Food Hub Adaptation:

A Case Study of Local Inland Northwest Cooperative Foods

Introduction

The United States Department of Agriculture (USDA) defines a food hub as "a business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products, primarily from local and regional producers, to strengthen their ability to satisfy wholesale, retail, and institutional demand" (Barham et al. 2012). A food hub may be legally designated as a nonprofit organization, a cooperative, or a publicly or privately held business (Berti and Mulligan 2016). It may sell directly to consumers, offering community-supported agriculture (CSA) subscriptions or via an online farmers market; operate an online grocery box delivery enterprise; act as a wholesale distributor, selling to restaurants and institutional buyers; or combine two or more of these approaches (Matson et al. 2015).

A food hub provides one or more of the following services to small- and mid-sized producers: active connection with retail and institutional markets, business management, food safety training, liability insurance, and value-added product development (Matson et al. 2015). In addition to aggregation and distribution, it may provide branding and market development, brokering, packaging, light processing, and product storage.

A food hub brings in products in volumes and variety sufficient to attract wholesale restaurants and institutional buyers who are looking to meet the growing demand for local foods (Matson et al. 2015). It benefits from economies of scale by spreading marketing, financing, administration, warehouse space, and product delivery across many small farms (Berti and Mulligan 2016), while giving producers market access and more time to focus on farming (Barham et al. 2012). Additionally, producers have more bargaining power as a group than as individual producers to obtain better terms on insurance, bulk purchase of supplies, and other things.

While the food hub model offers a way to efficiently connect multiple regional producers to wholesale and institutional purchasers (Matson and Thayer 2013), many food hubs have additional environmental and social goals, seeking to increase community cohesion and access to healthy, local food to create a more vibrant and equitable food system (Cleveland et al. 2014; Franklin et al. 2011; Horst et al. 2011).

This WSU Extension publication describes the development, financial history, and current operations of Local Inland Northwest Cooperative Foods Inc. (LINC), an established hub in eastern Washington State, and spans the period of the hub's inception through the end of the COVID-19 pandemic in 2023. This publication is part of a series of case studies on three food hubs in Washington State. It is intended to help farmers, researchers, technical service providers, and others interested in starting a food hub, or those looking to expand or improve the operations of an existing hub.

Methodology

Primary data for this case study consisted of notes from on-site visits and online video conversations with food hub staff conducted in 2019, 2021, and 2022. This qualitative information was supplemented with local news articles on the hub's history and success published in 2019 and 2020. LINC supplied its articles of incorporation, bylaws, and a farmer and rancher supplier guide, along with secondary financial data on sales and expenses and other information from the hub's website.

Data entry shells for all three hubs in this WSU Extension publication series were developed in Excel, with topic categories initially based on notes from conversations with each hub's management during previous site visits. The aim was to organize information about each hub's story consistently to help readers make comparisons across

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hubs. Data shell topics and subtopics were subsequently refined according to categories outlined in *Running a Food Hub: A Business Operations Guide (Volume 2)* (Matson et al. 2015) and through iterative discussion between the authors. Quantitative data categories included current and projected financial data on hub sales and expenses. Qualitative topic categories included the hub's historical background, legal description of business type, organizational structure, governance structure and procedures, hub products and services, market channels, characteristics of producers/suppliers, a description of key buyers and marketing strategies, reflections on lessons learned, and future plans.

Data from financial spreadsheets supplied by each hub were organized according to quantitative data shell categories. Qualitative data abstracted from site visit notes were then coded, reviewed for accuracy, and fit within the presentation.

To fill information gaps identified during qualitative data entry, follow-up interviews were conducted with the founder or manager of each hub; for LINC, these occurred in April 2021 and March 2022. Interviews were conducted in person and via online video conference. LINC's manager had an opportunity to review the worksheets populated with LINC site visit data prior to the interview. During these interviews, each topic was reviewed to fill in missing information and to ensure existing data were current and accurate. Some new information was added to the worksheets during the interview. Secondary data from published news articles were later added to the qualitative database to provide historical details.

