text-heavy layout makes the listings hard to scan. Though icons are used, they are not intuitive.
- The images (since they are not provided for every producer) and advertisements create a hierarchical rather than egalitarian listing.
- The index of producers and markets is categorized according to county. While this does allow a consumer to quickly find the producers closest to them, it makes it difficult to find a producer if their county is not known. This provides an example of the usefulness of a digital platform in allowing a user to move between exploring the producers nearest them and searching within a larger community.

Fig. 7: Cascade Harvest Coaltion farm guide

The guide contains a mixture of farm listings, market listings, and advertisements.

Packaging

The importance of narrative in local food is well illustrated through its packaging which often includes a story about the product or place of origin.

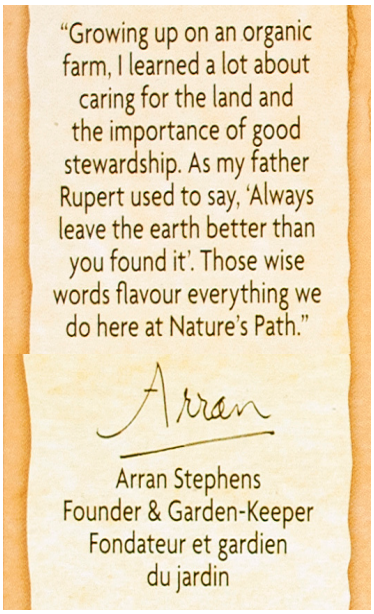


Fig. 8: Alaska Sourdough Bakery bread bag

Left: Bread bag from the Alaskan Sourdough bakery in Seattle. Information about sourdough starters is provided in narrative form, discussing its importance to pioneers during the Alaska Gold Rush.

Fig. 9: Nature's Path cereal box

Right: On boxes of Nature's Path Cereal, the company's founder provides his personal motivation for the company.

Fig. 10: Ladybug Brand red potatoes bag

Potato bag from Ladybug Brand. The narrative positions the brand as representing family farms and being grower owned.

3.5 Summary

The local food retailers I reviewed as precedents sourced products from only a small number of producers, and the number of local producers whose products would be available at a store supplied by Discovery Organics would most likely be even fewer, meaning that individually the ability of stores to support producers within a community is limited. As well, while all three provided varying degrees of information about producers, they offered little opportunity for consumers and producers to communicate through them.

Both of the Local Harvest digital platforms provide consumers a greater ability to explore and connect with the producers across their community. Their major drawback is the non-intuitive way they present various methods of accessing local foods on the same level, making it difficult for consumers to find the methods that fit their customer journeys.

The print touchpoints, while limited in their ability to provide information directly to consumers, do offer the potential to support local stores in providing this information.

Taken together, these precedents suggest a possible framework for the design of a local food service that can support consumers, producers, and stores across a community. While the number of producers that an individual retailer can support is small, collectively the local food retailers within a community have the potential to support a large number of producers and offer a variety of opportunities for consumers to access local foods. As well, though these stores struggle at times to provide information about local producers (as explained further on p. 68) printed materials offer a possible method to support store staff in doing so.

4 Primary research

As part of the early phase of my design research process, I conducted primary research with local food consumers, producers, and store representatives. This provided me the opportunity to better understand their roles in local food systems and to address gaps in knowledge identified by my literature and precedent reviews.

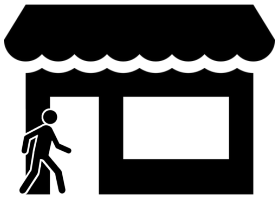
My literature review identified three gaps in knowledge around local food systems:

- the shape and context of consumers' local food journeys and where in the journeys they make decisions to buy local;
- producer motivations for participation in local food systems beyond the alternative they provide to industrial systems;
- and the challenges and motivations for local food stores.

As well, my research explored how a local food service could address two gaps in current service offerings identified through my precedent review:

- facilitating communication between consumers and producers;
- supporting consumers in moving through the different opportunities to access local food in their community (generally stores, markets, and direct from producers), and helping them better understand the connections between these.

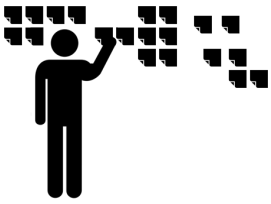
My primary research began with personal explorations around the ways in which information about food can be passed from one person to another. I then went on service safaris to supermarkets, farmers' markets, produce stands, and local food stores. These provided me a fuller understanding of the different forms local food sales take within both local and industrial systems. Next I spoke with producers to understand the challenges they face and their motivations for participating in local food systems. As well, I asked what support they would like to receive from a local food service that they are not currently. I then spoke with a representative from a local food store to learn more about their motivations for carrying local foods, beyond meeting customer demands, and the barriers they face. Following an analysis of these conversations, I finalized diaries and distributed these among local food consumers. The diaries explored consumers' motivations for buying local food and the shapes and contexts of their local food journeys.



Service Safaris
April to May

Conversations with producers
June to July

Diary studies with consumers
August to September



Synthesis and analysis
July to October

4.1 Research methodology

Building from service design methodology, I emphasized qualitative research to support my design of the Community Foods service. As Polaine et al. (2013) explain, while quantitative methods "are good for creating knowledge and understanding the field" (p. 96), qualitative methods are more useful at moving from knowledge to design.

During service safaris I focused on the experience of the services and how these met the expectations set by organizations through their promotion of local food opportunities. Similarly, while I went into producer conversations with broad topics to guide the conversation and asked questions throughout, I focused on open-ended questions to allow the conversations to develop naturally. The questions and activities in the consumer diary centred on their motivations and experiences around buying local food.

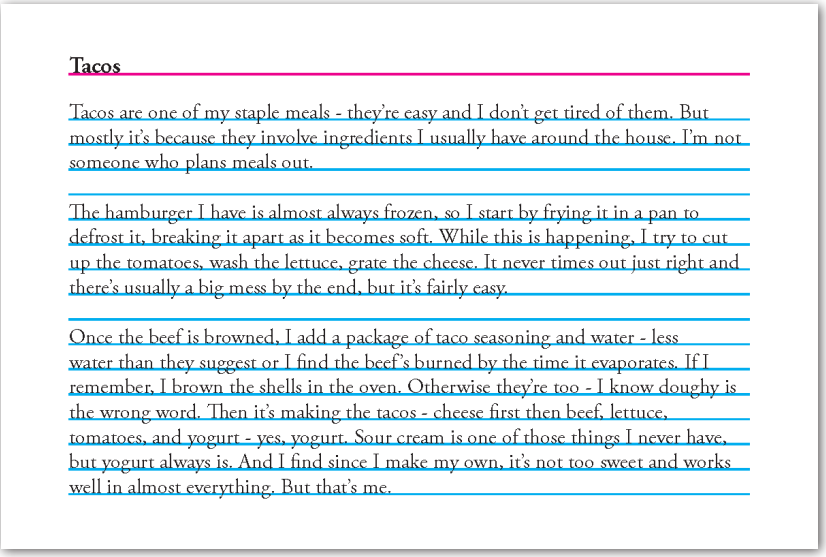
I used the method of *affinity diagramming* to synthesize and analyze the qualitative information I gathered through my conversations with producers and diary studies with consumers. As Martin and Hanington (2012) explain, in affinity diagramming each insight or observation made during participant research is recorded on an individual sticky note, and these are then grouped together according to similarities; a heading for each category is written on a different colour of sticky note, and the process is repeated with these headings, usually to a total of four levels (p. 12). I chose the method of affinity diagramming as it allows for categories to be generated through a bottom-up approach, and service design focuses on a "bottom-up, needs-based approach to designing with people" (Polaine et al., 2013, p. 96).

4.2 Preliminary research

My preliminary research began with self-exploration of methods for sharing food information, involving myself both as designer and subject. In one exploration, I placed myself in different situations where I was taught how to cook a meal and then reflected on the experience. The situations ranged from learning from my mother to attending a cooking class given by Thomas Brown (who also participated in my research as a local food producer). The most valuable insight I gained was the ability of conversation to pass on knowledge in ways that information alone cannot.

For another exploration, I re-imagined recipe cards as a site for story-telling and knowledge-sharing. Rather than the precise recipe, I focused on the circumstances and experiences surrounding my making of each meal as entry points to encourage others to try cooking it. I silkscreened an image of the meal on one side of the card and the recipe story text on the other (see below).

As the stories told through this process provide a good opportunity to collect qualitative information, I asked consumers to write a recipe story card as the fourth exercise in the diaries (p. 73). As well, I will be using recipe story texts on the handout cards given to introduce consumers to the Community Foods service (p. 124).



Tacos

Tacos are one of my staple meals - they're easy and I don't get tired of them. But mostly it's because they involve ingredients I usually have around the house. I'm not someone who plans meals out.

The hamburger I have is almost always frozen, so I start by frying it in a pan to defrost it, breaking it apart as it becomes soft. While this is happening, I try to cut up the tomatoes, wash the lettuce, grate the cheese. It never times out just right and there's usually a big mess by the end, but it's fairly easy.

Once the beef is browned, I add a package of taco seasoning and water - less water than they suggest or I find the beef's burned by the time it evaporates. If I remember, I brown the shells in the oven. Otherwise they're too - I know doughy is the wrong word. Then it's making the tacos - cheese first then beef, lettuce, tomatoes, and yogurt - yes, yogurt. Sour cream is one of those things I never have, but yogurt always is. And I find since I make my own, it's not too sweet and works well in almost everything. But that's me.

Fig. 11: Recipe Story Card text

Text for the *Tacos* recipe story card, including descriptions of unplanned moments such as substituting yogurt for sour cream and needing to leave time to thaw frozen beef.

4.3 Service safaris

To improve my understanding of the larger food systems within which local foods are one option, I went on a series of service safaris. Service safaris are visits to other services where the designer puts themselves in the role of customer to gain an understanding of services from the user perspective (Polaine et al., 2013, p. 59). Stickdorn and Schneider (2010) suggest service safaris allow participants "to develop an understanding of the common needs customers have, and the common problems that they encounter," (p. 154). They allow designers "to enlarge, shift, and reframe the way they think about serving their customers," (Polaine et al., 2013, p. 59).

Polaine et al. (2013) suggest broadening the scope of safaris outside the immediate service for which a designer is designing, possibly even outside the industry (p. 59). While I did not broaden my scope that far, I made repeated visits to two supermarkets in Vancouver: Save-On-Foods and Whole Foods. I chose these as both franchises heavily promote the local foods they carry. These service safaris allowed me to gain a better understanding of the consumer experience of shopping for local foods within the industrial food system. In particular, the expectations set by advertising were regularly not met by the variety of local foods the stores carried or the information they provided.

I also went on service safaris to farmers' markets, farm stands, and local food stores to broaden my knowledge of how local food sales are adapted to different communities and geographies. Visiting sites across Western Canada and into Washington State allowed me to not only see but experience some of the unique and often vernacular ways people are addressing local food issues.

Though I visited more sites than those documented here, I chose to discuss my service safaris to Pike Place Market in Seattle, Washington; Yakima Fruit Stand in Bothell, Washington; and wineries in Penticton, BC. Each encompass a quite different approach to local food retail: a large market that sits on the spectrum between a farmers' market and a local food store, with most of the sales taking place through intermediaries (Pike Place Market); a fruit stand that, while full of vernacular design, offers little connection to the producers (Yakima Fruit Market); and a high-end, wine and cheese experience that presented these items, to borrow Pollan's (2006) phrase, "as products of culture rather than nature" (p. 159). All three experiences, though enjoyable, did not provide me the connection to my food I desired.

Save-On-Foods

Save-On-Foods is part of the Overwaitea Food Group which, according to their website, is "Canada's largest western-based food store chain" (Overwaitea Food Group, 2015). While other supermarket chains carry little, if any, local food, Save-On-Foods took out billboard ads throughout Vancouver in fall, 2013, to advertise their focus on local foods (see below). I chose the Save-On-Foods on Cambie Street in Vancouver as a site for service safaris, making repeated visits there in fall 2013 and throughout 2014. This provided me the opportunity to observe both how the expectations set by such a campaign were met, and the possibilities for a large chain supermarket to carry local food.

Within the store, Save-On-Foods prominently signs local produce and provides a fixture of locally-made products at the store entrance (see facing page). However, their local food offerings are quite small, both in comparison to the store as a whole and the variety of food produced in and around Vancouver. The amount of local produce is quite limited, and the products on the local food fixture are mostly high-price, specialty items.

Fig. 12: Save-On-Foods billboard

Kingsway Street, Vancouver, fall 2013.

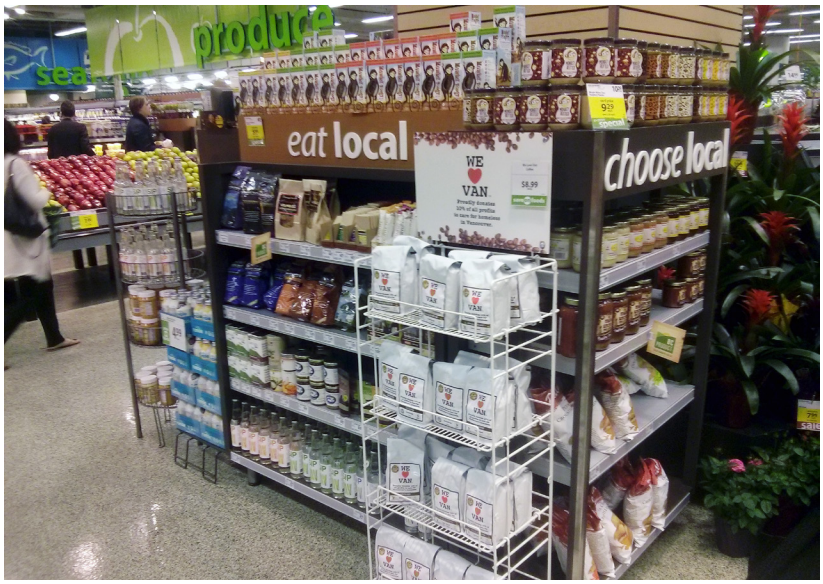


Fig. 13: Save-On-Foods local food fixture

Cambie Street location, Vancouver, 2014.

Fig. 14: Save-On-Foods "BC grown" produce signage

Cambie Street location, Vancouver, 2014.

Whole Foods

Whole Foods is the world's largest organic and natural foods retailer (Research and Markets, 2012). They place a strong emphasis on local foods through narratives that Pollan (2006) describes as "Supermarket Pastoral" (p. 185). Similar to my service safaris to Save on Foods, I made repeated visits to the Whole Foods on Cambie Street in Vancouver in 2013 and throughout 2014.

"from around here" signage

Whole Foods uses signage reading "from around here" to denote local foods throughout the store (see below and facing page). The qualifications for this designation are explained through informational signage in the produce section as well as a on a large sandwich board that sometimes sits outside Whole Food's main entrance (see facing page). As in other local food situations, a consumer's expectations for what is meant by the local food designation may be different from the actual values represented by the food. Whole Foods only requires part of the production process to occur in BC in order to qualify for their "from around here" designation. For example, though Anita's Mill (see facing page) is BC based, they do source grain from outside the province.

Fig. 15: Whole Foods "from around here" signage

Cambie Street location, Vancouver, 2014.

Fig. 16-17: Whole Foods "from around here" signage

Cambie Street location, Vancouver, 2014.

Producer bios

The "Supermarket Pastoral" (Pollan, 2006, p. 185) language of Whole Foods can best be seen in the producer bios they provide for some products (see facing page). The text reads like an advertisement, sentimentalizing the producer and their story. While some people question the motivations behind and effectiveness of these signs (as discussed on p. 10), there are practical challenges to displaying them as well.

As the size of the bios makes them difficult to display in a crowded produce section, Whole Food places them at the ends of aisles. This caused me confusion as to what product the bios referred to. As well, given the busyness of Whole Foods, I found it difficult to read the signs without feeling like I was in someone's way.

Fig. 18-19: Whole Foods producer bios

Cambie Street location, Vancouver, 2014.

While the other three bios pictured are for BC-based producers, this bottom one is for a California producer; presented in a visually similar manner, at the level of a quick reading this bio gives the incorrect impression of representing a local producer.

Pike Place Market

Pike Place Market, Seattle, Washington, provides a precedent of a food service that allows consumers to purchase both directly from producers and through third-party retailers. Stretching three blocks, Pike Place Market houses over 80 local farmers as well as hundreds of locally-owned stores; while farmers can rent a stall at the market any day of the week, Fridays to Sundays are dedicated farmers' market days (Pike Place Market, 2013). The stores, which sell a combination of local and non-local produce, allow Pike Place Market to be open seven days per week without requiring the producers to account for this time themselves.

Pike Place Market provides a foldable map (see below) with listings of all permanent vendors and their location within the market. As local producers change daily, they are not listed, and even for permanent vendors only their name and location are provided. This shows the limitations of a printed booklet to accommodate the large amount of information and ephemeral nature of markets.

Fig. 20-21: Pike Place Market Map

Fig. 22: Pike Place Market main sign

They put the value proposition on their front sign.

Fig. 23 Pike Place Market interior

The aisles of Pike Place Market are often so full of people it is difficult to move.

Yakima Fruit Market

The Yakima Fruit Market, located in the Seattle suburb of Bothell, WA, is a permanent, established, road-side market. While the market advertises a strong connection to community (see newsletter below), much of the produce was from out of state.

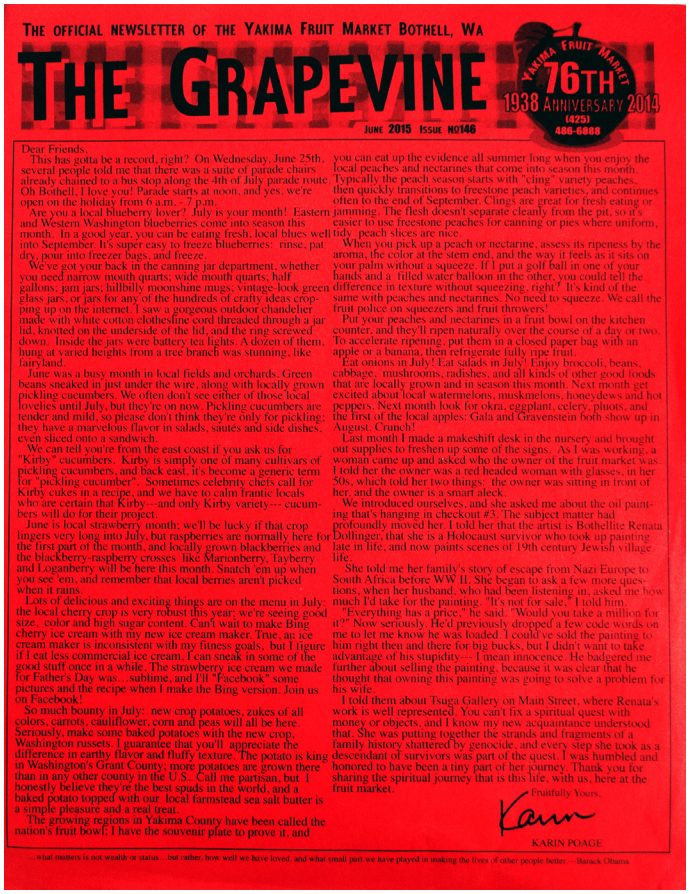
One of the most interesting features of the market were its handmade signs (see facing page). These provide an example of the vernacular design found in many markets, produce stands, and local food stores. While they may be visually appealing, the signs create a busyness in the visual space of the market which would make it hard for additional visual information (such as producer bios) to be noticed.

Fig. 24: The Grapevine, Yakima Fruit Market newsletter

The newsletter provides information about which fruits and vegetables are in season, along with frequent references to the high quality of local produce.

The newsletter situates the market within the community, opening by discussing the town's preparation for the 4th of July parade.

The typographic density speaks to the sometimes limited ability of vernacular design to provide information in a way that is easily received and understood by consumers.



THE OFFICIAL NEWSLETTER OF THE YAKIMA FRUIT MARKET BOTHELL, WA

THE GRAPEVINE

YAKIMA FRUIT MARKET 76TH 1938 ANNIVERSARY 2014 (425) 486-6888

JUNE 2015 ISSUE NO146

Dear Friends,

This has gotta be a record, right? On Wednesday, June 25th, several people told me that there was a suite of parade chairs already chained to a bus stop along the 4th of July parade route. Oh Bothell, I love you! Parade starts at noon, and yes, we're open on the holiday from 6 a.m.–7 p.m.

Are you a local blueberry lover? July is your month! Eastern and Western Washington blueberries come into season this month. In a good year, you can be eating fresh, local blues well into September. It's super easy to freeze blueberries: rinse, pat dry, pour into freezer bags, and freeze.

We've got your back in the canning jar department, whether you need narrow mouth quarts, wide mouth quarts, half gallons, jam jars, hillbilly moonshine mugs, vintage-look green glass jars, or jars for any of the hundreds of crafty ideas cropping up on the internet. I saw a gorgeous outdoor chandelier made with white cotton clothesline cord threaded through a jar lid, knotted on the underside of the lid, and the ring screwed down. Inside the jars were battery tea lights. A dozen of them, hung at varied heights from a tree branch was stunning, like fairyland.

June was a busy month in local fields and orchards. Green beans sneaked in just under the wire, along with locally grown pickling cucumbers. We often don't see either of those local lovelies until July, but they're on now. Pickling cucumbers are tender and mild, so please don't think they're only for pickling: they have a marvelous flavor in salads, sautés and side dishes, even sliced onto a sandwich.

We can tell you're from the east coast if you ask us for "Kirby" cucumbers. Kirby is simply one of many cultivars of pickling cucumbers, and back east, it's become a generic term for "pickling cucumber". Sometimes celebrity chefs call for Kirby cukes in a recipe, and we have to calm frantic locals who are certain that Kirby—and only Kirby variety—cucumbers will do for their project.

June is local strawberry month; we'll be lucky if that crop lingers very long into July, but raspberries are normally here for the first part of the month, and locally grown blackberries and the blackberry-raspberry crosses like Marionberry, Tayberry and Loganberry will be here this month. Snatch 'em up when you see 'em, and remember that local berries aren't picked when it rains.

Lots of delicious and exciting things are on the menu in July: the local cherry crop is very robust this year; we're seeing good size, color and high sugar content. Can't wait to make Bing cherry ice cream with my new ice cream maker. True, an ice cream maker is inconsistent with my fitness goals, but I figure if I eat less commercial ice cream, I can sneak in some of the good stuff once in a while. The strawberry ice cream we made for Father's Day was…sublime, and I'll "Facebook" some pictures and the recipe when I make the Bing version. Join us on Facebook!

So much bounty in July: new crop potatoes, zukes of all colors, carrots, cauliflower, corn and peas will all be here. Seriously, make some baked potatoes with the new crop, Washington russets. I guarantee that you'll appreciate the difference in earthy flavor and fluffy texture. The potato is king in Washington's Grant County; more potatoes are grown there than in any other county in the U.S. Call me partisan, but I honestly believe they're the best spuds in the world, and a baked potato topped with our local farmstead sea salt butter is a simple pleasure and a real treat.

The growing regions in Yakima County have been called the nation's fruit bowl; I have the souvenir plate to prove it, and you can eat up the evidence all summer long when you enjoy the local peaches and nectarines that come into season this month. Typically the peach season starts with "cling" variety peaches, then quickly transitions to freestone peach varieties, and continues often to the end of September. Clings are great for fresh eating or jamming. The flesh doesn't separate cleanly from the pit, so it's easier to use freestone peaches for canning or pies where uniform, tidy peach slices are nice.

When you pick up a peach or nectarine, assess its ripeness by the aroma, the color at the stem end, and the way it feels as it sits on your palm without a squeeze. If I put a golf ball in one of your hands and a filled water balloon in the other, you could tell the difference in texture without squeezing, right? It's kind of the same with peaches and nectarines. No need to squeeze. We call the fruit police on squeezers and fruit throwers!

Put your peaches and nectarines in a fruit bowl on the kitchen counter, and they'll ripen naturally over the course of a day or two. To accelerate ripening, put them in a closed paper bag with an apple or a banana, then refrigerate fully ripe fruit.

Eat onions in July! Eat salads in July! Enjoy broccoli, beans, cabbage, mushrooms, radishes, and all kinds of other good foods that are locally grown and in season this month. Next month get excited about local watermelons, muskmelons, honeydews and hot peppers. Next month look for okra, eggplant, celery, pluots, and the first of the local apples: Gala and Gravenstein both show up in August. Crunch!

Last month I made a makeshift desk in the nursery and brought out supplies to freshen up some of the signs. As I was working, a woman came up and asked who the owner of the fruit market was. I told her the owner was a red headed woman with glasses, in her 50s, which told her two things: the owner was sitting in front of her, and the owner is a smart aleck.

We introduced ourselves, and she asked me about the oil painting that's hanging in checkout #3. The subject matter had profoundly moved her. I told her that the artist is Bothellite Renata Dollinger, that she is a Holocaust survivor who took up painting late in life, and now paints scenes of 19th century Jewish village life.

She told me her family's story of escape from Nazi Europe to South Africa before WW II. She began to ask a few more questions, when her husband, who had been listening in, asked me how much I'd take for the painting. "It's not for sale," I told him. "Everything has a price," he said. "Would you take a million for it?" Now seriously. He'd previously dropped a few code words on me to let me know he was loaded. I could've sold the painting to him right then and there for big bucks, but I didn't want to take advantage of his stupidity—I mean innocence. He badgered me further about selling the painting, because it was clear that he thought that owning this painting was going to solve a problem for his wife.

