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How Design Can Support Local Food Systems

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Designing the Space for Local Food: How Design Can Support Local Food Systems

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Abstract: This paper explores the motivations and challenges of participation in local food systems. Whereas industrial food systems remove the ability for consumers and producers to know each other and communicate, local food systems offer the opportunity for connection, especially when food is exchanged between producers and consumers directly. While the time required by direct sales often becomes a barrier, sales through an intermediary can increase the accessibility and convenience of local foods. Two precedents for intermediary sales are reviewed: the Saskatoon Farmers' Market's Little Market Store, a producer-managed store that extended the availability of farmers' market products beyond market days, and Discovery Organics, a British Columbia-based produce wholesaler. Building from these precedents, this paper suggests possibilities for the design of a service to support local food consumers and producers in connecting and communicating, both directly and through stores.

Keywords: Local Food, Direct Sales, Farmers' Markets, Service Design, Systems Design, Interaction Design

Introduction

Industrial food systems, the method through which most people now access their food (Berry 1978, 28), pose numerous concerns. 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 (Berry 2002, 18-20). Berry (1978) argues industrial food systems' size and dependence 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” (28). Pollan (2006) suggests that industrial food systems have a limited ability to recover from such an interruption due to their heavy reliance on a single crop, corn (45). As well, Pollan argues these systems remove the ability for consumers and producers to know and communicate with each other (37).

Local food systems provide an alternative that allow consumers and producers more control, and participation in these systems is increasing (Darby et al. 2008, 1; Bond, Thilmany, and Bond 2009, 1). Producers are able to choose a production method that supports their lifestyle and then find consumers who value their production; consumers are able to set the values they are looking for in their food and then find producers whose methods meets these.

Local foods are often exchanged directly between producers and consumers, though the time and travel involved can present a barrier for consumers (Eastwood Brooker, and Gray 1999, 71). Intermediary sellers provide another method, increasing the availability of local food but making communication between producers and consumers more difficult. This paper examines two precedents for intermediary sales, the Saskatoon Farmers' Market's Little Market Store, a producer-managed store that sold products on behalf of market members, and Discovery Organics, a British Columbia-based produce distributor. Building from these precedents, this paper discusses possibilities for the design of a service to support local food systems by connecting consumers and producers, both directly and through stores.

Characteristics of Local Food

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

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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" (3), but is also 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 defines local food as "[f]ood 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). As well, in their farmers' market guidelines the U.K.'s National Farmers' Retail & Markets Association (FARMA) incorporate definitions based on both distance traveled and political boundary (FARMA 2015).

Definitions provided by consumers and organizations also vary widely. Again distance is the most common criteria, followed by 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 (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, 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 in part a method used to find foods that meet these other values.

In a survey of 530 shoppers, Darby et al. (2008) found that localness, defined in terms of distance, was valued independently of other factors (485). However, they found that localness was not the only factor valued by consumers, and that these other factors were often less easily verifiable, such as the freshness of the produce or production methods that were "less corporate" (Darby et al. 2008, 485).

Since social and ecological values 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). As well, since different values exist amongst both local food consumers and producers, 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" (337). Similarly, Pollan describes industrial foods as those which do not allow a consumer this form of knowing and asking when he defines them as "[a]ny food whose provenance is so complex or obscure that it requires expert help to ascertain" (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. When the term "local food" is used in this paper, it refers to those foods which embody the following three characteristics:

- the distance between a consumer and producer of local foods 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.

Methods of Accessing Local Foods

The methods through which consumers access local foods can be divided into two categories, direct and indirect sales. Direct sales are those which involve face-to-face interactions between consumers and producers (Hinrichs 2010, 295) and can take a number of forms. One of the most common and well established is the 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, 3). Indirect sales are those made through an intermediary, generally a retail location such as a grocery store, so that the producer and consumer do not meet during the transaction.

C. Clare Hinrichs (2000) provides an insightful analysis of direct sales, identifying 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 (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 consumers must feel they receive good value from a producer to continue purchasing from them, the strong embeddedness of direct sales does mean prices can be higher before consumers look elsewhere (Hinrichs 2000, 302).

Challenges for Consumers and Producers

In studies involving local food consumers, the main barrier to shopping at farmers’ markets was lack of convenience, mentioned in four separate studies conducted by Eastwood (1996, 23), Eastwood, Brooker, and Gray (1999, 69), Govindasamy et al. (1998, 29), and Hardesty (2008, 1289). Other factors mentioned include not knowing where markets were located (Govindasamy et al. 1998, 29), high prices of foods at markets (Eastwood 1996, 25; Eastwood et al. 1999), and the aesthetics of the market (Zepeda and Li 2006).

A number of studies have explored challenges for producers both to enter into local food systems and to expand their operations. However, most of these studies focused on production challenges rather than sales. Within the studies that considered challenges relating to direct sales, Martinez et al. (2010) discuss how the time required may impede small producers’ abilities to increase production volume (21). Thilmany and Watson (2004) add that some producers find it difficult to balance direct sales and production activities (24).

Precedents for Intermediary Sales of Local Foods

The Saskatoon Farmers' Market is a year-round, indoor market. In a conversation with the author on August 12th, 2014, Debby Claude, the Saskatoon Farmers' Market's Manager of Operations, explained that the market is unique in North America: whereas other public, indoor markets are independently operated, the Saskatoon Farmers' Market is a co-operative owned and operated by its farmers. Members sell at the market three days a week.

To extend the availability of vendors' products beyond market days, for a number of years the Saskatoon Farmers' Market operated the Little Market Store. Located within the market's

building, the store was open six days a week. It sold the products of members as well as other local products and also carried imported foods such as bananas and ginger.