I told them about Tsuga Gallery on Main Street, where Renata's work is well represented. You can't fix a spiritual quest with money or objects, and I know my new acquaintance understood that. She was putting together the strands and fragments of a family history shattered by genocide, and every step she took as a descendant of survivors was part of the quest. I was humbled and honored to have been a tiny part of her journey. Thank you for sharing the spiritual journey that is this life, with us, here at the fruit market.

Fruitfully Yours,

Karin

KARIN POAGE

...what matters is not wealth or status…but rather, how well we have loved, and what small part we have played in making the lives of other people better.—Barack Obama

Fig. 25: Yakima Fruit Market interior

Penticton

When Penticton, BC, promotes their local foods, their wineries receive the main focus. I found the visual language of this promotion to be designerly and refined, moving away from the vernacular language of farmers' markets and produce stands and offering even less connection to producers.

The Penticton Official Experiences Guide (see below) is a glossy, high-end product. The guide's cover features an image noticeably absent of the producers or any reference to the making of the wine and food pictured. Rather, the food and wine are displayed more as designed objects. In this way, the presentation is closer to a grocery store than a farmers' market or fruit stand.

Fig. 26: Penticton Official Experiences Guide

Fig. 27: Tourism Penticton Brochures

Though Tourism Penticton does offer a number of local food and winery guides, I found them to be more a series of ads than a producer- and consumer-focused tool.

Fig. 28: Penticton wine tasting

The experience itself was very much as advertised: high-class, clean, enjoyable, and without any real connection to how the wines were made.

4.5 Conversations with producers

Having, through service safaris, broadened my understanding of how local food sales are adapted to different communities and geographies, I had conversations with Saskatchewan-based local food producers to gain a deeper understanding particular to one place. I spoke with over a dozen producers who explained the challenges they face when selling local, their reasons for doing so, and their understanding of why consumers buy from them.

I traveled to producers for the conversations, with them occurring either at the producer's home or the Saskatoon Farmers' Market. I had the conversations in context since this "helps the interviewee to remember the kind of specific details that so often get lost in a traditional focus group setting," (Stickdorn & Schneider, 2010, p. 163). When the opportunity presented itself, I spoke with producers in pairs as this "can be more useful than interviews with individuals because the subjects feed off each others' answers and build on them," (Polaine et al., 2013, p. 52).

Six of these conversations were prearranged and lasted from twenty minutes to over an hour. I audio-recorded these interviews with my cell phone as this provided the least-obtrusive method, minimizing the observer effect. The other conversations came about informally during visits to the Saskatoon Farmers' Market, building on the relationships I had developed previously. These conversations lasted from three to ten minutes and I did not audio record them.

The dates of my conversation with each producer are included in **Appendix A** (p. 149).

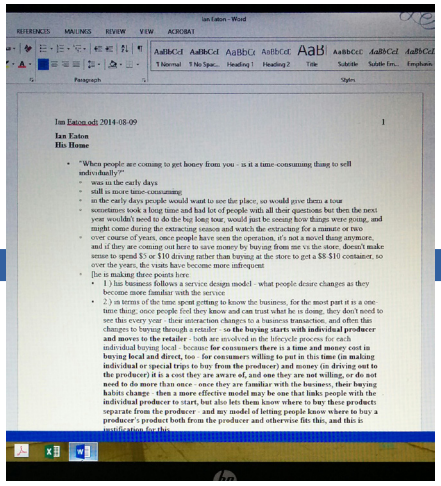
Recruitment

I contacted producers through three networks. The first, and largest, is the Saskatoon Farmers' Market. Among producers I spoke with, those who I knew from my time at the market include Audrey and Dixon Simpkins, Gerry Hounjet, and chef Thomas Brown, as well as a number with whom I had informal conversations.

The second network is Saskatoon Herbs 'n' Health, through which I contacted Ian and Verna Eaton and Nicole Davis. For both, their direct sales occur mainly through local food stores or by shipping their products to consumers.

The last network is Praxis School of Entrepreneurship, from whom I took a business course in 2012 while looking into opening a local food store. Among the producers I came to know through the school are Deanna Litz as well as another producer with whom I had only an informal conversation. Both are in the early stages of their business and not associated with a farmers' market.

Synthesis and Analysis



Ian Eaton.odt 2014-08-09 1

Ian Eaton
Ho Home

- "When people are coming to get honey from you – is it a time-consuming thing to sell individually?"
  - was in the early days
  - still is more time-consuming
  - in the early days people would want to see the place, so would give them a tour
  - sometimes took a long time and had lot of people with all their questions but then the next year wouldn't need to do the big long tour, would just be seeing how things were going, and might come during the extracting season and watch the extracting for a minute or two
  - over course of years, once people have seen the operation, it's not a novel thing anymore, and if they are coming out here to save money by buying from me vs the store, doesn't make sense to spend $5 or $10 driving rather than buying at the store to get a $8-$10 container, so over the years, the visits have become more infrequent
  - [he is making three points here:
    - 1.) his business follows a service design model - what people desire changes as they become more familiar with the service
    - 2.) in terms of the time spent getting to know the business, for the most part it is a one-time thing; once people feel they know and can trust what he is doing, they don't need to see this every year - their interaction changes to a business transaction, and often this changes to buying through a retailer - **so the buying starts with individual producer and moves to the retailer** - both are involved in the lifecycle process for each individual buying local - because **for consumers there is a time and money cost in buying local and direct, too - for consumers willing to put in this time (in making individual or special trips to buy from the producer) and money (in driving out to the producer) it is a cost they are aware of, and one they are not willing, or do not need to do more than once - once they are familiar with the business, their buying habits change - then a more effective model may be one that links people with the individual producer to start, but also lets them know where to buy these products separate from the producer - and my model of letting people know where to buy a producer's product both from the producer and otherwise fits this, and this is justification for this**

Fig. 29: Transcribed producer conversation
Following my conversations with producers, I transcribed each of the audio recordings.

Fig. 30: Insight list with a highlighted producer transcript underneath
Next, I read through the transcripts, making a list of insights and creating a unique symbol for each one. In the transcripts, I highlighted the observation that produced each insight and included the insight's symbol for later referencing. When multiple observations produced the same insight, I only recorded it once to begin the process of grouping observations into insights at this early stage.

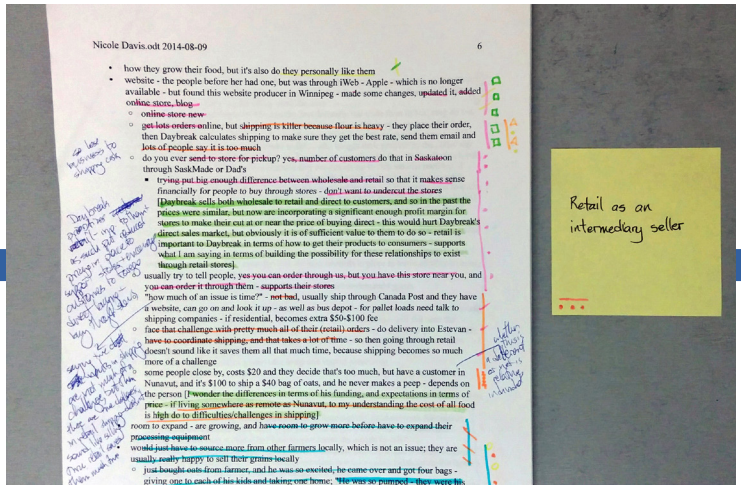


Fig. 31: Highlighted producer conversation transcript with post-it note for one insight
Along with the list, I wrote each insight on a yellow post-it note in preparation for affinity diagramming. I included the symbol for each insight at the bottom left of the post-it note. In total, my conversations with producers produced approximately 150 insights.

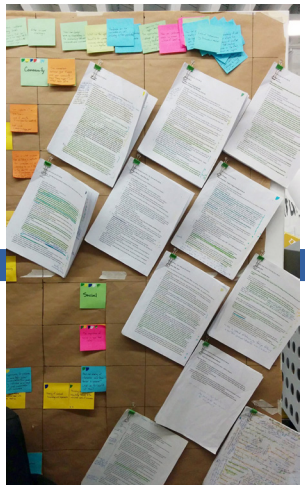


Fig. 32: Highlighted producer conversation transcripts

Fig. 33: Affinity diagram of producer insights, first iteration
My affinity diagrams went through three iterations as I organized the insights into categories. The first iteration had a lack of structure which allowed me to organically identify affinities.

Post-it note colour hierarchy

Yellow - insights generated by producer observations

Blue - low-level, insight-based categories

Pink - higher-level categories, both insight-based and organizational

Green - overarching, organizational categories

Fig. 34: Affinity diagram of producer insights, second iteration
In the second iteration of my affinity diagram I was able to arrange the insights into a more organized, hierarchical form. As the insights were too numerous to lay out in a horizontal fashion, I developed a vertical system where each low-level category was placed in a box under its higher-level and overarching categories.

I continued to develop further insights and questions through this process, which I recorded on orange post-its that I placed with the categories that generated them. As well, I experimented with the use of a fifth, purple, category to assist with organization, but I found the categories at this level became too broad to be helpful.

Fig. 35: Affinity diagram of producer insights, third and final version
I organized the final version of my affinity diagram into clear, overarching categories that helped me identify which insights to focus on.

I identified key insights with large **green** dots. As well, I identified design opportunities with large **red** dots.

Fig. 36: Affinity diagram of producer insights, final (detail)
To visually identify which producer(s) generated each insight, after completing the final version of my affinity diagram I marked each post-it with coloured semi-circles, one colour for each producer. I collected these upward within each category so that, for example, a blue post-it would contain the markers from each of the yellow post-its in its category, and a pink post-it would contain the markers from each of its blue post-its. For each insight, this allowed me to see how many producers were connected to it and to identify what common characteristics they might share. Among other benefits, this helped me understand that certain challenges are specific to producers in the early stages of their careers.

Fig. 37: Final affinity diagram of producer insights

How can consumers find out about their food?
General Customer Challenges
Reasons Customers Buy Local
Community
Building Community
Other Consumer Challenges
Relationships
Social
The Importance of Relationships in Local Food Sales
Relationships not between producers and consumers

Insights from producer conversations

While through affinity diagramming I was able to narrow the initial 150 insights to 21 higher-level categories, this was still more than could serve as the focus for the Community Foods service. Some were out of scope, such as challenges related to production or farmers' market operations, so were easy to remove. Among the insights that remained, I focused on those which I perceived as having the greatest potential for impact across food systems. These insights are discussed in further detail below.

Challenges for producers

Time

Time was the most commonly discussed challenge, both in regard to production and selling at markets. The only producers for whom it was less of a challenge were sufficiently large in size that they already hired outside help. While time was discussed by producers across experience levels, as with other challenges it was most prominent for those early in their careers. Some chose not to sell at markets given the time required.

Design Opportunity

As the time involved in production falls outside the scope of the Community Foods service, I have placed an emphasis on reducing the time required from producers in sales. This is done by facilitating increased sales of local foods both through retail stores and direct sales methods that do not require a continued producer presence (such as the transfer of foods through drop-off/pick-up locations).

A language to describe non-organic production

Fruit and vegetable producers who grow organically often cannot afford to have their crops certified. Since under the current organic certification system producers have to individually certify each crop, those growing a large diversity of small crops find the costs of certification too high. Unable to refer to their crops as organic, developing language to talk about their production methods can be difficult. Deanna Litz explained she is still figuring out this language and currently calls her production "pesticide and chemical free" (personal communication, July 4th, 2014). Whole Natural Flavors, a Saskatoon Farmers' Market vendor, describes their operation as "Ecologically and Ethically Producing" (http://www.wholenaturalflavors.com).

A similar challenge exists for producers whose production mostly follows organic guidelines, but does involve some synthetic additives or chemicals, which is fairly common. Floating Gardens, one of the larger greenhouse growers at the Saskatoon Farmers' Market, devotes a section of their website to a discussion of their growing methods (http://www.floatinggardens.ca).

Design Opportunity

As discussed earlier with regard to organic and Fair Trade labeling, the Community Foods service is not focused on certification or guarantees. Rather, it provides space for a discussion of the various methods required to accommodate different landscapes, crops, and values. In the Growing Methods section of both the digital platform (see p. 134) and the product knowledge sheets, a space is provided for the producer to explain their production methods and reasons behind these choices. For consumers desiring further information, the producer's contact information is given.

The size of their operation

Most producers spoke about limitations related to the size of their consumer base and their production capacity, though with two almost opposite motivations. Producers early in their careers spoke about the need to overcome these challenges in order to build their businesses to a point of economic stability. By contrast, established producers, though they would have been happy to increase their consumer base, spoke about their production capacity as indicating a natural limit to the size of their operation, consistent with Joel Salatin's assertion that farms have a "proper scale" (as cited in Pollan, 2006, p. 281). They did not want to make the changes that expanding beyond their current production levels would have required.

Design Opportunity:

Understanding that with most local producers there is a natural limit to the size of their operation, for the capacity of local food systems to expand this must largely occur through an increase in the number of producers rather than the size of individual operations. Therefore, I place a strong emphasis on supporting producers early in their career through the Community Foods service. This occurs through the ability for producers to be found and contacted via their listings in the service and through the potential opening up of new markets by providing a framework for producers to have their products carried in local food stores.

Features producers would like to see in a local food service

Frequently Asked Questions (FAQ) section

Both Ian and Verna Eaton and Nicole Davis spoke about how they are frequently asked the same questions by consumers. Nicole was the most direct in suggesting an FAQ section to make the process for receiving answers more immediate for consumers.

Design Opportunity:

I developed the third question of the consumer diary, **What You Want To Know** (see p. 72), to gain a better understanding of how similar questions would be from the consumer perspective.

Description of the customer journey for local food

Selling both on farm and through local food stores, the Eatons provided an insightful description of how customer journeys usually evolve over time:

A consumer's initial visit usually involves a tour of the farm and a number of questions. For the consumer, this visit is largely about getting to know the Eatons and ensuring their production meets the consumers' ethics.

When a consumer makes subsequent visits, they do not usually request a tour and have fewer, if any, questions. As they have already been assured the Eatons' production meets the standards they desire, the visits' purpose becomes the product. As Verna explained, "if it was a really bad product, meeting you wouldn't make any difference" (personal communication, July 4, 2014).

Increasingly, the Eatons are finding that people are buying their honey from local food stores rather than making the trip to the farm (about a one hour, round-trip drive from Saskatoon).

Design Opportunity:

Following service design methodology, the Community Foods service will accommodate changing consumer behaviour over time. Consumers will have the ability to zoom in on a specific producer to learn about their production methods, how to contact them, and whether they welcome visits, or zoom out to find the various locations the producer's products are available across their community.

4.6 Conversation with a local food store representative

When I spoke with Gail Peterson, senior staff member at Saskatoon Herbs 'n' Health (and my mother), she described local food stores as being able to support consumers in learning about and contacting local producers. Herbs 'n' Health's customers regularly ask questions about the production of the local food they carry. Even when the store is able to provide answers, customers often prefer to hear these directly from producers. For Herbs 'n' Health, providing a producer's contact information often involves a staff member writing the producer's number, or what farmers' markets they sell at, on a piece of paper for the customer. Repeatedly, Gail has seen customers return to Herbs 'n' Health to buy producer's products even when they are available at farmers' markets. Gail explained this is for two reasons.

First, customers purchase through Herbs 'n' Health due to convenience. Increasingly, the store is seeing customers who purchase small amounts of fresh produce 2-3 times per week. For these customers, their purchases are often a combination of direct purchases at the Saskatoon Farmers' Market on Saturdays and purchases from Herbs 'n' Health during the week. In this way, rather than being in competition with markets, a store can serve as one touchpoint in a consumer's larger local food journeys.

Second, customers return because of the service Herbs 'n' Health provided by helping them get in contact with the producer. They recognize Herbs 'n' Health does not need to do this. As well, the consistency in the information they receive from the store and the producer builds the consumer's trust in the store, and therefore their relationship with it.

4.7 Diary studies with consumers

Building from the knowledge I gained from producer interviews, I finalized the design of a diary of activities and questions which I asked local food consumers to fill out on their own time. I used the method of diary studies rather than conversations because customer food journeys often unfold not as single events but rather as a series of interactions over the course of days or weeks, and diaries allow for the recording of "an event that happens over time and cannot be studied in an interview situation," (Polaine et al., 2013, p. 62). As well, they "allow people to conveniently and expressively convey personal details about their daily life and events," (Martin & Hanington, 2012, p. 66), often producing more intimate responses than an interview would (Polaine et al., 2013, p. 64).

Recruitment and distribution

I recruited participants through my personal networks. As inclusion criteria, I selected participants who shop at farmers' markets as the food there is "unambiguously local food," (Zepeda & Li, 2006, p. 2).

I distributed 10 diaries, requesting that participants return them within a week to 10 days so that the activities described would relate to each other within a discrete time period. Six were completed and returned, half within the requested time frame and half after a longer time period of up to 3 weeks.

All 6 participants who returned a diary identified that they shopped at local food stores in addition to farmers' markets. This provided for the collection of valuable information on the role of local food stores in customer food journeys and reinforced the importance of stores in local food systems.

The diaries consisted of four activities as described on the following pages.

Activity 1: A Week of Shopping

This activity explored the shape and context of customer food journeys. It provided me a better understanding of the stages involved, how consumers move between these stages, how time and proximity affect decisions to buy local food, and where in the process the decisions that ultimately lead to buying local food are made.

I asked participants to record, for one week, both the times they shopped for food and the times they thought about shopping for food. A page with prompt questions was provided for each entry. These prompt questions spanned three categories:

- whether consumers found the foods they were looking for, to understand how well their desires were met;
- whether consumers found themselves buying items they had not planned on, to understand how often the decision to buy happens when a consumer is already in a store or market;
- whether what consumers were doing before and after shopping influenced where they shopped, to understand the context of food journeys; this provides, as Stickdorn and Schneider (2010) explain, "a far more holistic view of [consumers'] drivers and motivations – something that's integral to tailoring services effectively," (p. 174).

Though consumers did describe times they searched for specific foods, they mostly described their experiences, especially at markets, as exploratory. This reinforces the design of the Community Foods digital platform to allow for accidental discovery (see p.127) as well as the importance for the platform to not get in the way of this experience (see p. 82).

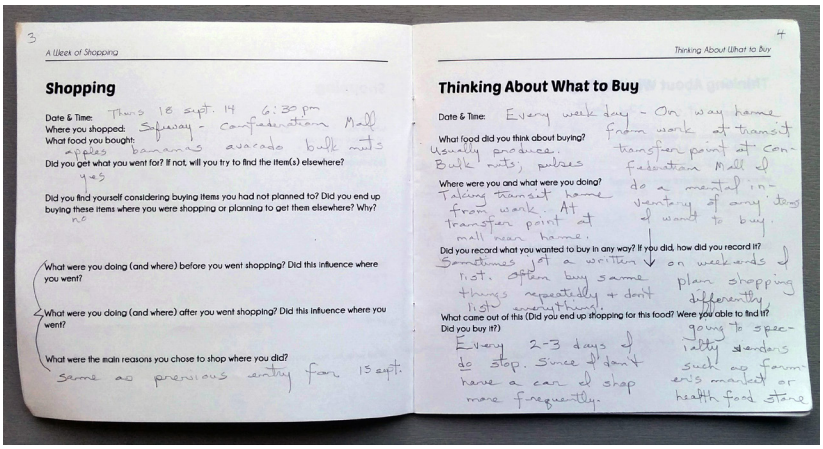


Fig. 38: Diary study, Activity 1: A Week of Shopping

A Week of Shopping activity filled out by Gail L.

Activity 2: Meeting Your Maker

This activity asked consumers to reflect on the producers they had visited the most recent time they shopped at a farmers' market. For each entry, a blank table was provided on which they were asked to draw or write what they remembered about each producer, followed by prompt questions asking: what they had spoken with the producer about, why they had visited the producer's stand, and whether this visit led to them making a purchase.

This activity helped me to better understand what consumers take away from their interactions with producers at a market and their motivations for visiting the stands they do. As well, it allowed me to compare what consumers *do* (what questions they actually ask producers, as self-recorded in this activity) with what they *say* (what questions they state they want to ask producers, as answered in Activity 3, next page). Sanders and Stappers (2012) emphasize the importance of comparing what people say with what they do, as the answers provided are often different (p. 69). While in Activity 3 consumers said there are a number of questions they would like to ask producers, in this activity they self-recorded themselves as asking few questions. The opportunity to ask questions appears to be sufficient for many consumers, precluding the need to ask them. As Gail L. explained, "I seem to trust local product quality more and/or prefer it regardless of producer practices!" (personal communication, September 20, 2014).

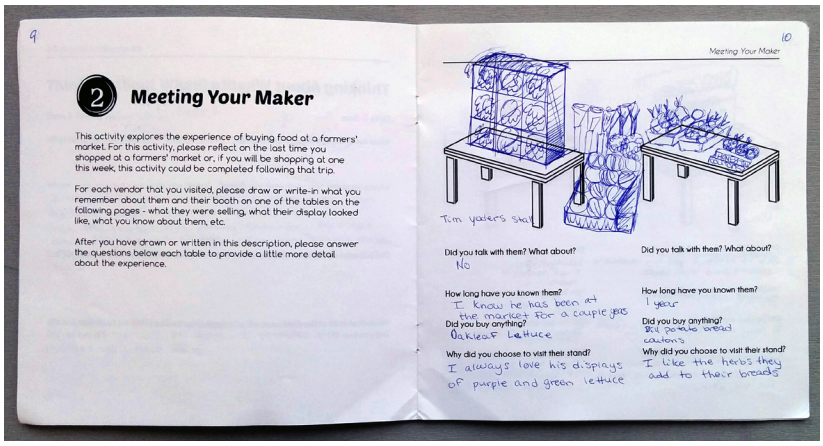


Fig. 39: Diary study, Activity 2: Meeting Your Maker

Meeting Your Maker activity filled out by Alexa H.

Activity 3: What You Want To Know

I developed this activity to follow-up on producer comments that consumers repeatedly ask the same questions and as such a Frequently Asked Question section in the digital platform would be useful (see p. 66). I provided consumers a list of questions and asked them to mark which they have asked and which they would like to ask of producers, as well as to write in their own. I also asked consumers whether their questions change based on the producer, and whether they prefer to ask questions in person or while shopping.

While there was a range of responses in terms of the questions they would like to ask, only one consumer wrote in questions, suggesting that providing a list of Frequently Asked Questions through the Community Foods digital platform, with the ability for consumers to contact producers to follow-up, would be sufficient for most consumers.

The question the most number of consumers wanted to ask is, "Where are your products available?" (selected by 5 out of 6 consumers), reinforcing the importance of mapping local food opportunities across communities. The second most popular question was, "Is your food grown in an environmentally friendly way?" (selected by 4 out of 6 consumers). That consumers selected this question more often than questions regarding organic or chemical-free production suggests the often nuanced discussion of growing methods that can happen at a farmers' market is what consumers desire. This supports earlier discussion about the drawbacks of labeling (see p. 16-18). To accommodate this desire among consumers, a space is provided in the Community Foods digital platform for producers to discuss their growing methods (see p. 134).

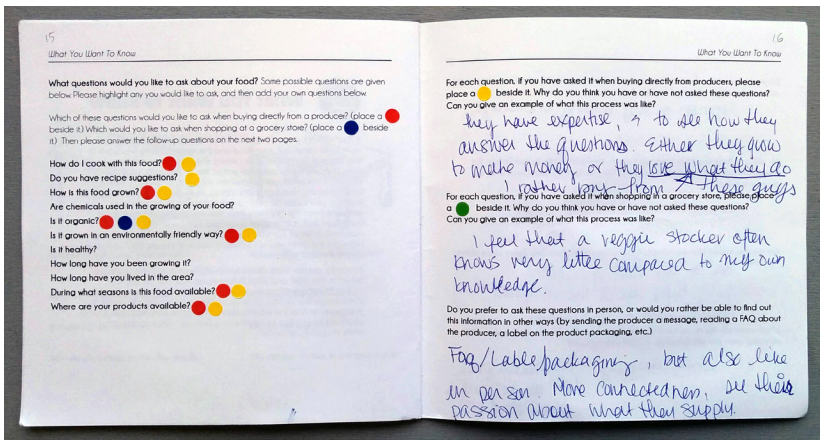


Fig. 40: Diary study, Activity 3: What You Want To Know

What You Want To Know activity completed by Kaishin C.

Activity 4: Recipe Stories

This activity is based on the recipe story exploration I conducted as part of my preliminary research (p. 41). I included three recipe story cards I had designed and silkscreened as prompts and provided a blank card on which I asked consumers to write a story about making a meal, focusing on the experience rather than the ingredients.

The most useful story was written by Sharon P. (my aunt). Her story involved cooking an eggplant which she discussed purchasing from the Saskatoon Farmers' Market in Activities 1 and 2. Her account of this experience over three activities presented a rich description of her food journey, its motivations, and its pain points. On p. 80-81, I provide a map of the food journey Sharon described.

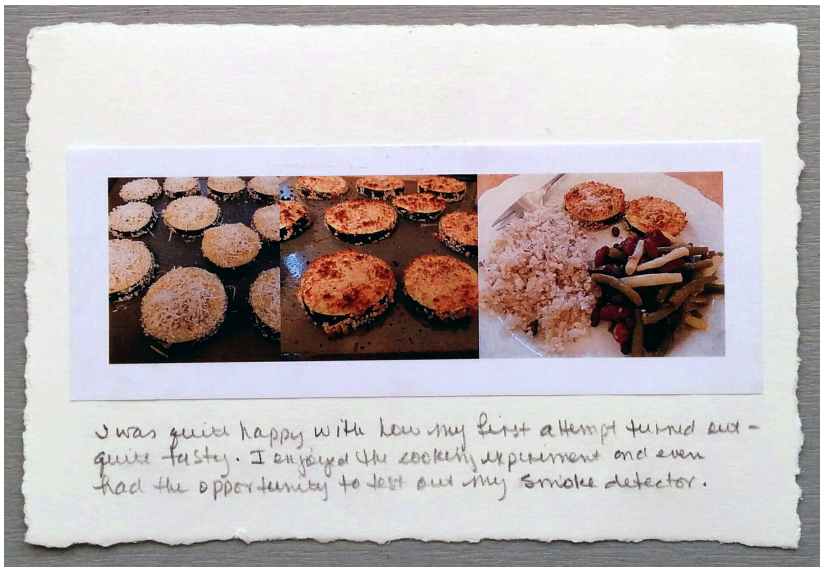


Fig. 41 Diary study, Activity 4: Recipe Stories

Back of the recipe story card created by Sharon P.

Synthesis and analysis

As with my conversations with producers, I synthesized and analyzed the information from the cultural probes through affinity diagramming (see below). As less consumers participated in my research than producers, I began by recording observations on the initial level of post-it notes (yellow), and generated insights as I synthesized these observations into low-level categories (blue), and then higher-level categories (pink). I found three levels sufficient for this affinity diagramming process. I recorded questions I developed during the process on purple post-its.

Fig. 42: Affinity diagram of observations and insights from diary studies with consumers

The insights generated through this affinity diagramming process informed both my understanding of consumer challenges, as discussed on the next page, and the development of personas, customer journey maps, and storyboard scenarios, p. 93-110.

4.8 Challenges and design opportunities across local food systems

Challenges between consumers and producers

Consumers

- consumers find their opportunities to buy local foods directly from producers limited, both in terms of the number of locations and the hours producers sell at these locations
- consumers do not know where a producer's products are available
- consumers do not know when local foods are in season
- consumers do not know how to cook with locally-available foods

Producers

- producers have difficulty balancing the time required from production and direct sales
- when not meeting directly, producers find it difficult to let consumers know about production changes or where their foods are available

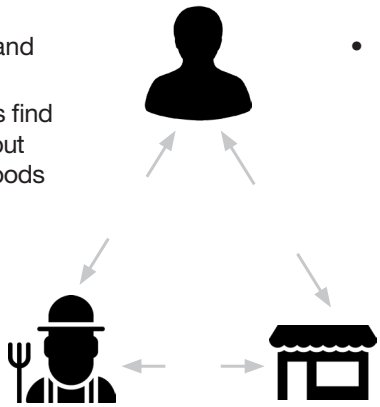
Challenges between consumers and stores

Consumers

- consumers find the amount of local foods carried by stores very limited
- consumers do not know which stores carry local foods nor the local foods they carry
- when buying through stores, consumers find it difficult to connect with or know about the producers whose foods they are buying

Stores

- stores find it difficult to let consumers know what local foods they carry and which producers they represent
- stores find it difficult to provide consumers with the level of information about local foods and producers they desire



Challenges between producers and stores

Producers

- producers do not know which stores might be interested in carrying their products

Stores

- stores do not know how to find producers to supply the local foods they are interested in carrying
- when taking on new producers, stores find it difficult to learn about their production methods

Design opportunities for consumers and producers

Consumers

- designing a digital platform that allows consumers to explore the opportunities to buy a producer's products across the markets, stores, and other locations in their community
- through the digital platform, providing the seasonality for each type of local food
- through the digital platform, providing producers' contact information so that consumers can ask producers directly how to cook with the foods they produce

Producers

- designing a framework to support producers in selling through local food stores since stores offer producers the opportunity to make their foods more available without increasing the time they spend selling
- through the digital platform, providing producers the opportunity to post announcements regarding production changes and where their foods are available

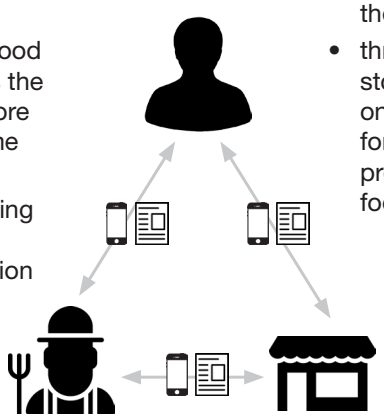
Design opportunities for consumers and stores

Consumers

- through the digital platform, providing consumers the opportunity to search and explore the local foods carried by stores across their community
- through the digital platform, providing links from each food carried by a store to the producer's information so consumers can learn about the producer and their production methods

Stores

- through the digital platform, providing stores the ability to list the local foods they carry
- through the digital platform, providing stores the opportunity to print a one-page product knowledge sheet for each producer to support staff in presenting information about the local foods they carry



Design opportunities for consumers and stores

Producers

- through the digital platform, providing a listing of stores that sell local foods

Stores

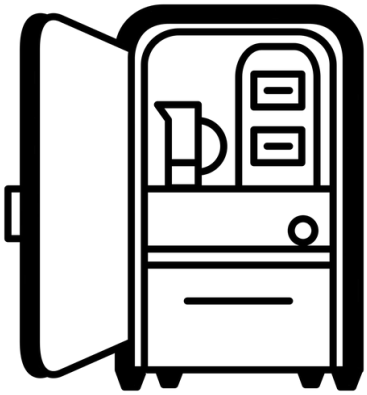
- through the digital platform, providing a listing of local producers and the foods they sell
- through the digital platform, providing stores the opportunity to print product-knowledge sheets for new producers to support store staff in learning about and providing information on the foods they carry

4.9 Dividing the planning phase of customer food journeys into four sections

The ways consumers discussed the planning of their food purchases in the first activity of the diary studies (see p. 70) suggests the planning phase of customer food journeys can be divided into four sections (see below). Though each customer food journey is unique and may move through these sections in different orders, the diary studies suggest that these four sections provide an understanding of the planning stage broad enough to encompass most journeys.

Thinking about what to eat

- reading recipes
- thinking about what you feel like eating
- talking with other household members
- thinking about how to use-up existing ingredients

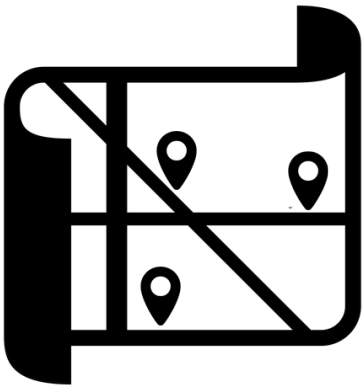


Thinking about what to buy

- checking what foods you have and what you need
- thinking about what individual foods you feel like eating
- thinking about what foods are in season

Planning what to buy

- writing out a list of food to buy
- if factors such as seasonality or localness are involved, researching the availability of foods and altering the shopping list based on these



Planning your shopping trip

- deciding which stores to shop at and when
- looking into sales
- if seasonality or localness are involved, deciding where to shop locally and when

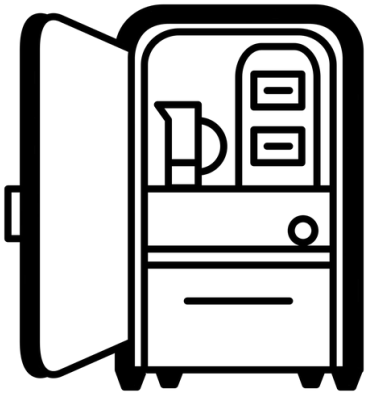
Sharon's customer food journey

In addition to providing a better understanding of the planning stage of customer food journeys, the diary studies with consumers provided examples of different paths they take through their planning phase and how context can influence a customer journey.

For example, when a consumer decides to buy something they had not planned on while shopping, this journey starts in the *Planning what to buy* sub-phase, as it is triggered by the decision to buy a particular food. When a consumer needs to buy other items to go with this food, this can trigger a move back to the *Thinking about what to make* sub-phase as the consumer decides what meal to make with it. Sharon P. described a journey of this form through three activities in her diary: A Week of Shopping, Meeting Your Maker, and Recipe Stories (personal communication, August 25, 2014). The journey she described is diagrammed below.

Thinking about what to make

2. Sharon spoke with the vendor about how to cook eggplant and throughout the afternoon thought about how she would prepare it.



Thinking about what to buy

3. While deciding what to make, Sharon also thought about what ingredients she would need.

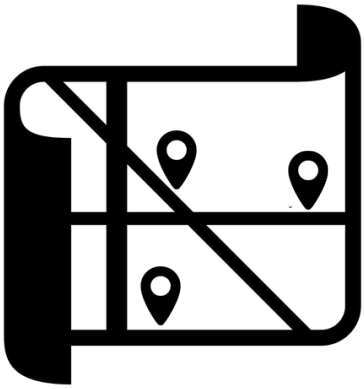
Design objective:

Movement back and forth in the Planning sub-phases of customer journeys would generally reflect movement between individual foods, producers, and locations listed in the Community Foods digital platform. I designed the Information Architecture, p. 111-113, to accommodate a high degree of lateral movement at that level.

Planning what to buy

1 Though Sharon does not normally buy eggplant, after seeing how beautiful they looked and being given a recipe card by the vendor, she decided to buy them.

4. Sharon decided to buy bread crumbs and parmesan cheese.



Planning your shopping trip

5. Sharon shopped for the ingredients at Walmart since she was going there anyway. She only found the bread crumbs.

6. Sharon went to Sobey's because it was on her way home and she knew she could find parmesan there.

4.10 Experiencing the market

When consumers described shopping at the Saskatoon Farmers' Market in their diaries, they mentioned more than the food, or even their interactions with producers; consumers described the market as a social and cultural space and as a multi-sensory experience. Gail L. spoke of trips to the market as "a very pleasurable cultural experience in a way that large chain grocery shopping is not," (personal communication, September 20, 2014). Alexa explained her reasons for shopping at the market every weekend not only in terms of the foods she takes home but the ones she experiences there: "I love to eat fruit pie and ice cream and a latte while I shop," (personal communication, September 3, 2014).

As shopping at a farmers' market, and to a lesser extent a local food store, is a more embodied experience than shopping at a grocery store, one of the main criteria for the Community Foods service is that it should not come between a consumer and their experience when buying local food. This is consistent with the way Polaine et al. (2013) describe a well designed service as being "there when [it] is needed, but somehow invisible when [it] is not," (p. 87).

The Community Foods service, and in particular the digital platform, is designed to connect a consumer with a market, local food store, or individual producer, but not to require them to continue to use it during this experience. The printable product knowledge sheets (p. 124-125) are designed to support store staff in providing producer information so that consumers are able to receive this information from a person, as they would when buying directly from producers, rather than needing to consult the digital platform when in stores. As Galloway (2014) states, in the design of human-digital platforms, it is important that "the 'last mile' of any interaction is a 'human mile'" (p. 9).

4.11 User criteria

> ***Target Audience:*** *People aged 25-64, who live in households of 3 or fewer members with household incomes over $40,000.*

As part of my research during my time at the Praxis School of Entrepreneurship, I conducted a market survey to better understand: people's local food experiences, what they desire from their food purchases, the extent to which their needs and desires are being met by the options available, and demographic information about who buys local food. The findings are summarized below, while the survey results are included as **Appendix B**, p. 151-161.

I distributed the market survey electronically to business associates, family, and friends in October and November, 2012, as well as handed it out in person at the Saskatoon Farmers' Market Saturday, November 24th, 2012. In total, I received 90 responses, 30 coming in-person at the farmer's market. Over 90% of respondents were between the ages of 25 and 64. While this age range is broad, it indicates that the majority of users of the Community Foods service will be comfortable using a digital platform. As well, 82.5% lived in households with three or fewer people. This is consistent with a study conducted by Govindasamy et al. (1998) which found the average household size of market attendees to be 2.72 (p. 19).

There was less conclusive evidence with regard to income level. While 68.3% of respondents had an annual household income over $40,000, 10.1% had annual household incomes under $20,000. This is not surprising. Martinez et al. (2010) discuss how studies on the demographics of local food consumers disagree on whether income level is indicative of a consumer's likelihood to purchase local food (p. 27). While there is a large variance in these numbers, the results of the survey I conducted suggest the majority of local food consumers in Saskatoon have sufficient income to afford the often higher prices of local foods there.

The largest gap in current service offerings identified by the survey was information about where food comes from, as 56% of respondents said they were at least somewhat unsatisfied with the information available, the highest response of any category. At the same time, the two categories most important to consumers in making their purchase decisions were *food being grown locally* (85.7%) and *information on where their food comes from* (83.9%). This suggests there is strong demand for the information about local food producers and products that the Community Foods service provides.

4.12 Summary

Through service safaris, conversations with producers and a store representative, and diary studies with consumers, I developed both a broad understanding of how local food sales are adapted to different geographies and communities and a deep understanding of local food systems in the context of Saskatoon, SK.

The service safaris I went on demonstrated how a disconnect can exist for consumers when purchasing through an intermediary if information about producers and opportunities to communicate with them are not provided. By contrast, in their diaries consumers wrote about their experiences at farmers' markets as both social and cultural, describing them not only as an opportunity to access local foods but to build community, both with producers and their fellow attendees. In designing the Community Foods service, I focused on supporting staff at local food stores in preserving this connection for consumers.

My conversations with producers allowed me to understand how challenges are different for producers in the early and later stages of their careers. As producers later in their careers described their operations as reaching a natural limit to production, the capacity of local food systems must largely expand through an increase in the number of producers rather than an increase in the size of individual operations. For this reason, I focused on the needs of producers early in their careers, designing a service that makes it easier for consumers to find them and potentially opening new markets by providing a framework for producers to sell through local food stores.

5 Design outcome

I designed the Community Foods service to support increased participation of consumers and producers in local food systems. It proposes a greater involvement of local food stores as intermediary sellers and has three service channels:

- face to face interactions to introduce consumers to the service in person at farmers' markets and local food stores;
- printed materials, both hand-out cards that stores can give consumers to introduce them to the service and printable product knowledge sheets that support store staff in providing information about the producers and growing methods of the local foods they carry;
- and a digital platform that supports users in exploring and searching the local food opportunities among stores, markets, and individual producers across their community.

I began the design of the Community Foods service with service blueprints, customer journey maps, and other tools to understand how the service can support consumers as they explore and move through local food systems. These tools helped me to organize local food systems into three categories - foods, producers, and locations - and to understand the different roles these categories play in the planning phase of a customer food journey. I designed the information architecture to support the large amount of movement among these categories that was described in consumer diaries.

From this information architecture, I wireframed the digital platform first on paper and then with InDesign. Throughout this process, I focused on what level of information should be displayed on each page and how movement among the pages would best reflect and meet consumer expectations. The resulting platform, along with the printed materials and face to face interactions, allows consumers to see and move through the local food opportunities within stores, markets, and individual producers in their community while being presented a consistent level of information at each one.

5.1 Service blueprints

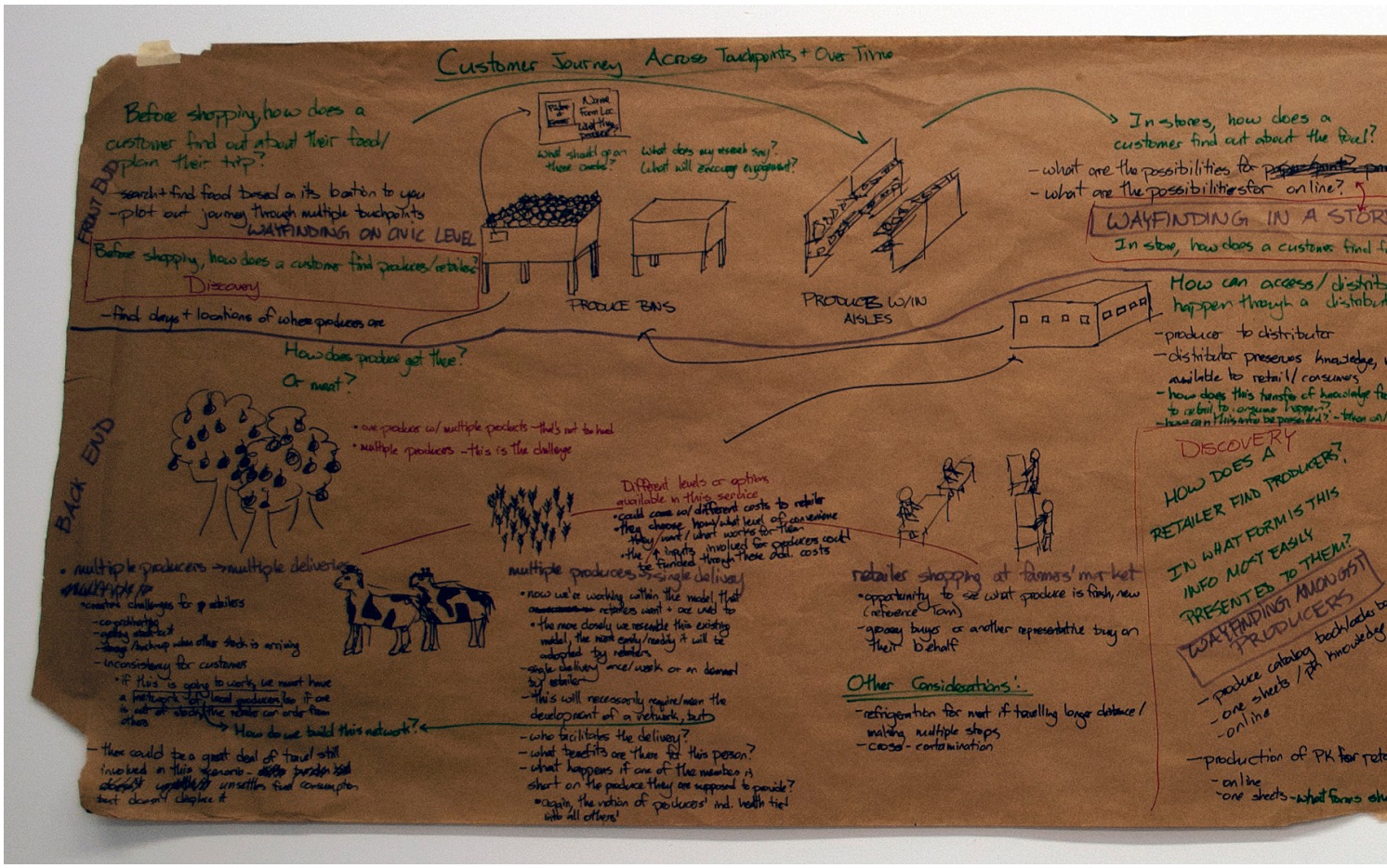
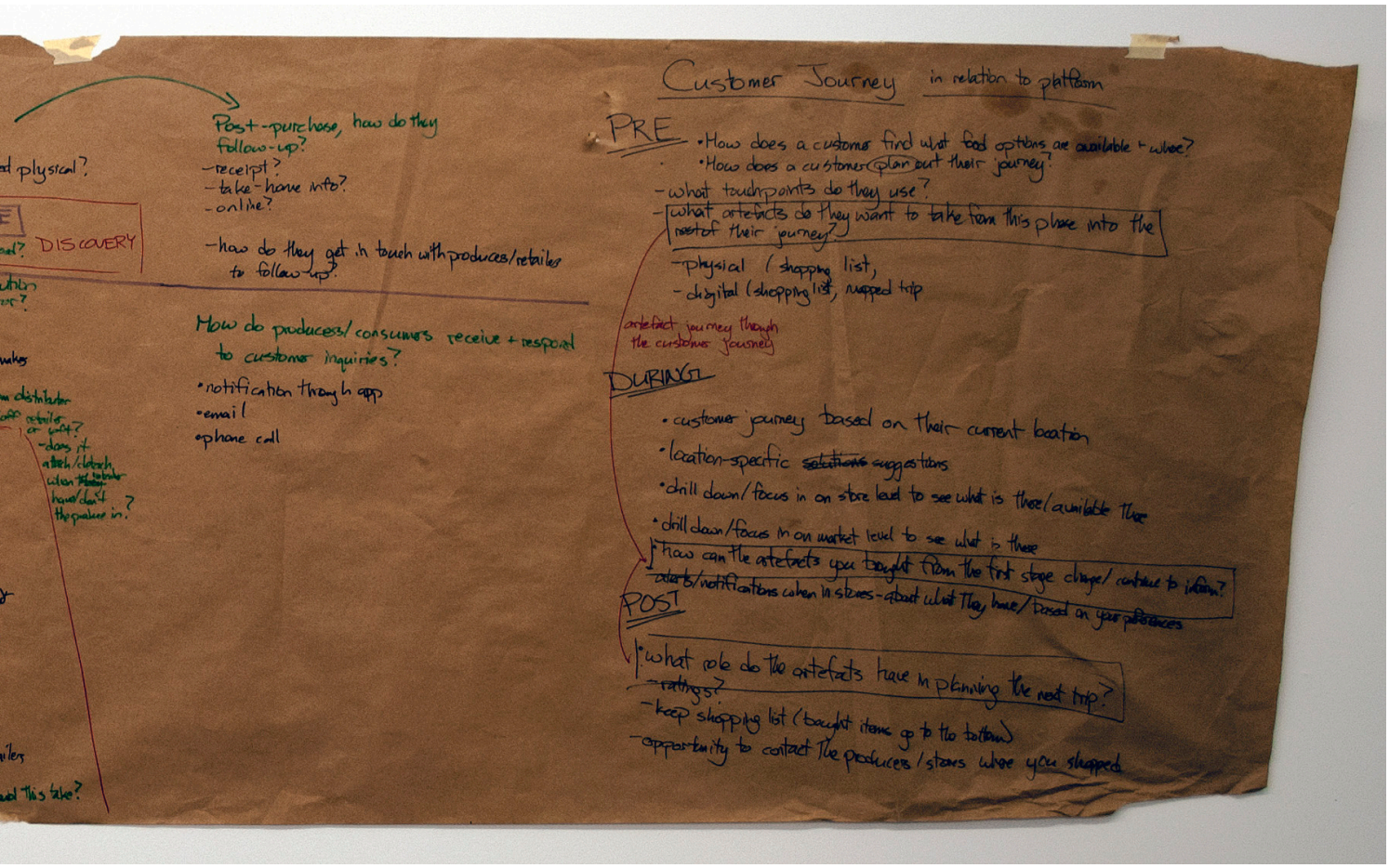


Fig. 43: Service blueprint, early iteration


Post-purchase, how do they follow-up?
-receipt?
-take-home info?
-online?
-how do they get in touch with produces/retailer to follow-up?
DISCOVERY
How do producers/consumers receive + respond to customer inquiries?
•notification through app
•email
•phone call
Customer Journey in relation to platform
PRE
•How does a customer find what food options are available + where?
•How does a customer plan out their journey?
-what touchpoints do they use?
-what artefacts do they want to take from this phase into the rest of their journey?
-physical (shopping list,
-digital (shopping list, mapped trip
artefact journey through the customer journey
DURING
•customer journey based on their current location
•location-specific suggestions
•drill down/focus in on store level to see what is there/available there
•drill down/focus in on market level to see what is there
•how can the artefacts you bought from the first stage change/continue to inform?
alerts/notifications when in stores - about what they have/based on your preferences
POST
•what role do the artefacts have in planning the next trip?
-ratings?
-keep shopping list (bought items go to the bottom)
-opportunity to contact the producers/stores where you shopped

Brainstorming

To understand the opportunities for the Community Foods service to support consumers in the planning phases of their customer food journey, I brainstormed a service blueprint across the four sub-phases that I identified through the consumer diaries: *Thinking about what to make*, *Thinking about what to buy*, *Planning what to buy*, and *Planning your shopping trip* (see p. 78-79).

I started by plotting, in pink, the methods through which food services (both local and non-local) were currently meeting consumers' needs and desires. Next, I brainstormed possibilities for the Community Foods service in terms of both print touchpoints (green) and digital touchpoints (blue). Last, I went back through and specifically brainstormed (in yellow) opportunities for the Community Foods service to connect consumers and producers.

Fig. 44: Service blueprint: brainstorming, part 1 of 2

Touchpoint example

Phase: Thinking about what to make

Touchpoint channel:
Farmers' market

Opportunities to connect producers and consumers

- images of a producer's farm/location on the digital platform change with the seasons to reinforce a sense of seasonality for consumers
- images of produce that are still dirt-covered to help preserve a connection between the produce and land for consumers

Current methods

- recipes
- product sampling
- talking with producers about how they use or cook with the foods / health benefits
- talking with other consumers about the same
- talking with producers about what other producers' products they like

Digital opportunities

- push notifications that remind consumers what they want to purchase at a market when they enter

Fig. 45: Service blueprint: brainstorming, part 2 of 2

Describing the customer journey through the Community Foods service

Following the brainstorm of my previous service blueprint, I plotted a more traditional one consisting of five phases: Aware, Join, Plan, Shop, and Post-shopping. These are based on the five categories Polaine et al. (2013) suggest: Aware, Join, Use Develop, Leave (p. 98). With this service blueprint I focused on ways the Community Foods service could support journeys across the five phases. I plotted design opportunities for the Community Foods service in yellow, and the backstage processes that would be necessary in orange.