The store provided valuable additional income for a number of producers. However, as the market wanted the store to stock most items from only one producer at a time, it could not represent all members. 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. Due to the time and management costs involved in running the store, the Saskatoon Farmers' Market chose to close it in late 2013. The author managed the Little Market Store from January to August, 2013.

Figure 1: The Saskatoon Farmers' Market's Little Market Store, 2013

Motivations for Buying Local Food

As would be expected from the embeddedness of direct sales transactions, one of the main motivations for consumers at the Little Market store was the social aspect of sales there. They did not visit the market for the food alone but for the experience and community. During his time at the Little Market Store, the author found it easy to engage consumers in brief conversations about the food and the market, but almost as often found consumers initiated these conversations. A consumer would pick up a cucumber or a tomato and talk about how fresh it looked and how happy they were to be able to buy it from a local grower.

Within this conversational space, the main topic of discussion was how food was grown. Questions about the chemicals used in production came up often. Concern was greatest around imported foods. Consumers did not have confidence in the regulations of other countries so shopped at the market where they were able to ask questions directly.

A second common topic of discussion was the treatment of workers and their communities. For example, during the author's time at the Little Market Store a number of consumers spoke about reports they had heard outlining how the commodification of quinoa and its subsequent increase in price meant that South American farmers could no longer afford to eat their own crops. Reports suggesting negative effects of quinoa commodification were frequently in the news at that time (Evans 2013, Blythman 2013). Many consumers refused to buy quinoa as a result and repeatedly asked if a local source could be found. For these consumers, buying local was a method of ensuring that labour standards were enforced and that their purchases had a positive impact on the growers and their communities.

Time Management: The Need for an Intermediary

While direct sales provide an opportunity for consumers to ask directly about how their food is grown, the time involved can often be a challenge for producers. This was the case for a number of vendors at the Saskatoon Farmers' Market. To address this, a few hired someone to run their market stall. There was little resistance from consumers – the feeling of connection remained, and the relationship still met what they were looking for from a social aspect. Though this reduced the time the producer was required to be at market, it created new challenges in hiring, training, and managing employees. By contrast, intermediary sellers, such as locally-owned stores, significantly lessen the sales time required from producers without adding other responsibilities. However, by separating producers and consumers, intermediaries often reduce the ability of consumers to find out how their food is grown. To provide information about growing methods, other alternative food movements, such as Fair Trade, have adopted labeling and certification systems. However, this has not always had the benefits intended.

The Example of 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, 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 consumers than the items' higher prices (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 consumers would be willing to pay as long as they knew the price differences would benefit the producers, not the middlemen (Renard 2003, 90).

Under this model, sales of Fair Trade products have grown steadily (Renard 2003, 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 (90). This does not mean, though, that the move to labeling has not created issues for the Fair Trade movement.

As Renard (2003) 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 (88).

The example of Fair Trade suggests that rather than strengthening alternative movements, labels reduce the ability of these systems to serve as alternatives by allowing industrial producers to meet the required standards. Therefore, rather than labeling or certification, local foods need to provide a space for consumers to be able to ask and find out information pertaining to production. While this exists when consumers purchase foods directly, it becomes more of a challenge when buying through stores or other intermediaries. One method for supporting stores in preserving and presenting information about producers can be seen in the model of Discovery Organics, a Vancouver-based distributor. Their prioritization of relationships with producers forms the basis of an effective distribution network.

Imported Food In the Local Food Context: The Discovery Organics Model

Discovery Organics, a produce wholesaler, was started in 1999 to help small-scale B.C. 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. The Little Market Store ordered produce through Discovery.

To support stores in providing producer information, Discovery Organics provides grower information cards, printable from their website. The cards include a brief producer biography, information about their growing methods, and, when applicable, the social benefits of the Fair Trade premiums the producer receives. The Little Market Store printed, laminated, and displayed grower cards with the produce.

Figure 2: Discovery Organics Grower Card
Source: Discovery Organics, 2013

Few people engaged with the cards at the Little Market Store, and fewer still took the time to read them. The information was too dense. They acted as a trigger for people to ask about the growers. For this reason, the cards functioned most effectively behind-the-scenes in supporting store staff in providing producer information to consumers, rather than presenting information to them directly.

Designing for the Relationship Between Consumers and Producers

Numerous products and services have been designed to improve access to local foods, from distribution networks such as Discovery Organics to retail locations such as the Little Market Store. However, challenges remain for both consumers and producers. To address this, the author's continuing research will explore the design of a service to improve the ability for consumers and producers to communicate. This service will support consumers in discovering and connecting with local food producers in their community, both directly and through locally-owned stores, and support stores in maintaining a connection between consumers and producers.

To assist store staff in providing information about producers and their production methods, printed communications will be designed. These will build off the effectiveness of the Discovery Organics grower cards in providing information behind the scenes. To support consumers in discovering and connecting with the local food options in their city, the design of a digital platform will be explored as it allows for an effective method of organizing information and allowing consumers to search through it.

There is an increasing design of digital platforms to support local food systems, a number of which are discussed in *Eat Cook Grow: Mixing Human-Computer Interactions with Human-Food Interactions*. 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" (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,” (451). The role of design in creating connections within food communities is also spoken of 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” (10).

It is within the space described by Galloway, Manzini, and Choi et al. that the author's research into the design of a service will be situated. Rather than proposing changes to the operations of farmers’ markets or individual producers, the service will explore how to enable consumers to become better aware of and connect with the local food opportunities in their community. As well, it will investigate ways to improve communication both between consumers and producers directly and when mediated through stores. Knowing someone changes how we interact with them, and this research will explore how fostering relationships between producers and consumers will change the ways communities value, purchase, and grow their food.

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