Fig. 46: Service blueprint: describing the customer journey, part 1 of 2

Touchpoint example

Phase: Aware

Touchpoint channel: Print

Design opportunities

- recipe cards involving local products that link to local producers and could be given out in: local businesses, local food stores, markets, or by producers
- a handout introducing the service that could be given out by businesses / groups
- advertising in local papers

Opportunities to connect producers and consumers

- collecting recipes from producers
- creating recipe cards
- creating advertising handouts
- creating advertisements for local papers

Fig. 47: Service blueprint: describing the customer journey, part 2 of 2

5.2 Personas, customer journeys, and scenarios

I was able to group the six consumers who returned cultural probes into three pairs based on their age and similarities in their responses. For each pair, I created a persona, combining the techniques outlined in *Universal Methods of Design* (Martin & Hanington, 2012) and *User Experience Design: Creating Designs Users Really Love* (Allanwood & Beare, 2014), allowing me "to target a small group of users located in appropriate contexts and to design just for them," (Allanwood & Beare, 2014, p. 114). I designed the Community Foods service for local food consumers in Saskatoon, SK.

I placed an emphasis on displaying information about each persona visually rather than in narrative form. As part of the affinity diagramming process for the consumer diaries, I grouped observations around consumer motivations and challenges into categories. These formed the basis for the two pie charts *Reasons for buying local* and *Challenges to buying local*. For each persona, I then counted the number of observations in each category made by the two consumers the persona was based on as a starting point for the pie chart percentages. I adjusted these to more accurately reflect the experiences and motivations described by the consumers.

Following the creation of personas, I mapped a customer journey map for each across the service blueprint to understand which touchpoints would be used most often, at what stage in the journey they would be used, and their relative importance in decision making. This information helped me to decide which service touchpoints and digital platform features should be most prominent and which could be removed to simplify the Community Foods service and make it more user-friendly. I used storyboard scenarios following each customer journey map to elaborate the context and consumer experience at each stage.

Primary Persona

Fig. 48: Primary persona, Paige[1]

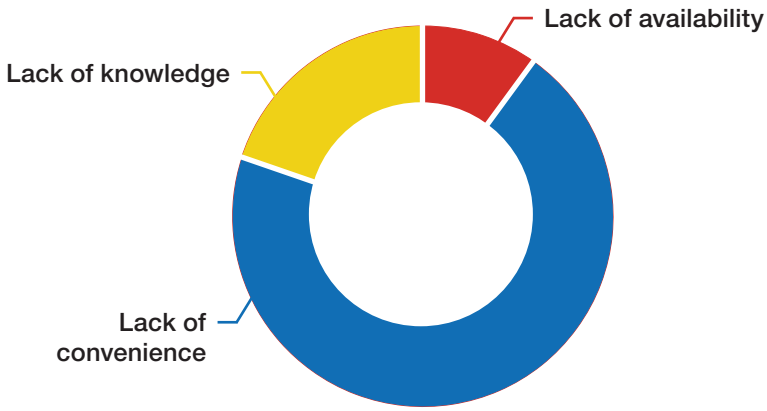
Paige

- 38 years old
- Elementary School Teacher
- Married to Derrick, her husband of 13 years
- Mode of transportation: car
- Shops for local food 3 - 4 times / month

"People would buy more locally if they knew where to source it better."

- Tempest B.

Challenges to buying local



Lack of availability

- limited amount of locally-available produce

Lack of knowledge

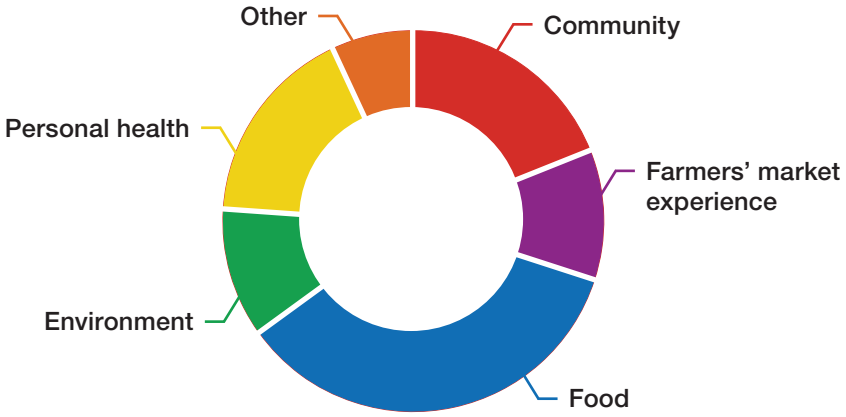
- knowing where to buy local products
- knowing about producers when not buying direct

Lack of convenience

- time involved in buying local
- price of local food
- travel
- limited hours of sale
- not being able to buy all groceries at a farmers' market

1 © Wicker, R. Alden. (2010). Liz farmers market [Online image]. Retrieved May 12, 2015 from http://www.flickr.com/photos/aldenwicker/sets/72157625506967844. Licensed under CC by 2.0.

Reasons for buying local



Community
- support local community
- relationship with producers

Farmers' market experience
- visual appeal of food at farmers' markets

Food
- freshness / quality
- food use
- understanding how food is made

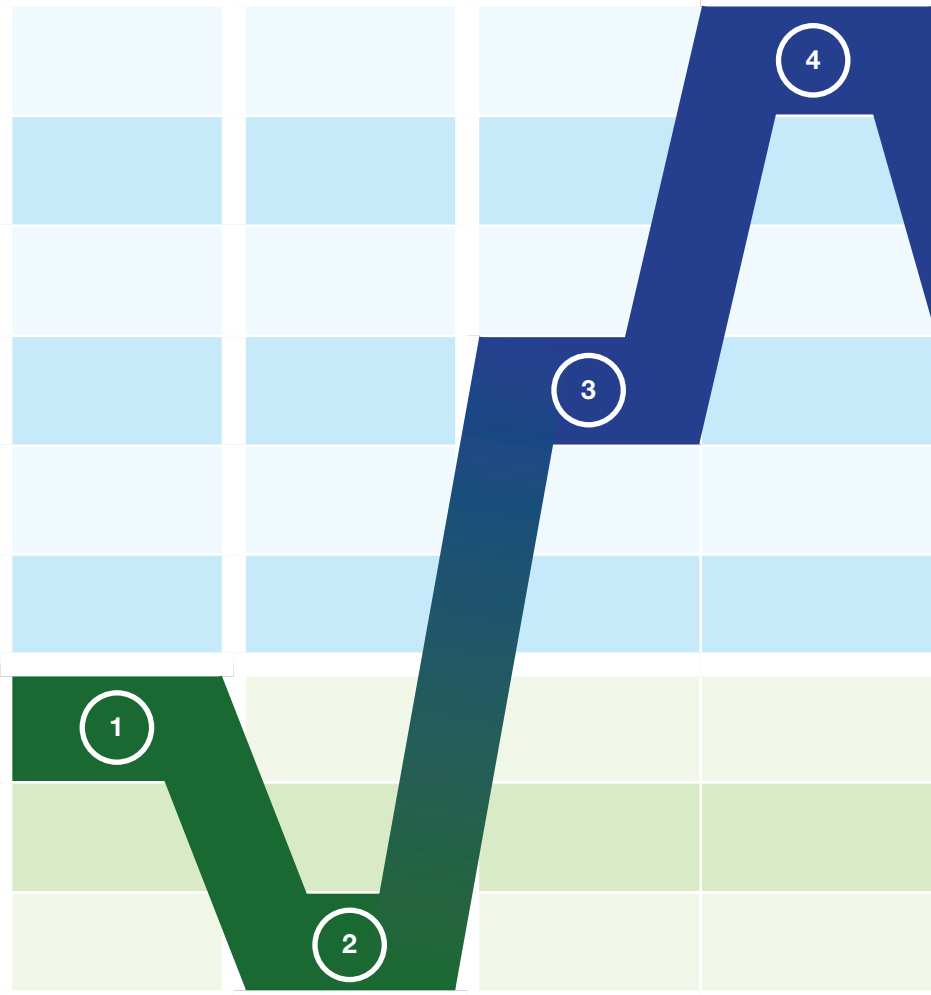
Environment
- reduction in food miles
- environmentally-friendly growing

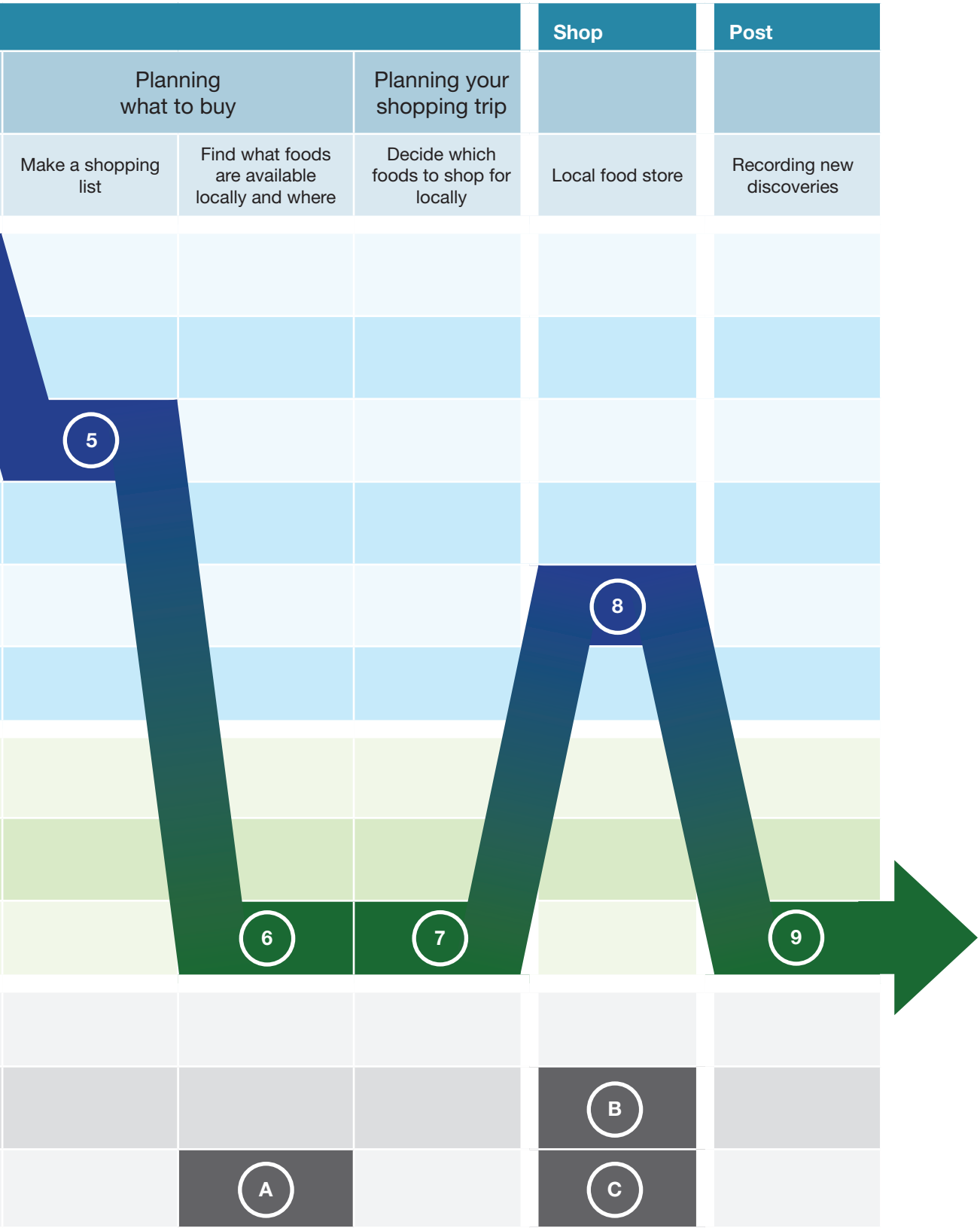
Personal health
- organic / lack of chemicals

Other
- to be able to ask questions

Paige's Customer Journey

	Phases	Aware	Join	Plan	
	Sections			Thinking about what to make	Thinking about what to buy
	Steps	Talking with friend	Create account	Browse recipes	Check what foods you have
Touchpoint channels outside the service	Bus stop				
	Word of mouth				
	Print materials				
	Cell phone				
	Farmers' market				
	Local food store				
Touchpoint channels within the service	Face to face				
	Print materials				
	Digital platform				
Backstage touchpoint channels	Community Foods representative				
	Producer				
	Local food store / market				

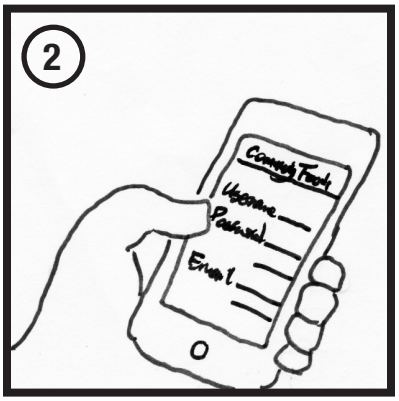



Shop
Post
Planning what to buy
Planning your shopping trip
Make a shopping list
Find what foods are available locally and where
Decide which foods to shop for locally
Local food store
Recording new discoveries
5
6
7
8
9
A
B
C

Storyboard of Paige's Customer Journey

AWARE: Farmers' Market

Paige finds out about the Community Foods service from a representative when shopping at the Farmers' Market on Saturday.



JOIN: Sign-up to the digital platform

At home after the market, Paige downloads and sets-up her account with the digital platform.

PLAN: Browse recipes

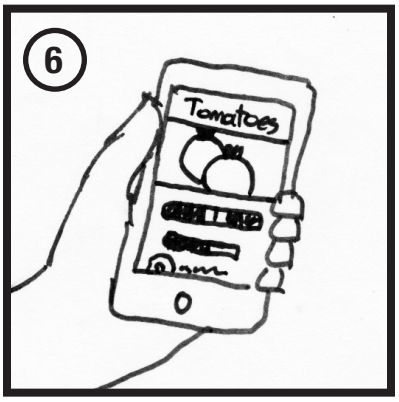
On Monday, Paige browses through food magazines at home. She comes across a lasagna recipe she decides to try.

PLAN: Check what you have

Paige looks through her cupboard and fridge to see what ingredients she has.

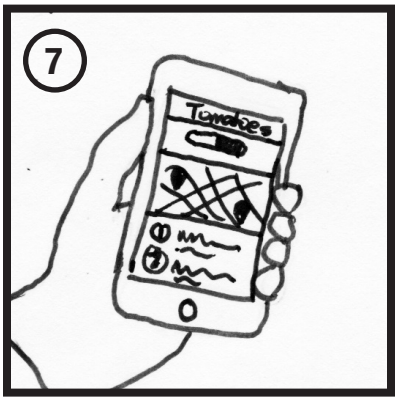
PLAN: Make a paper shopping list

Paige writes down the ingredients she needs: tomatoes, pasta, and cheese.



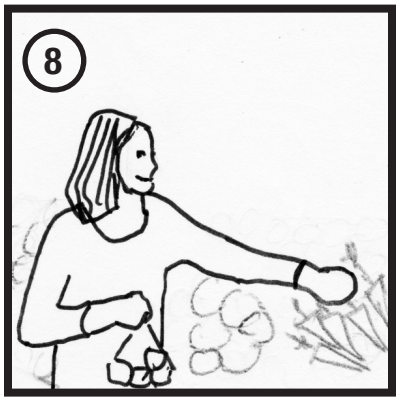
PLAN: Find what foods are available locally and where

Paige would like to buy local tomatoes, but wants to make the lasagna before the market is open again on the weekend. She opens the Community Foods digital platform on her phone and searches for tomatoes.



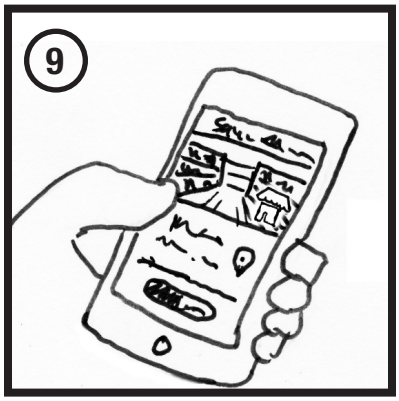
PLAN: Decide which foods to shop for locally

Having gotten to the tomatoes page, she clicks the *Location* tab and learns that local tomatoes are available both at a store near her today and at a market she had not known about on Wednesday. She decides to buy the tomatoes at the store today and saves the market in her favourites to try in the future.



SHOP: Farmers' Market

Paige goes to the local store, finds and buys the tomatoes.



POST: Recording new discoveries

Having enjoyed the store, she searches it in the digital platform and marks it in her favourites to save for future purchases.

Backstage

A

Community Foods representative: Farmers' market

- book a space with the farmers' market
- print handouts
- introduce the Community Foods service at the farmers' market

B

Producer: Digital platform

- create a listing in the Community Foods digital platform

C

Local food store: Digital platform

- create a listing in the Community Foods digital platform
- update the listing with the products carried at the store

Secondary Persona

Fig. 49: Primary persona, Sarah

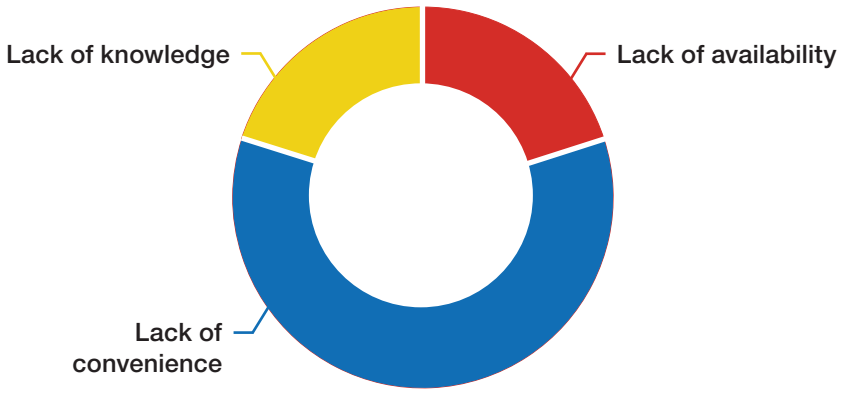
Sarah

- 26 years old
- Stock manager at a local art supply store
- Recent university graduate
- Mode of transportation: bus
- Shops for local food 3 - 4 times / month

"I wish local food could be found in food courts next to A + W or Subway"

- Alexa H.

Challenges to buying local



Lack of availability

- limited amount of locally-available produce
- local amount of local foods carried by stores

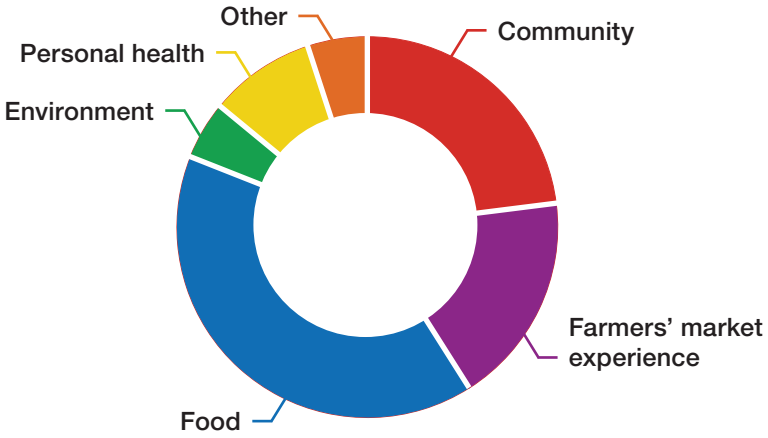
Lack of knowledge

- knowing where to buy local products

Lack of convenience

- time involved in buying local
- price of local food
- travel
- limited hours of sale

Reasons for buying local



Community
- support local community
- relationship with producers
- community of farmers' market

Farmers' market experience
- multi-sensory experience of farmers' markets
- visual appeal of food at farmers' markets

Food
- taste
- food use
- understanding how food is made

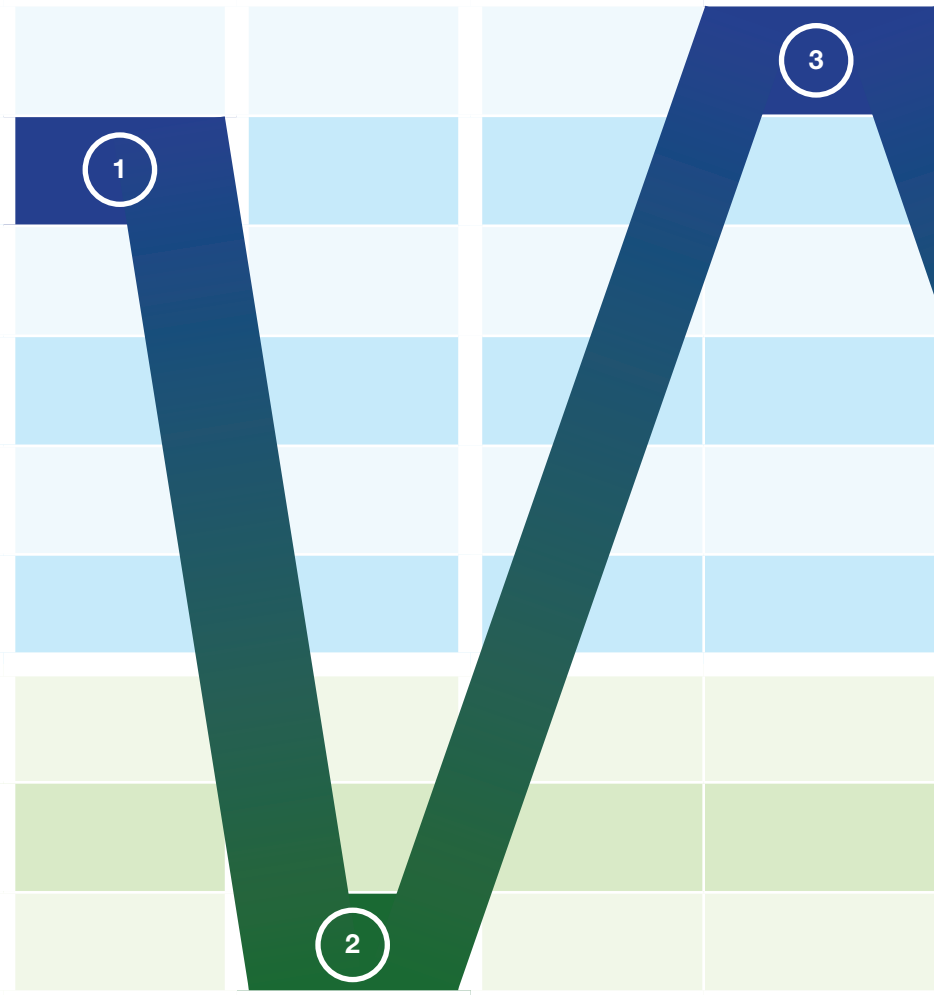
Environment
- buying in season

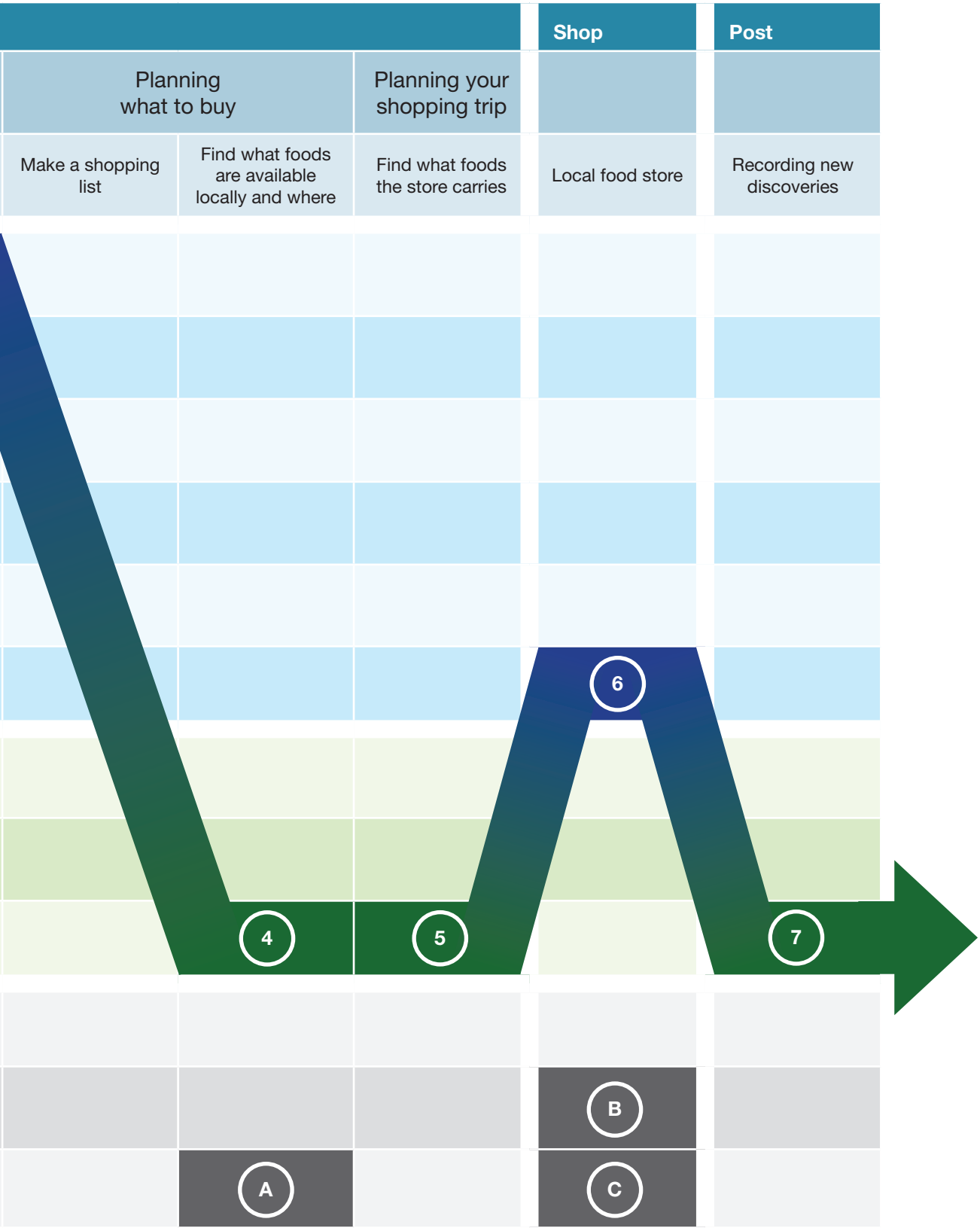
Personal health
- organic / lack of chemicals

Other
- to be able to ask questions

Sarah's Customer Journey

	Phases	Aware	Join	Plan	
	Sections			Thinking about what to make	Thinking about what to buy
	Steps	Talking with friend	Create account	Browse recipes	Think through what foods you need
Touchpoint channels outside the service	Bus stop				
	Word of mouth				
	Print materials				
	Cell phone				
	Farmers' market				
	Local food store				
Touchpoint channels within the service	Face to face				
	Print materials				
	Digital platform				
Backstage touchpoint channels	Community Foods representative				
	Producer				
	Local food store / market				

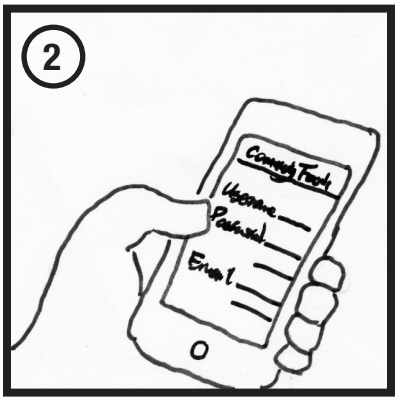



Shop
Post
Planning what to buy
Planning your shopping trip
Make a shopping list
Find what foods are available locally and where
Find what foods the store carries
Local food store
Recording new discoveries
6
4
5
7
B
A
C

Storyboard of Sarah's Customer Journey

AWARE: Word of mouth

Sarah first hears about the service from one of her friends.

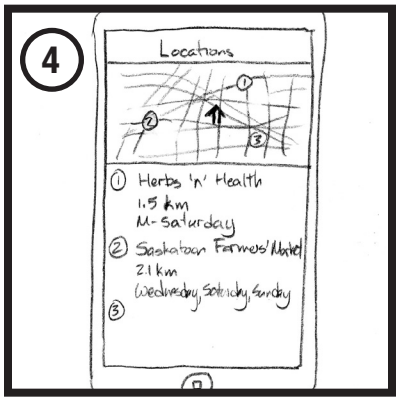


JOIN: Sign-up to the digital platform

At home after the market, Sarah downloads and sets-up her account with the digital platform.

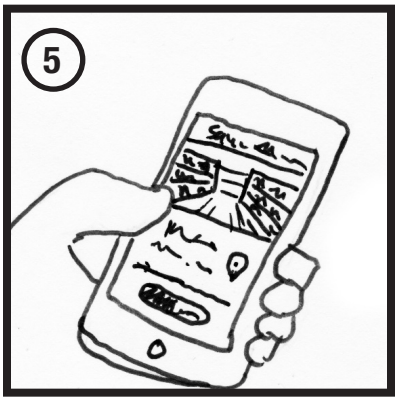
PLAN: Thinking through what foods you need

While Sarah waits for the bus,she runs through a list in her head of what foods she needs.



PLAN: Find what local food options exist on her bus route

Sarah searches the *Location* section of her digital platform and finds out there is a local food store on her way home.

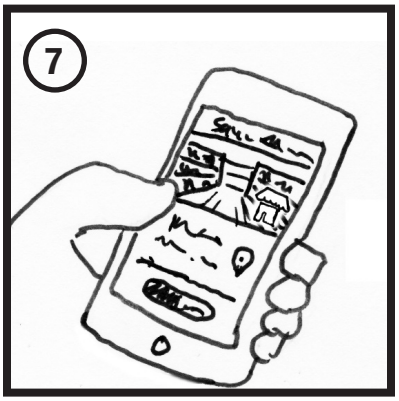


PLAN: Find out what foods the store carries

Sarah looks through the local foods available from the store to find out what foods she can get there.

SHOP: Local food store

Sarah gets off the bus at the stop nearest the store and shops at the store.



POST: Recording new discoveries

While waiting for the bus to continue her trip home, Sarah favourites the store to help her remember it for future shopping trips.

Backstage

A

Local food store: Digital platform

- create a listing in the Community Foods digital platform
- update the listing with the products carried at the store

B

Producer: Local food store

- provide the store with stock

C

Local food store: Merchandising

- receive stock from producer
- merchandise
- sell to the customer

Secondary Persona

Fig. 50: Secondary persona, Alex

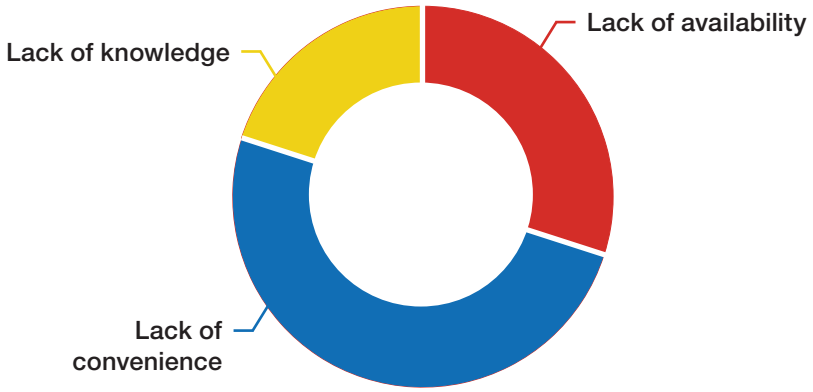
Alex

- 62 years old
- Bank clerk
- Single, rents a townhome
- Mode of transportation: car
- Shops for local food 1 - 2 / month

"Shopping at farmers' markets is a very pleasurable cultural experience in a way that large chain grocery shopping is not."

- Gail L.

Challenges to buying local



Lack of availability

- limited amount of locally-available produce
- limited amount of local products carried by stores

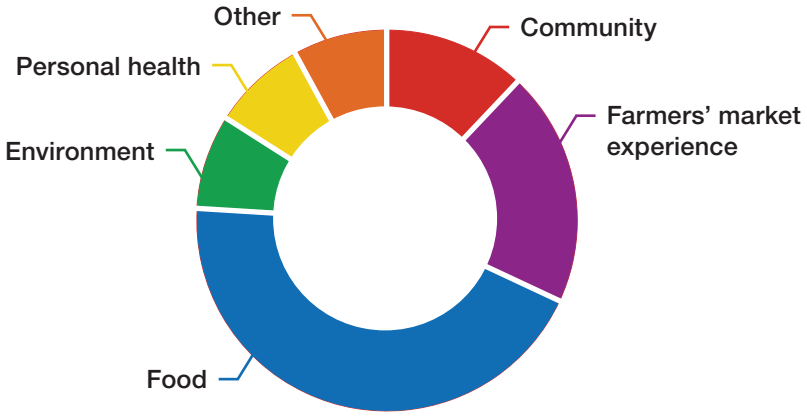
Lack of convenience

- price of local food
- travel
- not being able to buy all groceries at a farmers' market

Lack of knowledge

- knowing where to buy local products

Reasons for buying local



Community
- support local community
- relationship with producers

Farmers' market experience
- multi-sensory experience of farmers' markets
- visual appeal of food at farmers' markets

Food
- freshness / quality
- food use
- understanding how food is made

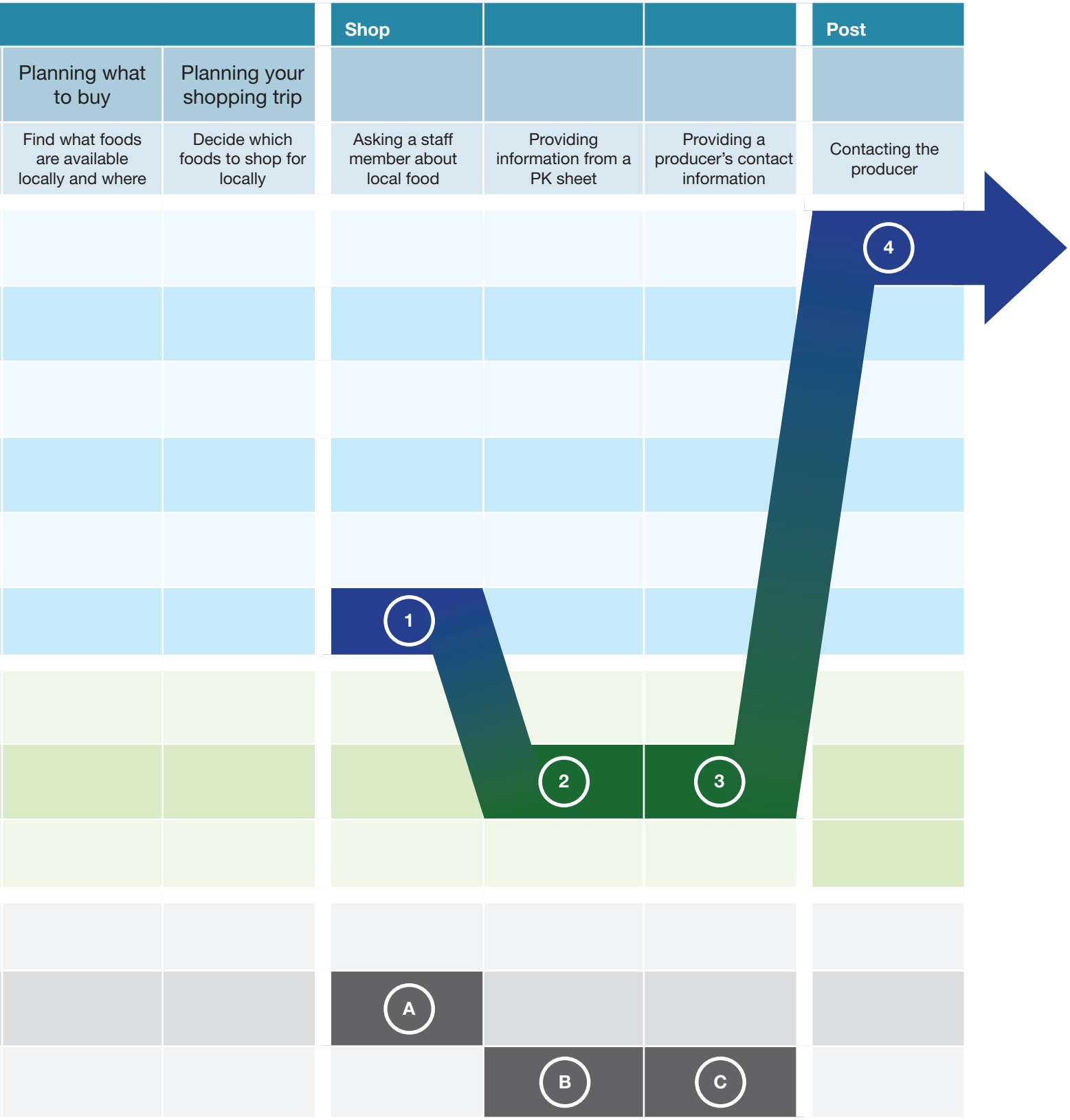
Environment
- reduction in food miles
- environmentally-friendly growing

Personal health
- organic / lack of chemicals
- local food is healthier

Other
- to be able to ask questions

Alex's Customer Journey

	Phases	Aware	Join	Plan	
	Sections			Thinking about what to make	Thinking about what to buy
	Steps	Talking with friend	Create account	Browse recipes	Check what foods you have
Touchpoint channels outside the service	Home				
	Word of mouth				
	Print materials				
	Cell phone				
	Farmers' market				
	Local food store				
Touchpoint channels within the service	Face to face				
	Print materials				
	Digital platform				
Backstage touchpoint channels	Community Foods representative				
	Producer				
	Local food store / market				


Shop
Post
Planning what to buy
Planning your shopping trip
Find what foods are available locally and where
Decide which foods to shop for locally
Asking a staff member about local food
Providing information from a PK sheet
Providing a producer's contact information
Contacting the producer
1
2
3
4
A
B
C

Storyboard of Alex's Customer Journey

SHOPPING: Local food store

Alex is shopping at a local food store and asks one of the staff members about the local lettuce they sell.

SHOPPING: Local food store

The staff member offers to find out the information for Alex and returns a minute later with a product knowledge sheet binder.

While Alex appreciates the information, he has further questions and asks how he can get ahold of the producer.

SHOPPING: Local food store

The offers to print Alex a copy of the product knowledge sheet.

SHOPPING: Local food store

Once he is home, Alex calls the producer and is able to ask the questions he has about their farm and production methods.

Backstage

A

Producer: Local food store

- provide the store with stock
- create a listing in the Community Foods digital platform

B

Local food store: Product knowledge sheets

- create a product knowledge sheet binder

C

Local food store: Product knowledge sheets

- print-off product knowledge sheet for customer

5.3 Information architecture

I progressed through a number of iterations of the information architecture for the Community Foods digital platform before arriving at the final version which is based on three categories: *foods*, *producers*, and *locations*. Early iterations explored how information could be presented depending on which of the three main phases of customer food journeys - *planning*, *shopping*, and *post-shopping* - a consumer was in. However, in reviewing customer journey maps and consumer diaries (see, for example, the description of Sharon P.'s food journey on p. 80-81), I came to understand that journeys do not progress through the phases in a predictable order and that their movement is often influenced by context. Since a consumer's needs cannot be predicted by the phase they are in, I moved to an organization based on the type of information rather than the position within the customer journey.

Before arriving at the final three categories of foods, producers, and locations, I moved through a number of possibilities for how the information could be organized. The *foods* category was originally named *products* since markets frequently offer more than food (for example, the Saskatoon Farmers' Market has vendors who sell soap, woodworking, knitting, and other non-food items.) However, as I spoke with consumers I came to realize that though non-food items are part of a market, consumers do not expect to see them in this service. Similarly, I explored more colloquial terms for *producers* such as *farmers* or *growers*, but found in this case these narrower terms did not encompass all the ways food can be made.

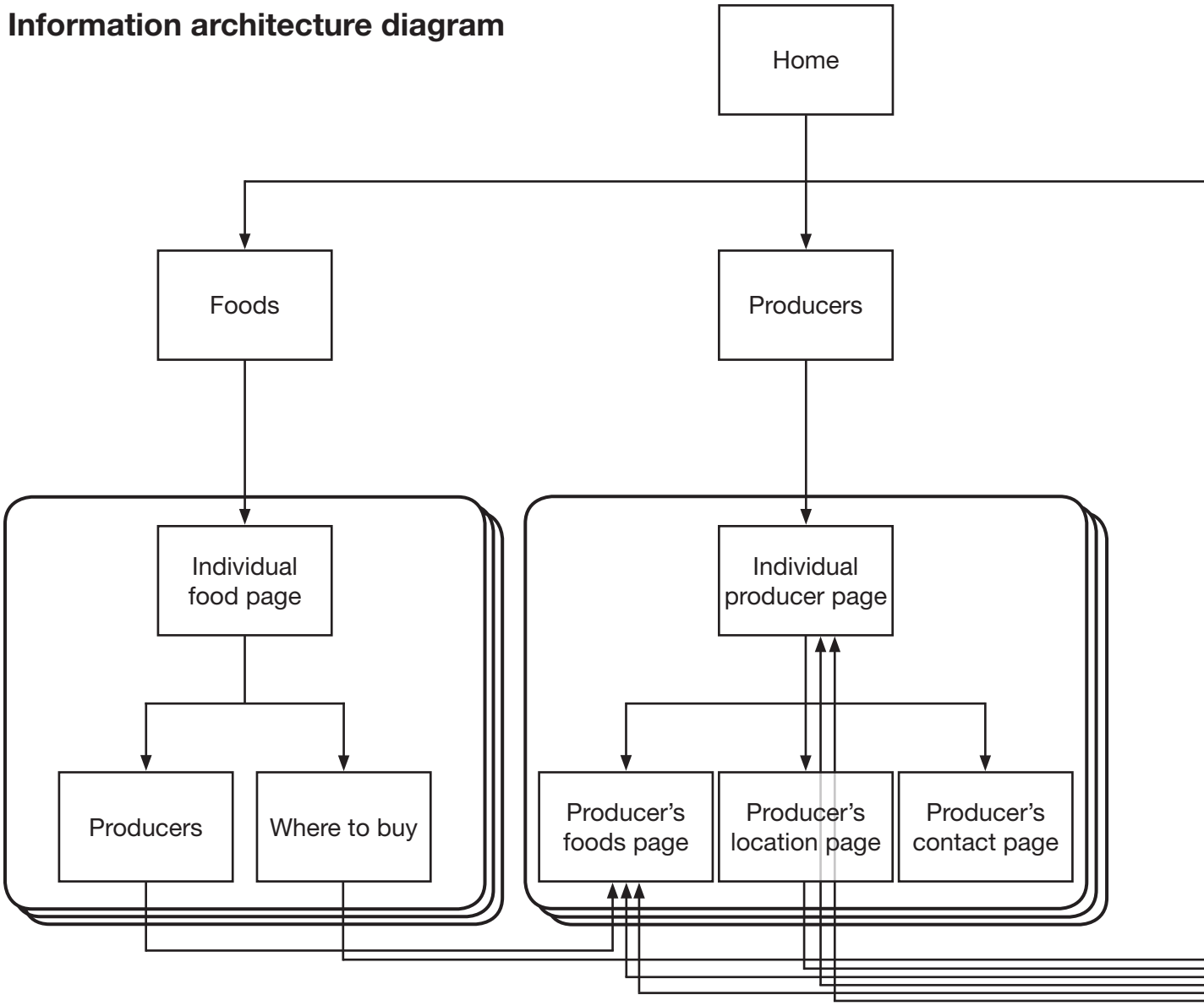
The *locations* category went through the largest number of iterations. It started originally as two sections, *markets* and *stores*, since they provide different possibilities for consumers: markets generally offer the opportunity to meet and purchase directly from producers, but their hours can be limited and locations inconvenient; stores are usually open throughout the week but almost never allow consumers to meet producers directly. However, in mapping out scenarios I came to understand that, despite these differences, markets and stores occupy largely the same role for consumers: they provide an access point for local foods.

A consumer searching for opportunities to buy local food near them would not want to have to look through stores and markets separately, but would rather have these presented together so that they could compare and make a decision amongst all their options. For this reason, I combined stores and markets under the category of *locations* but within this category still separate stores and markets in the information architecture. This separation will allow future versions of the digital platform to create an iconographic distinction between the two, reinforcing the different ways that each can fit into and support a consumer's food journey.

Once I combined stores and markets into a single category, the name for this category went through a number of iterations as well. Though it started out as *locations,* I moved to *where to buy* to better reflect its role within a customer's food journey, and to remove discrepancies between whether it referred to the producer's location (such as the farm) or locations where their products are available. However, with the inclusion of drop-off locations after user testing (see p. 123), the category encompassed more than purchase locations. I tried other options, such as *where to find* or *where to acquire*, but these lacked clarity. As well, I felt these longer, more descriptive names began to sit too separately from *foods* and *producers*. For these reasons I moved back to *locations* as it offers the clearest description while encompassing the various possibilities for the category.

Having organized local food information into the three categories of *foods*, *producers*, and *locations*, customer journey maps and storyboard scenarios helped me to understand the different roles these categories occupy within the planning phase of a customer food journey and that exploration in the planning phase is reflected in movement among these three categories. I designed the information architecture to be shallow and wide, allowing a consumer to quickly access detailed information within a category and then move laterally between the three categories. Rarely does a consumer stay within a single channel when exploring local food systems. For example, while a consumer might begin by searching for carrots, they most likely would not be satisfied to learn that carrots are available in their community, but rather may like to learn about the producers who grow the carrots and, ultimately, where they are available. The high degree of lateral movement for which the digital platform is designed can be seen in the information architecture diagram (next page).

Information architecture diagram



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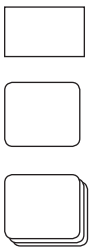


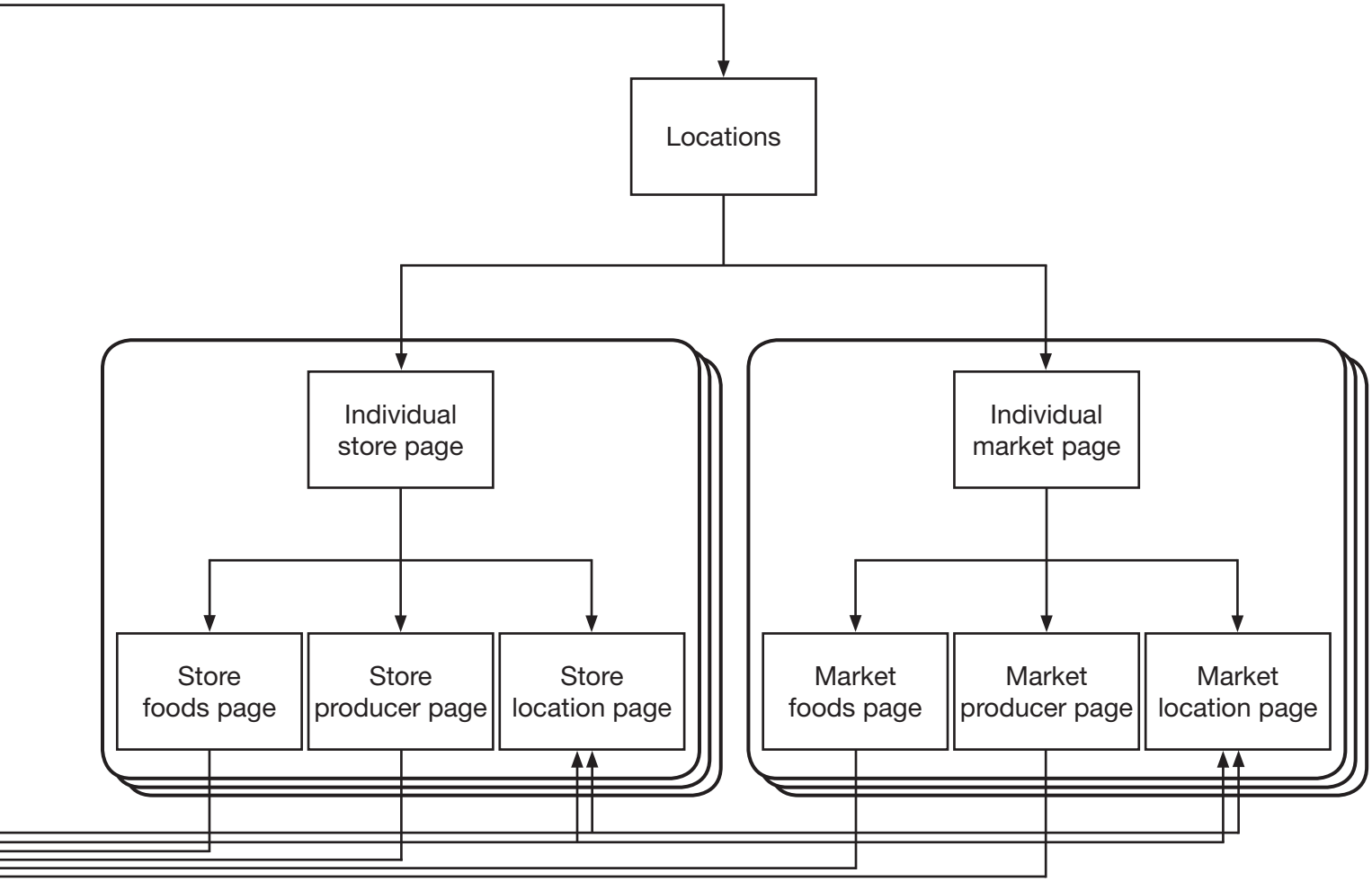
Individual page

Page area (main page at top; subpages below)

Stack of page areas within the same category

Direction of user flow

Based on Jesse James Garrett's (2002) *A visual vocabulary for describing information architecture and interaction design.*


Locations
Individual store page
Store foods page
Store producer page
Store location page
Individual market page
Market foods page
Market producer page
Market location page

5.4 Exploration

My early exploration for the design of the Community Foods service focused on how the digital platform could be present during and guide consumers through every stage of their journey. To support this, I brainstormed different artifacts that a consumer could access throughout their journey, either through the digital platform or by printing them out. Examples include shopping lists and recipe cards (see facing page).

In reviewing the way that consumers spoke about the social and multi-sensory experience of farmers' markets (see p. 82), I realized that a service that asked to be present at every stage would come between consumers and this experience. My focus moved to how I could design the Community Foods service so that consumers could use the digital platform to explore, find, and connect with local food opportunities in their community while minimizing the need to use the platform when visiting producers, stores, and markets.

I designed printable product knowledge sheets (see p. 124-125) to support staff at local food stores in providing information about products or producers. By functioning backstage, they allow consumers to learn information through people rather than the digital platform or informational signage, bringing the experience of stores closer to that of markets.

Communication

While the Community Foods service focuses on improving the ability for consumers and producers to connect and communicate, I limited the ability for them to communicate directly through the digital platform. Specifically, though I explored the possibilities for consumers to rate or leave comments about producers, the final version of the digital platform does not include these opportunities, as in this context ratings and comments could take away from rather than contribute to the building of community.

Digital platforms such as Yelp, Urbanspoon, and Airbnb allow users to rate and leave comments about services, but it is in part the distance between the users and those they are rating that makes this socially acceptable. With Yelp and Urbanspoon, comments are generally made about a restaurant or other food service, not an individual, while with Airbnb users generally do not live in the same community as those whose hospitality services they rate. Since the Community Foods service builds connections between consumers and producers in the same community, there is the possibility for comments or ratings to become personal and damage rather than build relationships.

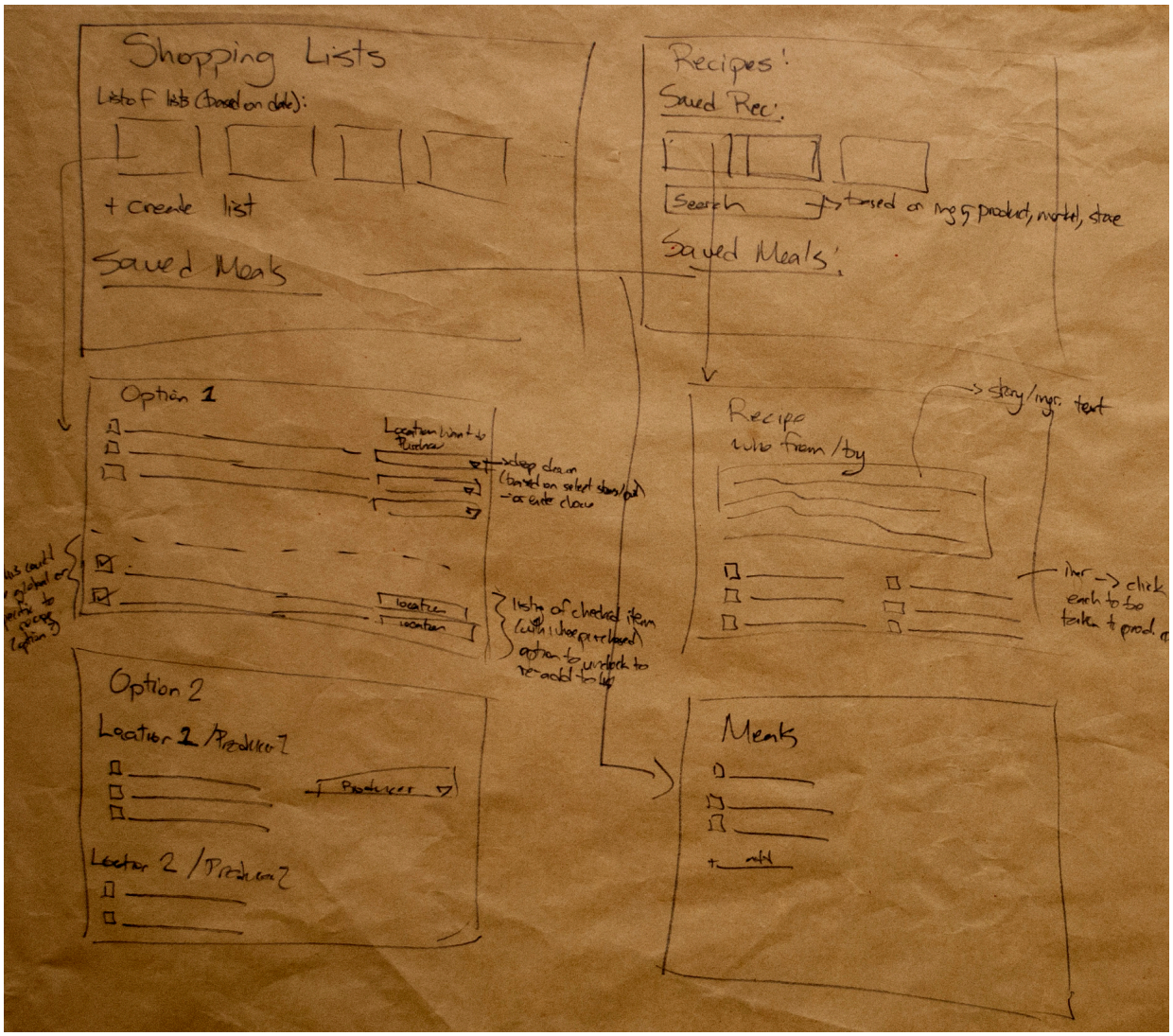


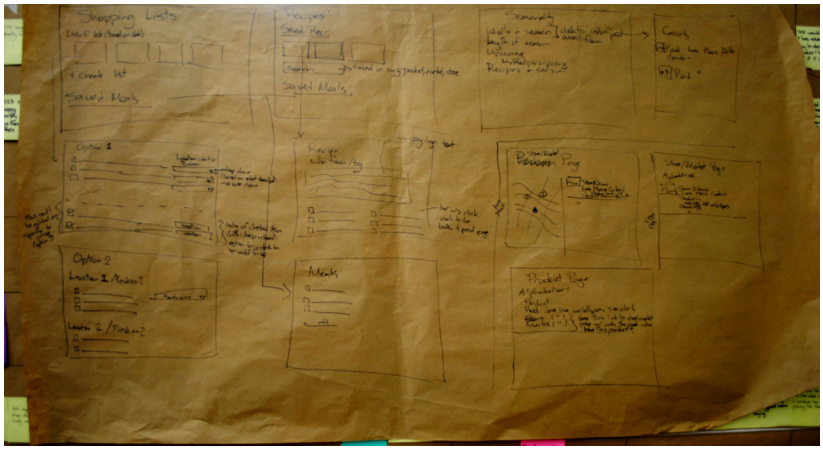
Fig. 51: Early touchpoint iterations including shopping lists and recipes

5.5 Wireframes for the digital platform

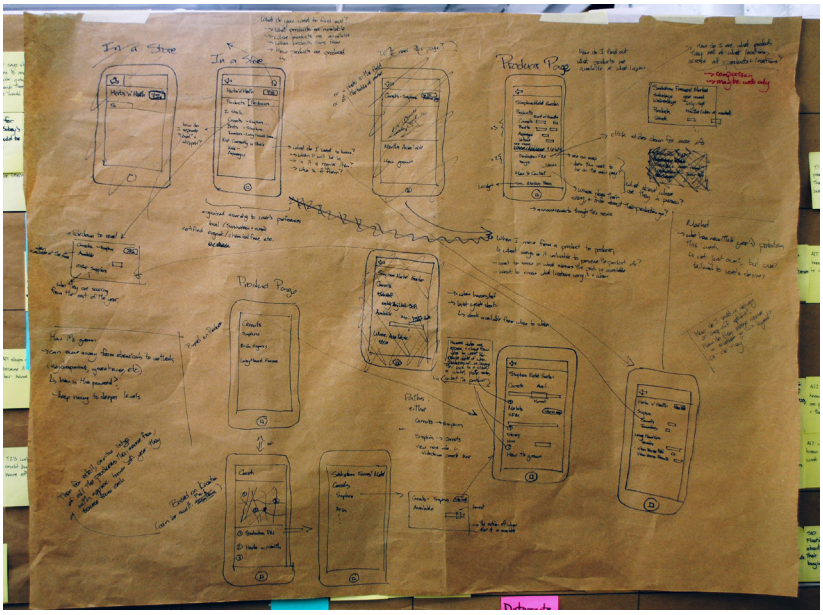
I went through a number of wireframe iterations for the Community Foods digital platform. Early versions began on the walls of my studio (see below), initially exploring what content should be available for each of the three categories of foods, producers, and locations, and how consumers could move between these categories. These iterations then moved to an incorporation of visual layout, using a mobile first strategy as this "helps in keeping the core values you want to present to the users in the forefront" (ZURB, 2015, para. 13). Later, I moved to paper and then digital wireframes created in InDesign, refining content, interactions, and visual layouts through these iterations.

Fig. 52-53: Early wireframe iterations

Early wireframes explored content and interactions rather than visual layout. At this stage artifacts such as recipes and shopping lists still figured heavily.



The beginning of considerations around layout and movement between pages.



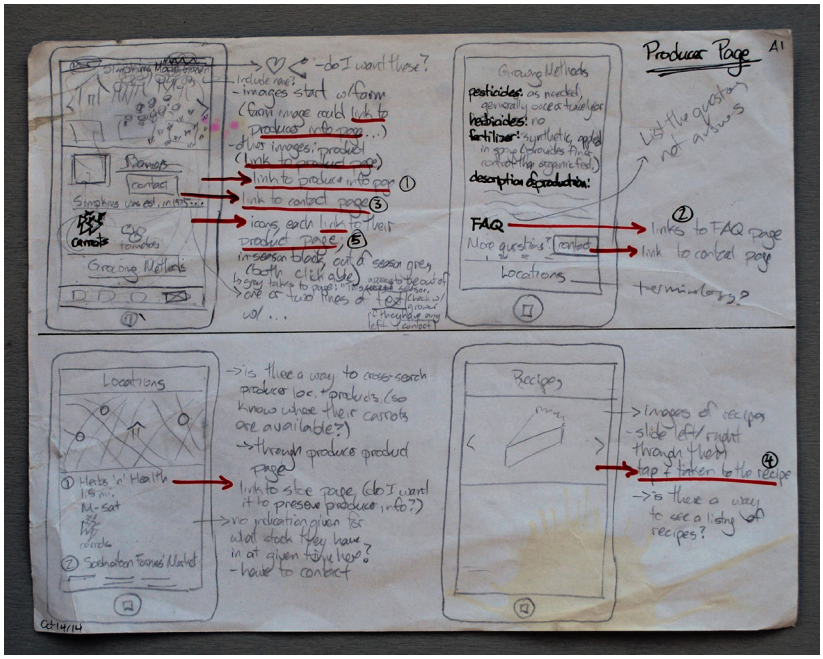


Fig. 54: Final paper wireframes

The final paper wireframes. Some artifacts that are no longer part of the platform, such as recipes, were still included at this stage.

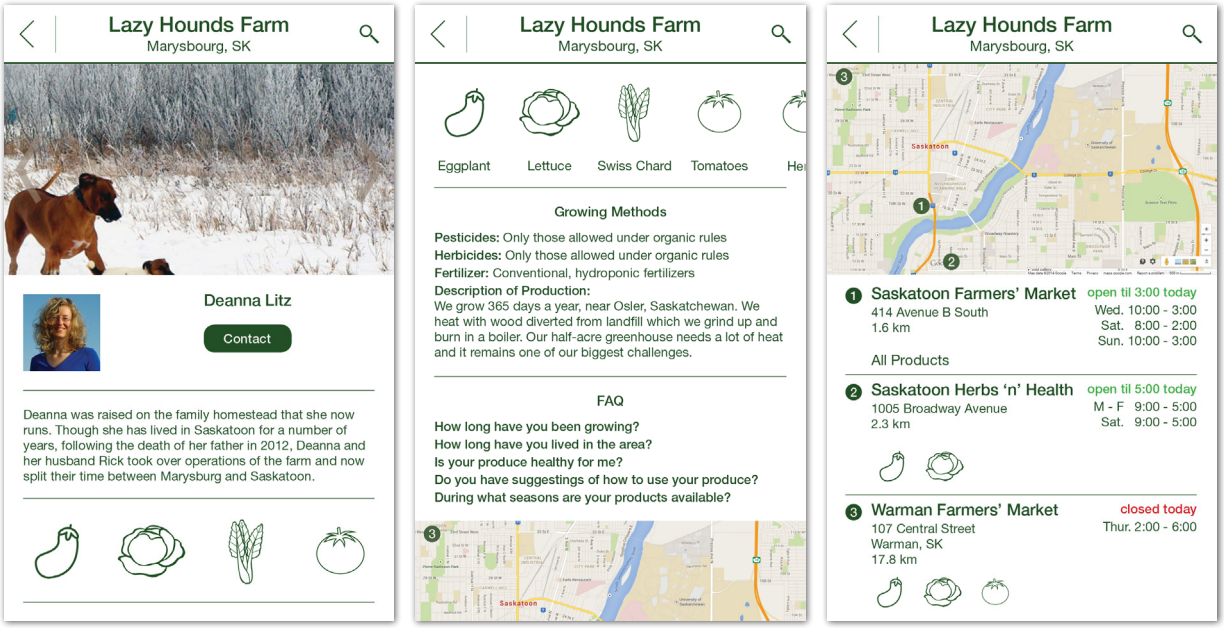


Fig. 55-57: Early digital wireframes

The earliest digital wireframes. They bare a strong visual relationship to the paper versions.

Section 5.6: User testing

From December 2014 - January 2015, I conducted preliminary user testing with 3 participants in Saskatoon, two consumers as well as Deanna Litz. I used InVision (http://www.invisionapp.com) to create a clickable prototype which I downloaded onto my phone. After providing a brief statement about project intent, I gave users my phone with the Community Foods homescreen loaded. I did not provide scenarios, rather observing how users explored and moved through the digital platform unprompted. I then asked follow-up questions regarding the overall experience and whether movement through pages followed their expectations. From this user testing I made one observation as well as received two recommendations from Deanna that led to design changes:

1. Observation: On the homepage, users began by tapping the arrows on the main producer image but did not know to tap the centre of the image to move to the producer page.

To support users in exploring the local food opportunities in their community, producer cards are presented on the homepage (see p. 127). Users can swipe left or right to scroll through images of the producer's foods or tap the image to go to the producer's page. To let users know about the ability to swipe through images, I had included left and right arrows. However, while this action was intended as secondary it provided the most obvious call to action on the homepage. I removed the arrows, and the prompt to swipe through the images is now provided by an animation of the main image sliding into place when the digital platform opens.

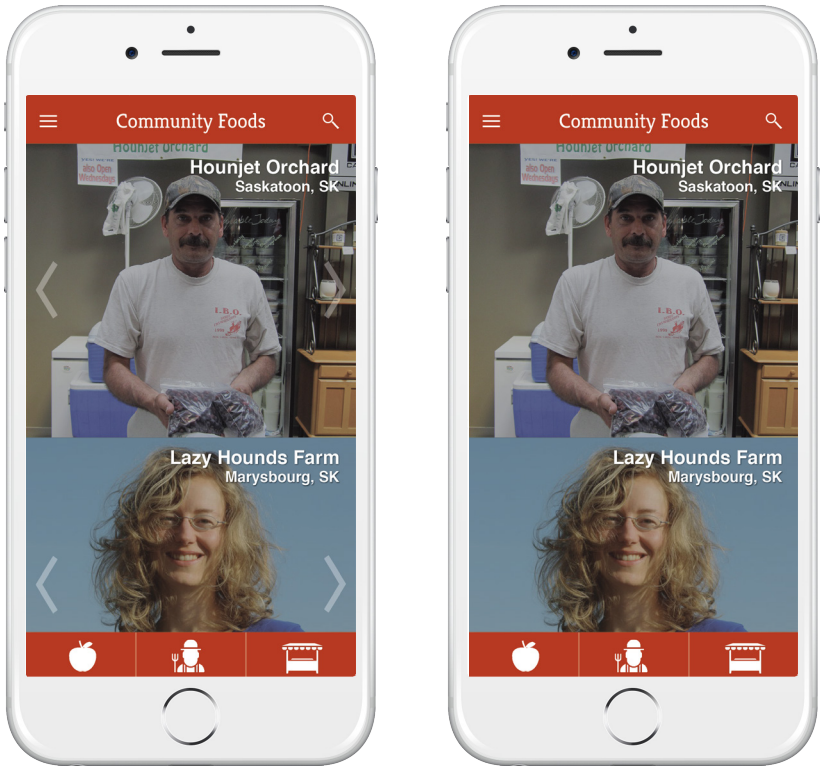


Fig. 58-59: User testing; removal of navigation arrows from homepage images

LEFT: Original Community Foods homepage, with navigation arrows.

RIGHT: Community Foods homepage, with navigation arrows removed.

2. Recommendation: Producers want to be able to post news for consumers.

At the stage of initial user testing, I had designed the digital platform to require minimal producer input beyond their initial account set-up. However, Deanna Litz requested the ability to post news relating to harvest and where her foods are available. She explained that one of her biggest challenges is communicating information to consumers and sees the digital platform as one method of doing so.

To provide the ability for producers to post updates while not creating a hole in the interface design if they do not, I created a *News* section that will appear immediately after the producer's name and location at the top of their page, but only if they enter news information. To prevent old news items from appearing on a producer's homepage past the date they are relevant, when creating a news item the producer will be required to select how long they want it to be displayed.

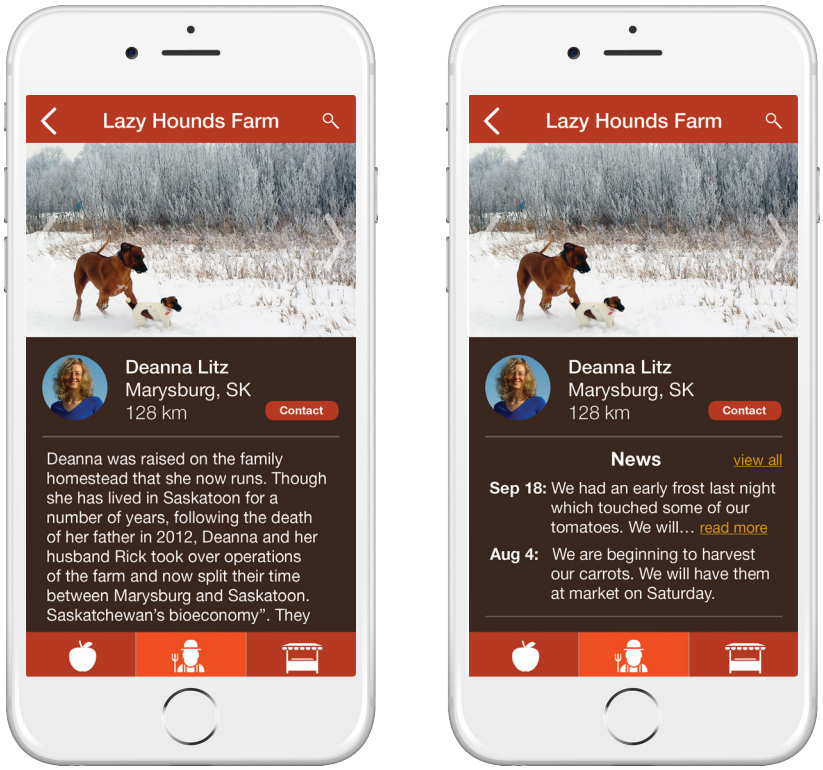


Fig. 60-61: User testing; addition of area for producer updates

LEFT: Individual producer homepage without *News* section.

RIGHT: Individual producer homepage with *News* section added. The producer's bio will move below.

3. Recommendation: Producers want to be able to list pick-up locations.

An area that was overlooked in my first prototype, Deanna Litz requested that producers be able to list 3rd party locations where consumers can pick-up orders placed directly with producers. Producers in the early stages of their career such as Deanna often find the time required by markets too great to attend on a regular basis, if at all, while delivering each order to consumers is not feasible either. Distributing orders to consumers through pick-up/drop-off locations can be convenient for both producers and consumers, and Deanna sees this method as being important to building her operation. To accommodate this method of distribution, I added a *Pick-up* tab that becomes part of a producer's location page when they enter pick-up locations.

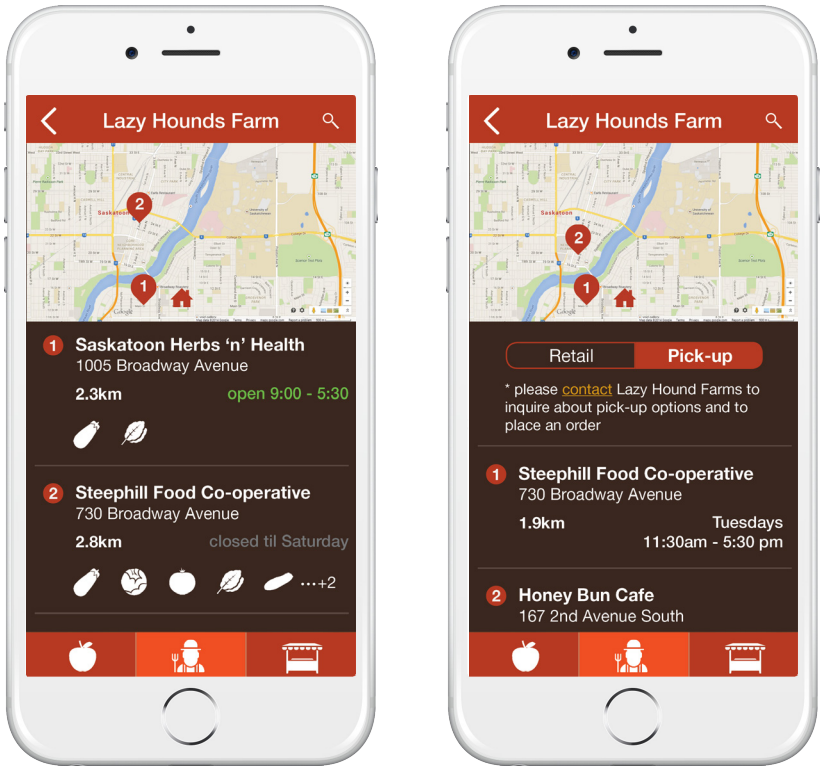


Fig. 62-63: User testing; addition of pick-up locations

LEFT: Individual producer location page. This will remain the design for producers who do not offer pick-up locations.

RIGHT: Individual producer location page with *Pick-up* tab.

5.7 Service channels

The Community Foods service has three service channels:

Face to face

In person introductions to the service in stores and markets (see next page).

Digital platform

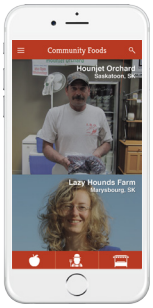


Fig. 66: Digital platform

Digital platform that stores and provides the information for all foods, producers, stores, and markets in the service (page 126-127).

Print

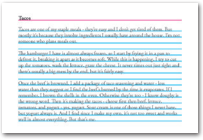


Fig. 64: Hand-out card

Hand-out cards for stores and markets to be able to provide information about the service for consumers (page 124).

Fig. 65: Product knowledge sheet

Product knowledge sheets that can be printed from the digital platform (page 124-125).

Face to face

The initial introduction of the Community Foods service will be done by myself in-person at markets and local food stores. This will provide me an opportunity to introduce the service in a human way, being able to speak with consumers about their local food experiences and explaining how they can use the service to find local food opportunities in their community. I anticipate these introductions occurring mainly on weekends as these will offer the highest-traffic opportunities at both stores and markets. I plan to hold introductions for the first four to six weeks the Community Foods service is introduced in a city.

Printed materials

The second touchpoint channel of the Community Foods service is printed materials. These materials will encompass two main forms: hand-out cards that stores and producers can give to consumers to introduce them to the service and product knowledge sheets to support store staff in providing information about foods and producers.

Hand-outs cards

Hand-out cards will be provided to stores, markets, and individual producers to introduce consumers to the Community Foods service. Though they will be available from the beginning of the service's implementation in a community, they will be particularly important once the face-to-face meetings have ended.

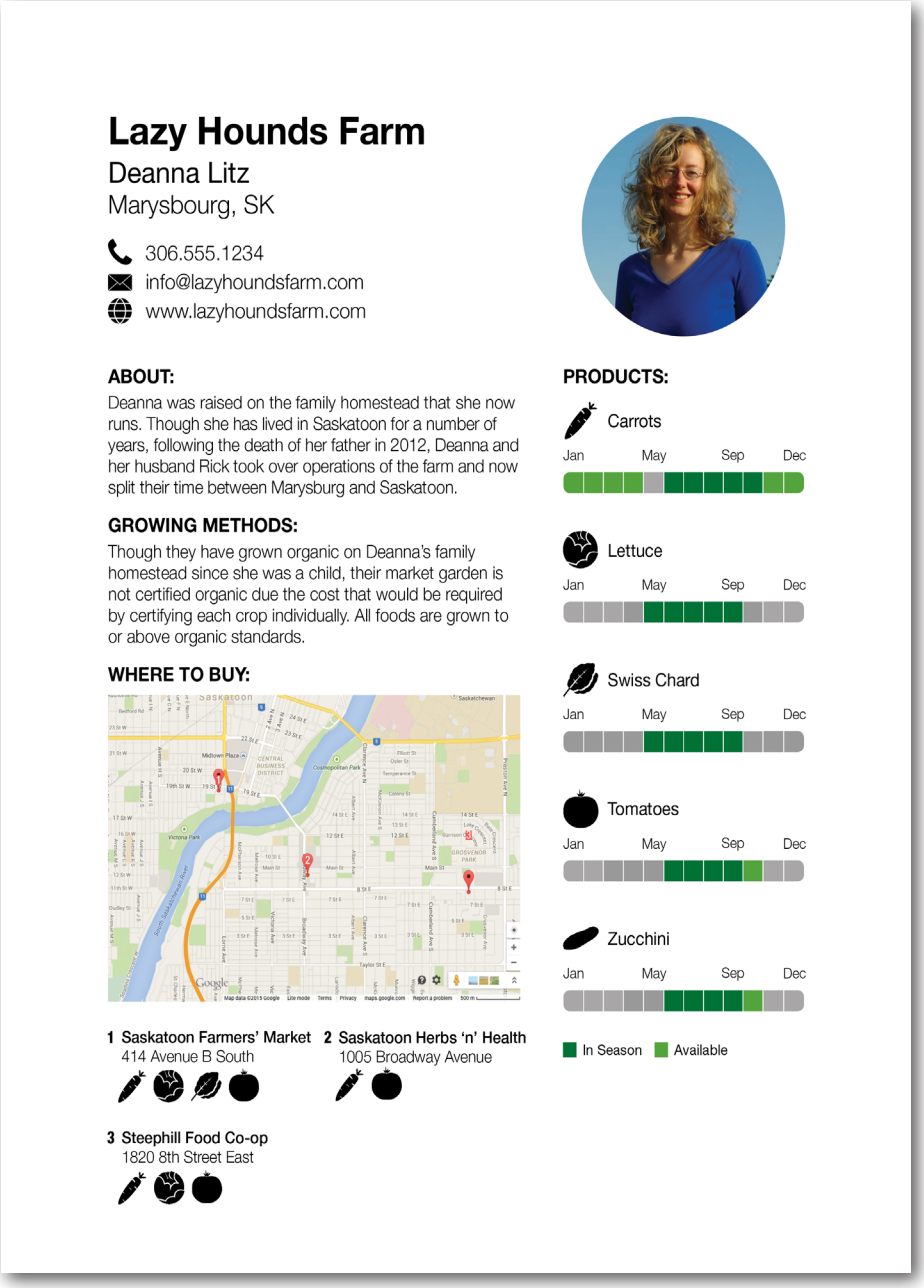
The hand-out cards are designed after the recipe story cards I created during preliminary research (p. 41). One side of the card contains information about the Community Foods service and how a consumer can create an account, while the other has one of the recipe story texts printed on it. I am using these texts as their conversational nature speaks to the design of the service.

Product knowledge sheets

To assist staff at local food stores in providing information about local foods and their producers, information about each producer is printable as a one-page product knowledge (PK) sheet. Thee sheets are designed to be readable if printed in both colour and black and white. I expect stores to print the PK sheets in black and white when giving them to consumers, while they may print them in colour when using them internally - from my experience in local food stores, many still keep information about producers as paper PK sheets in a binder, so this will allow the Community Foods service to integrate with their current system.

Rather than providing pre-printed PK sheets for stores, the Community Foods service allows stores to print on demand for three reasons:

- most stores will only carry foods from a small number of producers at one time, so this will prevent staff from having to sort through superfluous sheets;
- stores will be able to quickly update their information when accepting new producers or when a producer changes what they grow;
- stores will be able to print PK sheets for consumers who request contact information for a producer.



Lazy Hounds Farm

Deanna Litz
Marysbourg, SK

306.555.1234
info@lazyhoundsfarm.com
www.lazyhoundsfarm.com

ABOUT:

Deanna was raised on the family homestead that she now runs. Though she has lived in Saskatoon for a number of years, following the death of her father in 2012, Deanna and her husband Rick took over operations of the farm and now split their time between Marysburg and Saskatoon.

GROWING METHODS:

Though they have grown organic on Deanna's family homestead since she was a child, their market garden is not certified organic due the cost that would be required by certifying each crop individually. All foods are grown to or above organic standards.

WHERE TO BUY:

1 Saskatoon Farmers' Market
414 Avenue B South

2 Saskatoon Herbs 'n' Health
1005 Broadway Avenue

3 Steephill Food Co-op
1820 8th Street East

PRODUCTS:

Carrots
Jan May Sep Dec

Lettuce
Jan May Sep Dec

Swiss Chard
Jan May Sep Dec

Tomatoes
Jan May Sep Dec

Zucchini
Jan May Sep Dec

In Season Available

Fig. 67: Product knowledge sheet

Digital platform

After finalizing design of the information architecture and wireframes for the Community Foods digital platform, I developed it using ZURB's Foundation framework (http://foundation.zurb.com). The Foundation framework is responsive and supports the mobile-first design approach I used for the design of the digital platform.

Using Foundation, I coded the Community Foods digital platform to current best-practice web and mobile standards: I used HTML5 for content, CSS3 for layout, and JavaScript (jQuery) for transitions and interactions.

Homepage

The Community Foods homepage offers three methods for navigating the local food information contained in the digital platform. These methods are modeled after the different behaviours a consumer may desire when exploring the local food opportunities in their community: searching, browsing, and discovering.

Fig. 68: Community Foods digital platform: Homepage

Search is available through the magnifying glass icon at the top-right of most pages. This supports consumers who know what they are looking for and want to find it quickly.

Discovery is supported through the producer cards. Users are able to scroll through images of a producer's products by swiping left and right, while scrolling up and down moves through producers. A random selection of producers is presented each time the user opens the digital platform. This mode of discovery is modeled after the experience of walking through a farmers' market, where producers and foods can be found by accident, and where this serendipitous discovery is part of the joy of the market.

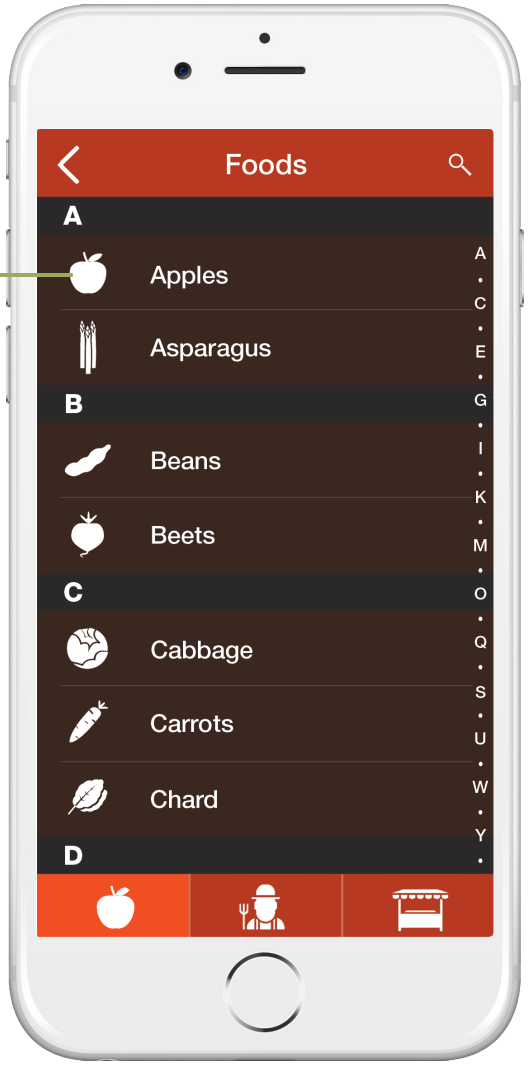
Browsing is available through the *Foods*, *Producers*, and *Locations* icons at the bottom of each page. While also providing the main structure for the site, these categories support a consumer who wants to, for example, browse the variety of local foods offered in their community.

Foods

A listing of the local foods available within a community. When a user taps on one of the foods, the page slides left to the individual food page.

Fig. 69: Community Foods digital platform: Foods

An icon is shown with each food to help with identification. The same icon is used for each food throughout the app.



Foods: Individual food page

The individual food page provides information about a food's availability across a community. Its seasonality is presented in a graph which lists the longest season food is available from any producer. As well, users have the option of selecting between viewing local producers who grow the product or locations where it is available.

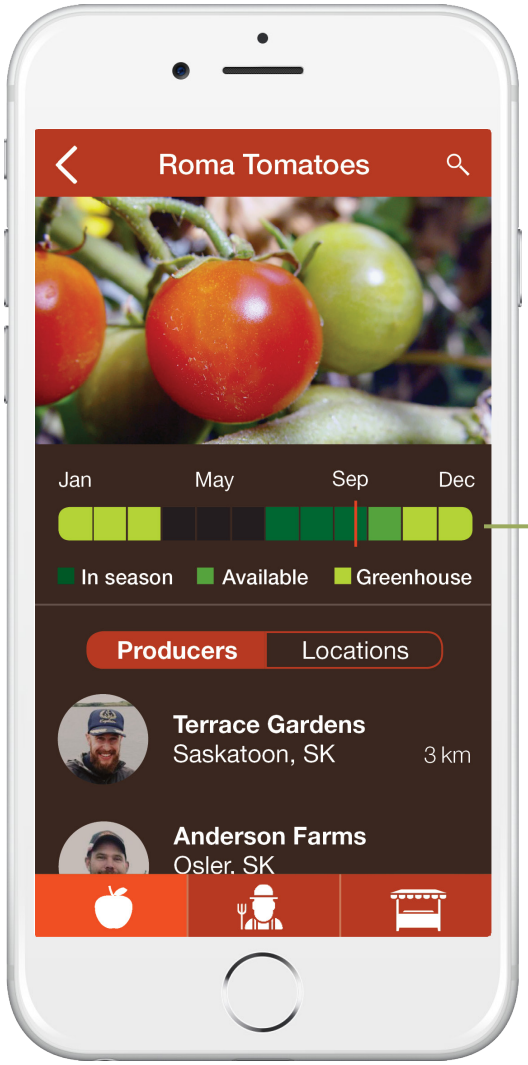
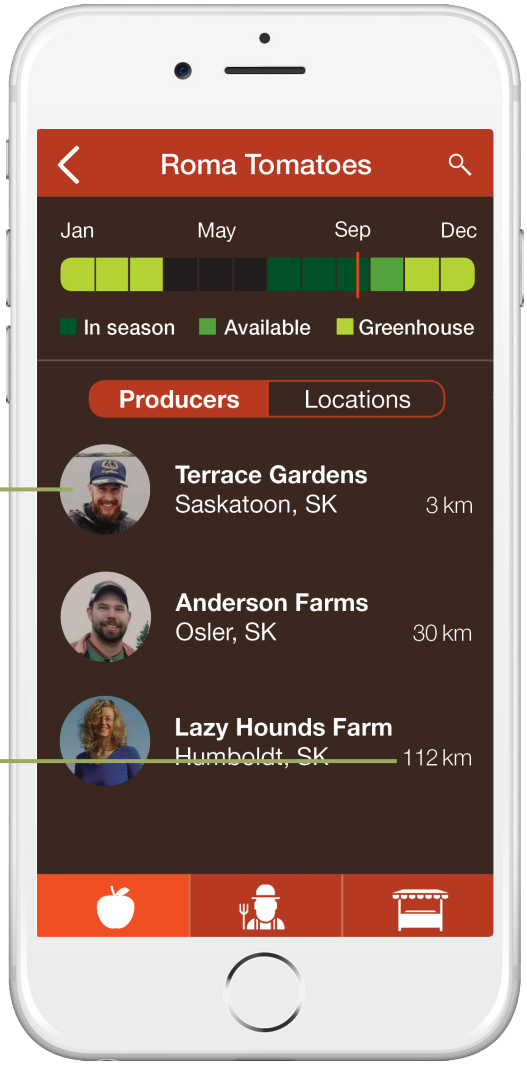


Fig. 70: Community Foods digital platform: Individual food page

To support consumers in better knowing the seasonality of foods in their community, a graph is presented for each food. Up to three categories of availability are provided: **In season** refers to when a food is available fresh and in harvest; **Available** refers to when field-grown produce is still available but no longer in season, applying mainly to root vegetables and other produce that can keep for long periods of time in cold storage; and **Greenhouse** refers to when produce is otherwise out of season and only available from local greenhouses.

Foods: Individual food page

Fig. 71: Community Foods digital platform: Individual food page, Producers section



When a user clicks on one of the producers, they are taken to the producer's Roma tomatoes page which has the same format but where the availability periods are specific to that producer and which lists the locations that producer's Roma tomatoes can be found.

Producers are listed according to their distance from the consumer.

Foods: Individual food page

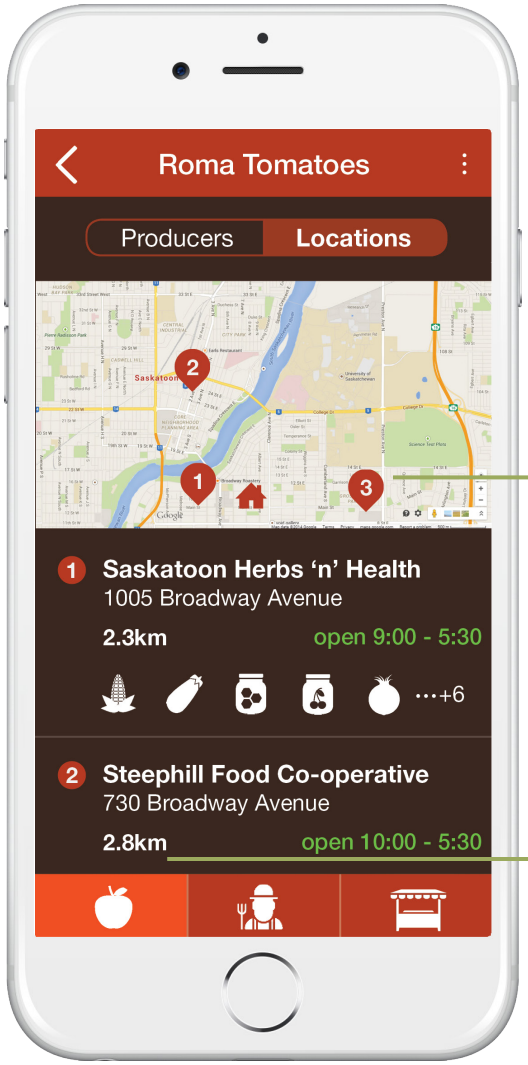


Fig. 72: Community Foods digital platform: Individual food page, Locations section

In addition to browsing by producer, consumers can view the stores and markets that sell local Roma tomatoes. Locations are shown on a map relative to the user's location.

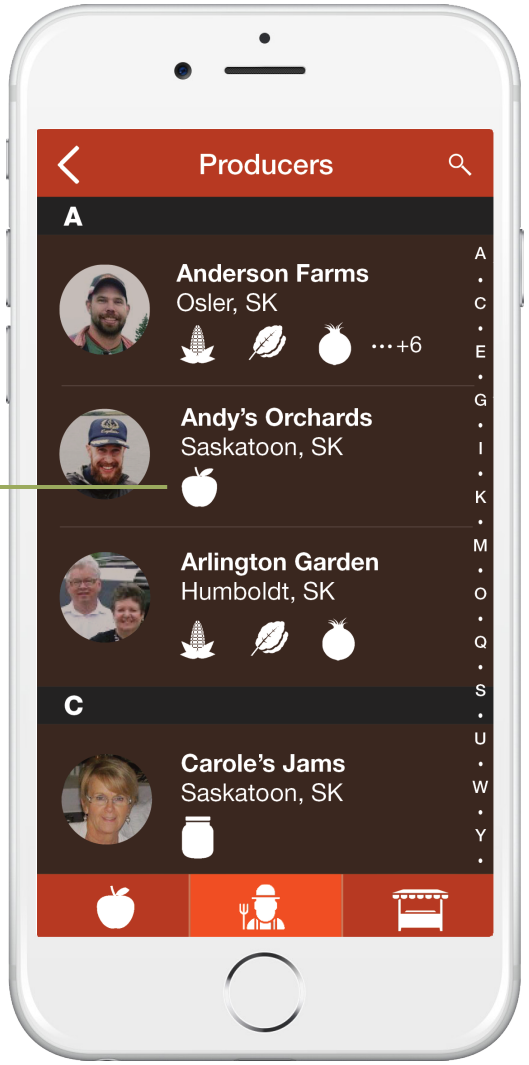
For each location, both the distance to the consumer's present location and whether the store is currently open is provided to situate this within the consumer's current journey.

Producers

A listing of the local producers in a community. When a user taps on one of the producers, the content slides left to that producer's page.

Fig. 73: Community Foods digital platform: Producers

A listing of each producer's items is provided through icons.



Producers: Individual producer page

The information for each producer is provided in a scrollable list of sections encompassing: images, name and location, news (only if provided), bio, growing methods, FAQ, locations, and contact information.

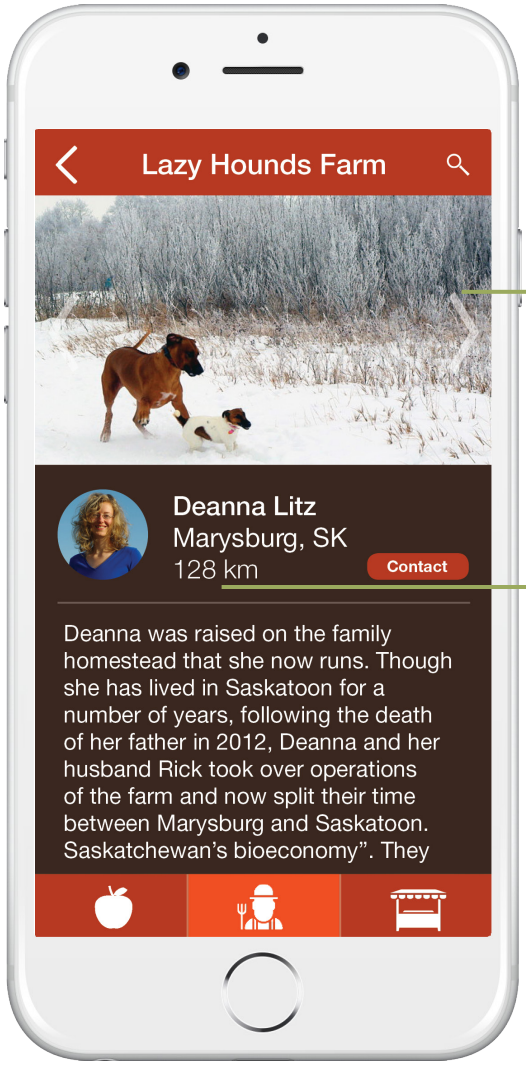


Fig. 74: Community Foods digital platform: Individual producer page

Similar to the producer cards on the homepage, users can swipe through images of the producer and their foods.

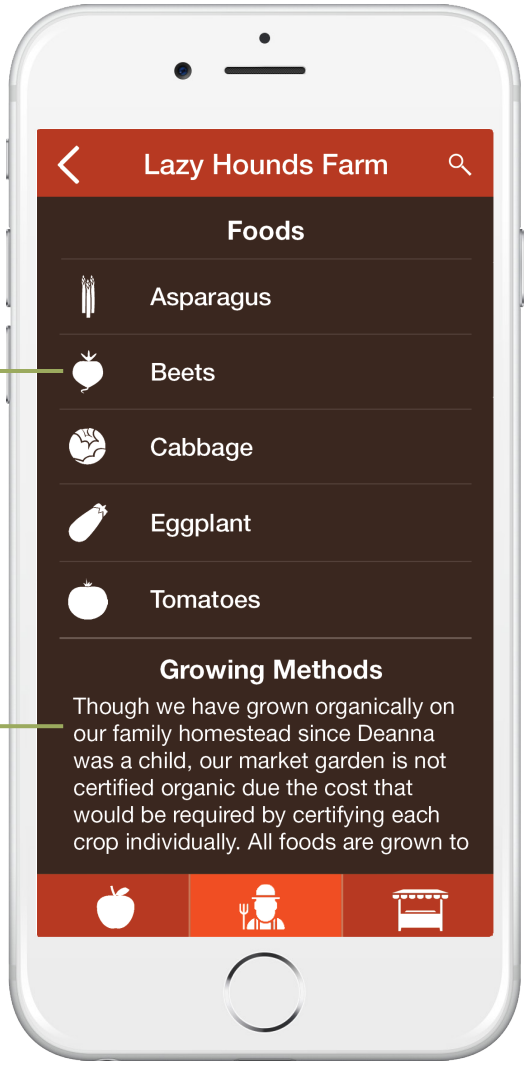
The names of the producers are provided to emphasize the personal connection; as well, their distance from the consumer is shown.

Producers: Individual producer page

Fig. 75: Community Foods digital platform: Individual producer page, Foods and growing methods

When a user taps on one of the foods, the page scrolls left to the individual food listing for the producer, similar to the produce homepage. The format is the same as for the individual food page, but the seasonality information and locations are specific to the producer.

Rather than a listing of certifications, a space is provided for producers to discuss their growing methods. This is both to maintain the dialogic nature of farmers' markets and to prevent an emphasis on labeling.



Producers: Individual producer page

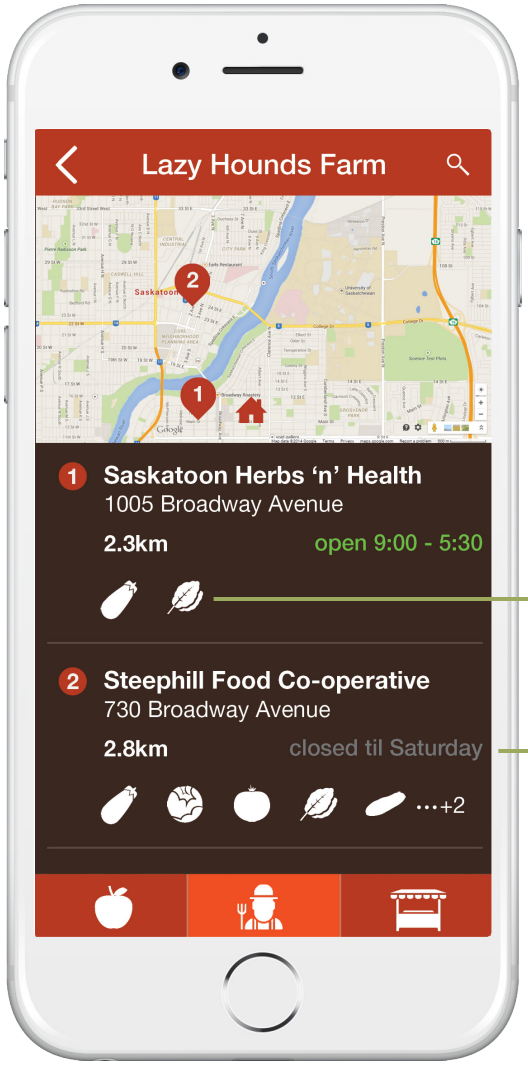


Fig. 76: Community Foods digital platform: Individual producer page, Location section

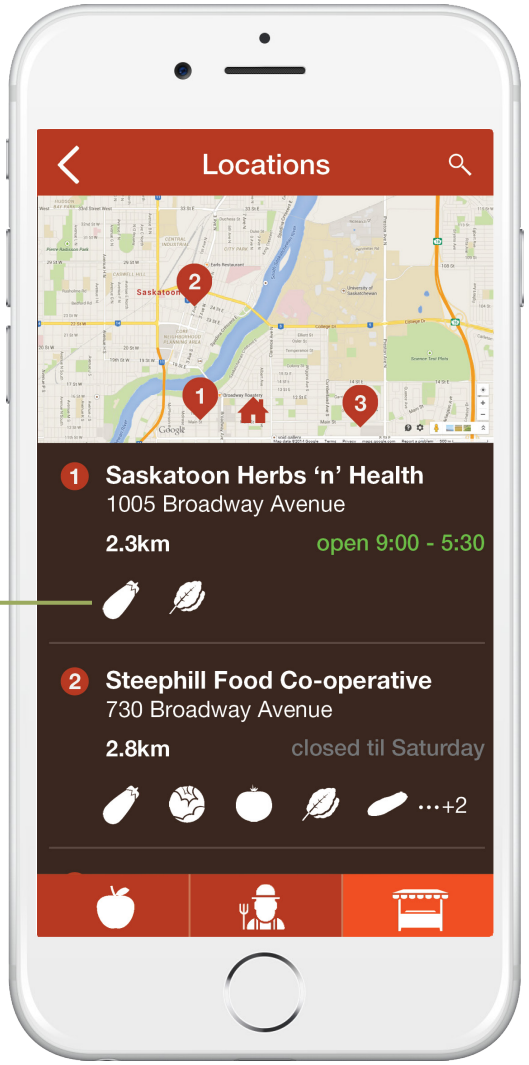
When listing the locations where a producer's products are available, icons are provided denoting which of the producer's foods are carried at the location.

Colour-coding is used to denote whether a location is currently open or closed.

Locations

A listing of the locations within a community that sell local food. The listings are provided on a map and organized according to their distance from the user. When a user clicks on one of the locations, they are taken to the homepage for that store or market.

Fig. 77: Community Foods digital platform: Locations



A listing of each the local foods a store or market carries is provided through icons.

Locations: Individual store page

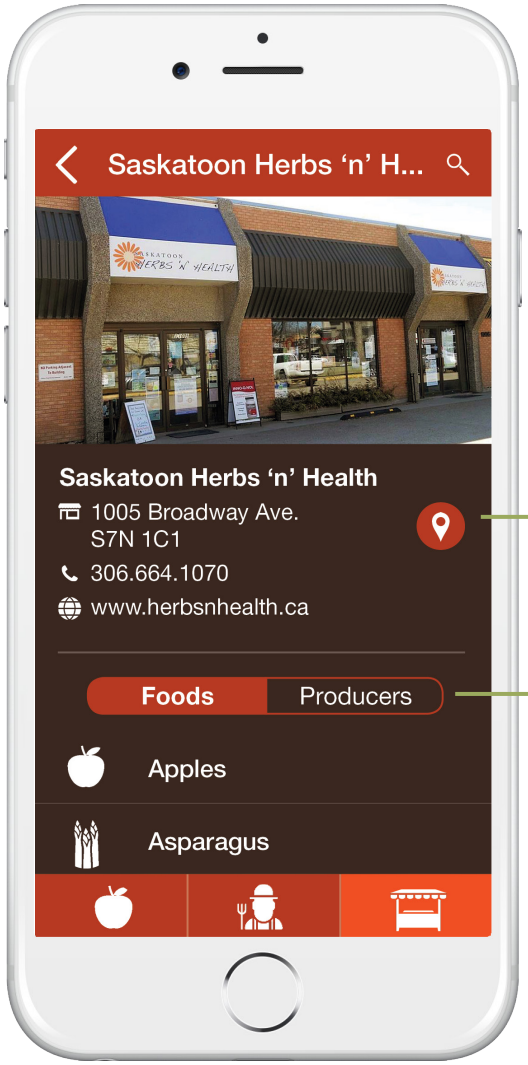


Fig. 78: Community Foods digital platform: Individual store page

The store's contact information is presented at the top of the page. As well, the user can tap the map icon to see the store's location relative to them on a map.

Users can select between viewing the local foods a store carries and the local producers it represents.

Seasonality

The colour palette of the Community Foods digital platform changes with the seasons to support consumers in understanding the seasonality of their local produce. Pictured below are the main colour schemes for the fall (left) and winter (right) seasons.

Fig. 79-82: Community Foods digital platform: Seasonality

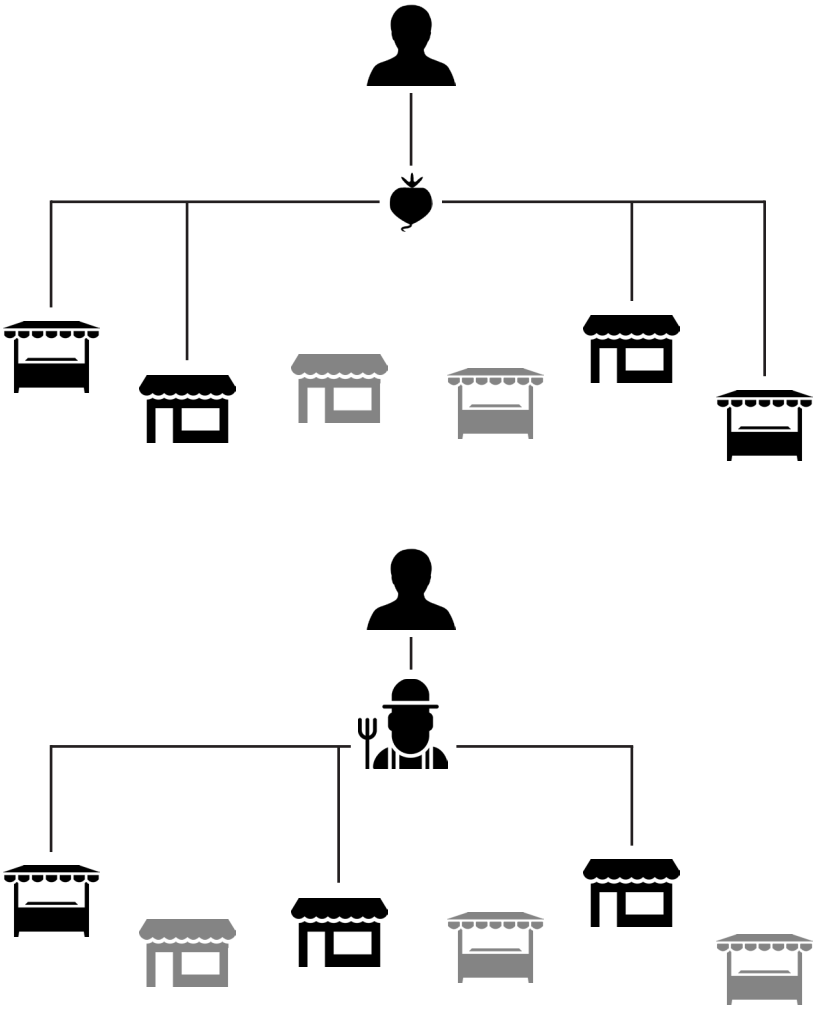
5.8 Summary

In addition to providing opportunities for local food consumers and producers to connect and communicate directly, the Community Foods service provides a framework for local food stores to take on a greater role as intermediary sellers. The digital platform allows consumers to discover what local foods stores carry and which producers they represent. Printable product knowledge sheets support store staff in providing the information about foods that consumers desire.

While stores provide the opportunity to increase the availability of local foods without increasing the time required from producers in sales, individually stores can only support a small number of producers (as discussed in precedents for local food retailers, p. 28 - 30). For this reason, the Community Foods service not only provides a framework for stores to carry local foods but supports consumers in understanding their local food opportunities across a community. This allows stores to collectively, along with markets and individual producers, better meet the needs and desires of individual consumers.

While literature on and precedents for service design focus on movement across channels within a single company or organization, the Community Foods service supports not only movement within an organization but across multiple organizations in a community. By allowing consumers to view and explore the local food opportunities across their community, the service enables them to understand the (perhaps previously unknown) commonalities organizations have, to learn how they may fit into the consumer's food journey, and perhaps even to discover new producers, stores, and markets.

Most customer food journeys would involve a visit to only one of the locations that carry a particular product. However, over time a consumer may move through a number of these locations due to factors such as proximity or stock availability, extending and building their community.



The Community Foods service proposes two new ways to bridge organizations and build communities: by connecting organizations that carry the same type of local food (top) and by connecting organizations that carry food from the same local producer (bottom).

KEY:

Farmers' market

Local food store

Consumer

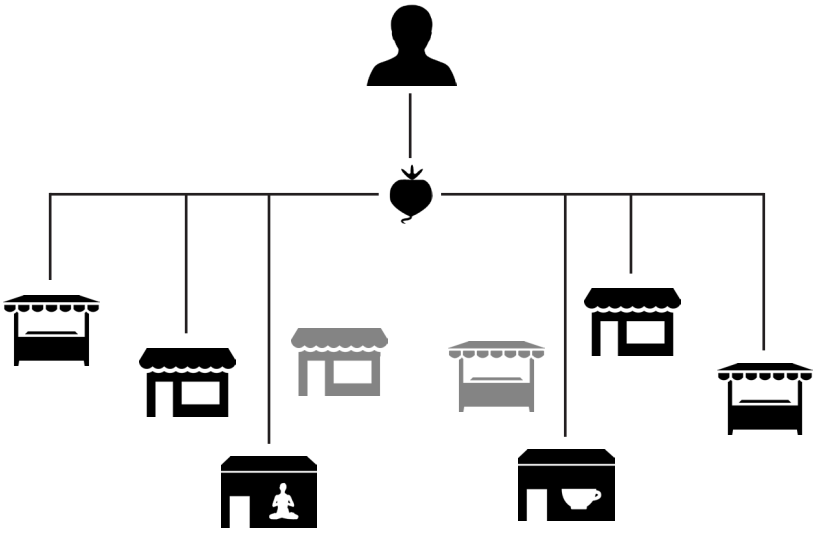
Producer

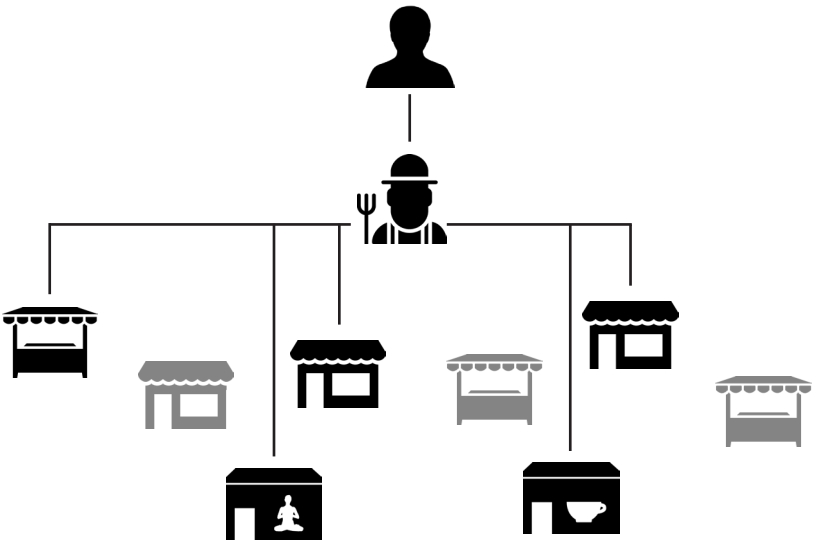
Food

The inclusion of businesses that do not sell local food as drop-off/pick-up locations further extends the possibilities for building connections within a community. Since these businesses would not be competing for the same food sales, there is an increased likelihood they would be willing to work together on the service they provide for consumers.

As producers described in the conversations I had with them, this form of network building and collaboration is already starting to happen. When Deanna Litz spoke of possible drop-off/pick-up locations, rather than local food stores she spoke of a cafe and a yoga studio (personal communication, July 4, 2014).

The organizations that Deanna Litz mentioned are locally owned, and this is consistent with the possibilities spoken of by other producers. Therefore, a building of networks in this way is really a building of local communities through food. And though the Community Foods service is focused on foods, its methodologies can be generalized to other systems. These methodologies allow people to see connections between organizations that may otherwise seem unrelated and as such propose new possibilities for people to build bridges within and move through their community.





KEY:

Coffee shop

Yoga studio

6 Conclusion

By moving control of how food is grown, distributed, and sold away from communities, industrial food systems cause a number of concerns for consumers, producers, and the environment. These include increased food insecurity, a reduced ability for producers to support themselves off farm income, and increased pollutants and other ecological concerns. While more well-defined alternative food systems, such as organic and Fair Trade, have been limited in their ability to bring about systemic change, local foods provide a useful alternative precisely because their lack of definition necessitates communication between consumers and producers. At the same time, local food systems present a number of challenges to participation, including the time required in accessing them.

The Community Foods service supports local food systems by providing greater opportunities for consumers, producers, and stores to connect and communicate across communities. It proposes a greater inclusion of local food stores as intermediary sellers since they can increase the accessibility of local foods without adding to the time required from producers.

The Community Foods service has three touchpoint channels: face to face interactions during the initial introduction of the service within a community, printable product knowledge sheets that support stores in providing information about producers, and a digital platform which supports users in finding and connecting with the local food opportunities across their community. While individually a producer, store, or even farmers' market offers a limited availability and variety of foods, collectively they can provide a wealth of options for consumers. By allowing consumers to see the different local food opportunities within their community and how they can access them, the Community Foods service helps users build new connections within their community and ultimately provides new ways of moving within it

6.1 Future directions

I focused the design of the Community Foods service on my hometown of Saskatoon, SK, not only so I could build from existing relationships there for primary research but to support the implementation of the service as well. In the next stage of development for the digital platform, I plan on live testing it with a group of producers and consumers from the Saskatoon Farmers' Market and Saskatoon Herbs 'n' Health. This will allow me to understand and address system-level issues that may not have presented during individual user testing.

The main technical barrier to implementing the Community Foods service in its current form is the development of a back-end database that would allow producers to create and update a profile in a user-friendly and intuitive way. Back-end coding is outside my current skill set, so this would require partnering with or hiring a computer programmer. However, the service can both be tested and implemented without this database.

During the initial implementation in Saskatoon, I plan on collecting information from producers and entering it into the system myself. While this will be time-consuming for me, it will most likely be quicker than waiting for individual producers to create profiles. While producers will not be able to add news about production, the core aspects of the Community Foods service will be in place, allowing users to view and explore local food opportunities across their community.

Live testing in this manner will allow me to collect usage data to build a business case for funding. I will be applying for community grants for the development of the back-end database and to support implementation of the Community Foods service across Saskatoon. As well, there are three levels of organizations I can approach about implementing the service with their members for a service fee.

Farmers' markets and other producer organizations on the civic level

While the initial live testing with a group of producers from the Saskatoon Farmers' Market will be at no charge, once this is complete I will speak with them about implementing the service with all their members. Within this model, I would collect information from all regular producers at the market and create the initial profiles. This will ensure representation across their membership. The Saskatoon Farmers' Market employed a similar technique when developing the grower profile section of their current website in 2013 (http://www.saskatoonfarmersmarket.com). The market office collected images and information from producers and these were then used to create an online database that represents all market members.

I believe this model can be expanded to farmers' markets in other cities with as well. While the Community Foods service will remain free for producers, there is a business case for a market to pay a service fee to ensure representation for all their members and to accommodate producers who are not comfortable using digital technologies.

Producer organizations on the provincial level

A second level of organizations I will approach are those that represent producers on the provincial level, such as the Saskatchewan Vegetable Growers Association (SVGA) and the Saskatchewan Fruit Growers Association (SFGA). Similar to farmers' markets, I will propose collecting information from and create profiles for their members for a service fee. Both the SVGA and SFGA have a *buy local* section on their website with links to member growers, showing the value these organizations see in such a service. However, for both organizations the number of producers listed is quite limited and the information is not presented in a user-friendly manner.

In addition to creating profiles for members of these organizations within the Community Foods service, a second option is to incorporate aspects of the digital platform into their existing websites. Both the methods of organizing and moving amongst information in the three categories of foods, producers, and locations, as well as the presentation of producer information in sections, provide methods that could be adapted to their websites to make them more user-friendly.

Municipalities

The third level of organizations I will approach are municipalities, starting with Saskatoon. To support local businesses and the presence of local foods within a city, I will seek funding from municipalities to implement the Community Foods service. The process of contacting producers and setting up initial profiles would be similar to the scenarios mentioned above.

With this model, there is also the opportunity to move the Community Foods service to a smaller, possibly non-economic scale and support community gardening. The service could be opened to people who grow food in community or personal gardens, including people interested in sharing rather than selling their food. A different category could be created for these participants, so that a consumer could choose whether they wished to see results for all producers or just those who have a business license or some other form of verification.

I am hopeful this form of implementation can become a reality in the future. Whereas right now there is often a clear distinction between producers and consumers, and further between rural and urban communities, this would allow for a blurring of these boundaries and a movement back to a more holistic view of food systems.

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A Primary research schedule

Producer conversations

Thomas Brown June 27th, 2014
Gerry Hounjet June 27th, 2014
Nicole Davis July 2nd, 2014
Ian and Verna Eaton (interviewed together) July 4th, 2014
Deanna Litz July 4th and August 14th, 2014
Audrey and Dixon Simpkins (interviewed together) July 5th, 2014

Local food store representative conversation

Gail Peterson September 23rd, 2014

Farmers' market representative conversation

Debby Claude August 12th, 2014

Diary studies

(distributed August 2014, collected August and September 2014)

Tempest Besse
Kaishin Chu
Natalie Jacobs
Alexa Hainsworth
Gail Lasiuk
Sharon Peterson

User testing

Deanna Litz January 7th, 2015
Gail Peterson January 10th, 2015
Sharon Peterson January 12th, 2015

B Market survey

Michael Peterson - Community Foods

SurveyMonkey

1. Do you currently look for local, organic, or Fair Trade options when buying groceries?

	Response Percent	Response Count
Yes	83.0%	73
No	17.0%	15
answered question		88
skipped question		2

2. If no, why not?

	Response Percent	Response Count
Too expensive	52.0%	13
Don't know where to find them	16.0%	4
Don't know what products are available	16.0%	4
Experienced poor quality in the past	0.0%	0
Don't care	16.0%	4
Other (please specify)	16.0%	4
answered question		25
skipped question		65

5. Do you currently buy allergen-free foods (could include nut-free, gluten-free, egg-free, etc.)?

	Response Percent	Response Count
Yes	35.6%	32
No	**64.4%**	**58**
	answered question	**90**
	skipped question	**0**

6. If no, why not?

	Response Percent	Response Count
Don't need them	**88.9%**	**48**
Too expensive	0.0%	0
Don't know what products are available	9.3%	5
Don't know where to find them	3.7%	2
Don't know how to cook with them	1.9%	1
Had poor quality in the past	0.0%	0
Other (please specify)	3.7%	2
	answered question	**54**
	skipped question	**36**

7. Where do you usually shop? Check all that apply

	Response Percent	Response Count
Dad's Organic Market	40.4%	36
Herbs 'n' Health	18.0%	16
Mom's Nutrition	16.9%	15
Hygeia Health Market	5.6%	5
Ellen's Whole Body Health	3.4%	3
SaskMade Marketplace	10.1%	9
Farmer's Markets	**66.3%**	**59**
Sangster's	5.6%	5
GNC	1.1%	1
Superstore	55.1%	49
Safeway	50.6%	45
Sobey's	47.2%	42
Co-op	40.4%	36
Walmart	14.6%	13
Other (please specify)	25.8%	23
	answered question	**89**
	skipped question	**1**

8. How satisfied are you with your current supplier for each of the following?

	Very unsatisfied	Mostly unsatisfied	Somewhat unsatisfied	Somewhat satisfied	Mostly satisfied	Very satisfied	Respo Cou
Locally Sourced Food	3.4% (3)	13.8% (12)	14.9% (13)	**41.4% (36)**	16.1% (14)	10.3% (9)	
Natural/Non-GMO Food	7.3% (6)	15.9% (13)	15.9% (13)	**32.9% (27)**	19.5% (16)	8.5% (7)	
Organic Food	6.0% (5)	12.0% (10)	14.5% (12)	25.3% (21)	**36.1% (30)**	6.0% (5)	
Allergen-Free Food	8.6% (6)	11.4% (8)	14.3% (10)	**31.4% (22)**	22.9% (16)	11.4% (8)	
Vitamins/Supplements	1.2% (1)	1.2% (1)	7.3% (6)	25.6% (21)	**51.2% (42)**	13.4% (11)	
Variety of products available	1.2% (1)	6.0% (5)	19.3% (16)	24.1% (20)	**37.3% (31)**	12.0% (10)	
Priced similar to mainstream products	4.9% (4)	19.5% (16)	20.7% (17)	**26.8% (22)**	18.3% (15)	9.8% (8)	
Information on where the food comes from	9.5% (8)	23.8% (20)	22.6% (19)	**25.0% (21)**	13.1% (11)	6.0% (5)	
Knowledgeable staff	8.3% (7)	13.1% (11)	14.3% (12)	**35.7% (30)**	15.5% (13)	13.1% (11)	
Proximity to natural health practitioners	6.5% (5)	13.0% (10)	18.2% (14)	**31.2% (24)**	24.7% (19)	6.5% (5)	
Flexible hours	4.8% (4)	7.2% (6)	12.0% (10)	26.5% (22)	**30.1% (25)**	19.3% (16)	
Home delivery	**25.4% (17)**	10.4% (7)	11.9% (8)	**25.4% (17)**	13.4% (9)	13.4% (9)	
Overall	0.0% (0)	11.1% (4)	13.9% (5)	**50.0% (18)**	19.4% (7)	5.6% (2)	
Other	22.2% (2)	0.0% (0)	11.1% (1)	**44.4% (4)**	0.0% (0)	22.2% (2)	

(please specify)

	answered question
	skipped question

9. Please indicate the level of importance of each in making a purchase decision.

	Very unimportant	Mostly unimportant	Somewhat unimportant	Somewhat important	Mostly important	Very important
Locally Sourced Food	3.6% (3)	2.4% (2)	8.3% (7)	**36.9% (31)**	26.2% (22)	22.6% (19)
Natural/Non-GMO Food	9.5% (8)	7.1% (6)	7.1% (6)	**27.4% (23)**	21.4% (18)	**27.4% (23)**
Organic Food	9.4% (8)	4.7% (4)	14.1% (12)	23.5% (20)	20.0% (17)	**28.2% (24)**
Allergen-Free Food	**25.3% (20)**	13.9% (11)	10.1% (8)	16.5% (13)	15.2% (12)	19.0% (15)
Vitamins/Supplements	9.9% (8)	7.4% (6)	13.6% (11)	25.9% (21)	**32.1% (26)**	11.1% (9)
Variety of products available	1.2% (1)	1.2% (1)	3.7% (3)	23.2% (19)	**42.7% (35)**	28.0% (23)
Priced similar to mainstream products	1.2% (1)	2.4% (2)	9.8% (8)	20.7% (17)	**32.9% (27)**	**32.9% (27)**
Information on where the food comes from	1.2% (1)	6.2% (5)	8.6% (7)	18.5% (15)	28.4% (23)	**37.0% (30)**
Knowledgeable staff	1.2% (1)	4.8% (4)	9.5% (8)	19.0% (16)	**33.3% (28)**	32.1% (27)
Proximity to natural health practitioners	17.9% (15)	14.3% (12)	**22.6% (19)**	14.3% (12)	21.4% (18)	9.5% (8)
Flexible hours	1.2% (1)	2.4% (2)	12.2% (10)	23.2% (19)	**31.7% (26)**	29.3% (24)
Home Delivery	**34.2% (27)**	16.5% (13)	15.2% (12)	17.7% (14)	7.6% (6)	8.9% (7)
Other	40.0% (2)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	**60.0% (3)**

(please specify)

	answered question

	skipped question

10. Would you be interested in trying a new grocery store with a focus on local products?

	Response Percent	Response Count
Yes	100.0%	40
No	0.0%	0
	answered question	40
	skipped question	50

11. How often do you buy groceries?

	Response Percent	Response Count
More than once a week	42.2%	38
Weekly	43.3%	39
Bi-weekly	11.1%	10
Monthly	1.1%	1
Other (please specify)	2.2%	2
	answered question	90
	skipped question	0

12. How much do you spend, on average, on a grocery shopping trip? (excluding vitamins and supplements)

	Response Percent	Response Count
Under $50	21.1%	19
$50 - $99	**40.0%**	**36**
$100 - $149	28.9%	26
$150 - $199	6.7%	6
$200 - $249	1.1%	1
$250+	2.2%	2
	answered question	90
	skipped question	0

13. How much do you spend, on average, on vitamins and supplements per month?

	Response Percent	Response Count
Under $50	**63.6%**	**56**
$50 - $99	28.4%	25
$100 - $149	5.7%	5
$150 - $199	1.1%	1
$200 - $249	1.1%	1
$250+	0.0%	0
	answered question	88
	skipped question	2

14. Where would you most likely look to find a new grocery/health food store? Check all that apply

	Response Percent	Response Count
Radio	18.9%	17
Television	7.8%	7
The StarPhoenix	15.6%	14
Other daily/weekly papers (Planet S, Metro, etc.)	33.3%	30
Social Media	41.1%	37
Online search engine	50.0%	45
Yellow Pages	8.9%	8
Flyers/Direct Mail	20.0%	18
Word of mouth	**74.4%**	**67**
Referral from Health Care provider	16.7%	15
Other (please specify)	10.0%	9
	answered question	**90**
	skipped question	**0**

17. What is your age?

	Response Percent	Response Count
Under 18	0.0%	0
18 - 24	8.0%	7
25 - 34	**35.6%**	**31**
35 - 49	28.7%	25
50 - 64	26.4%	23
65+	1.1%	1
	answered question	**87**
	skipped question	**3**

18. What is the size of your household?

	Response Percent	Response Count
1	17.6%	15
2	**32.9%**	**28**
3	28.2%	24
4	11.8%	10
5	3.5%	3
6+	5.9%	5
	answered question	**85**
	skipped question	**5**

19. What is your average annual household income?

	Response Percent	Response Count
Under $20,000	10.1%	8
$20,000 - $29,999	17.7%	14
$30,000 - $39,999	3.8%	3
$40,000 - $49,999	6.3%	5
$50,000 - $59,999	7.6%	6
$60,000 - $69,999	7.6%	6
$70,000+	**46.8%**	**37**
	answered question	**79**
	skipped question	**11**

20. If you would like to be contacted when we open, please leave the following:

	Response Percent	Response Count
Name:	**95.0%**	**38**
Phone Number:	55.0%	22
Email:	90.0%	36
	answered question	**40**
	skipped question	**50**