Results and Discussion

Market and Production Context of the Region

LINC was developed within a production and market context specific to the Spokane region, which is a richly diverse production region with marketing infrastructure that has been systematically developed over the past decade.

Production

The Spokane Valley region is rich with diverse agricultural businesses. Leading industry segments include wheat, hay, barley, and legumes; fruit, potatoes, and other vegetable crops; and cattle, dairy, and nursery crops. The regional geography includes the Channeled Scablands that lie west of Spokane, a landscape underlain by basaltic flows and carved out by massive floods during the last ice age. This region is also marked by deposition of loess, a fine, mineral-rich, wind-blown material that supports some of the most fertile soil in the world. Generally, producers grow field crops on the loess hills and raise livestock in the scabland coulees where the soil is thinner (Segerstrom 2020).

In 2020 the agricultural industry in Spokane County generated $205 million in annual economic impact and supported 1,521 jobs. Spokane County had the second-highest number of farms by county in the state with nearly 2,400 operations. Food processing supported and augmented these enterprises with $566 million in revenue.

The "local food movement" has inspired new area businesses that provide recreation and education to the public through farmers markets, field-to-table restaurants, breweries, distilleries, cideries, and wineries. In addition, a thriving agritourism industry has developed, consisting of "u-pick" operations, farm events, winery visits, food festivals, and tours of roadside stands.

As shown in Table 1, the region supported over $2 million in direct-to-consumer sales in 2022 and had seven farmers markets (Washington Farmers Market Association 2023). Yet direct market sales represented only 1% of total agricultural sales (Table 2). Most sales are attributable to product exported either out of state or out of country and only a small proportion of food consumed in Spokane is grown locally (Meter 2013).

Table 1. Farms, land in farms, market values, and value of production per acre in Spokane County.

Farms	Land in Farms (acres)	Market Value of Product Sold	Change in Value of Products Sold, 2017 to 2022	Value of Production per Acre
2,386	57,1997	$205,001,000	$87,958 (75.2%)	$358.40

Source: USDA (2022).

Table 2. Farm size, value of consumer-direct sales, and proportion of farms by sales volume in Spokane County.

Farms with 1 to 9 Acres	Farms with 50 acres or More	Value of Consumer-Direct Sales	Farms with Sales of $9,999 or Less	Farms with Sales of $100,000 or More
390 (16%)	833 (35%)	$2,003,000	1,745 (73%)	198 (8.2%)

Source: USDA (2022).

Competition

In its 2020–2022 business plan, LINC described existing competition for the distribution of organic and locally grown produce within its service area, mainly from several well-established wholesale businesses: Organically Grown Company, Charlie's Produce, and Duck Delivery Produce. Additionally, Sysco dominates the institutional market, with mechanisms in place that effectively discourage competition from other suppliers. There is moderate-to-strong market competition for the distribution of local and regional value-added food products as well, including from other food hubs.

Additionally, the region has well-established venues for direct sales of locally grown foods by farmers and value-added product vendors who sell to area retail stores and through CSAs, farmers markets, and other food hubs. Despite existing competition, there is both production capacity and a need to connect more local and regional buyers to the variety and quantities of food grown in the region.

Beginnings

LINC is a worker and farmer cooperative and food hub located in Spokane, Washington, that aims to build a sustainable regional food system in the Inland Northwest (Peone 2018). LINC's stated mission is to help create "a robust local food system, a vibrant ecosystem, and fair, fulfilling employment," reflecting a triple bottom line targeting economic, social, and environmental goals.

LINC was founded by Beth Robinette and Joel Williamson (Figure 1), both graduates of the Bainbridge Graduate Institute, a small, independent school dedicated to using business tools for environmental and social good. As entrepreneurs with deep roots in the Spokane Valley agricultural community, they sought to help local producers access large-scale buyers while helping to build a sustainable, vibrant local food system in Spokane.

They began by organizing a series of stakeholder discussions about the lack of market opportunities for small local farms. Key stakeholders included the WSU Extension Spokane County Small Farms Program, the Spokane Conservation District, and Gonzaga University Dining. In response to these meetings, the Spokane Regional Health District and the City of Spokane commissioned food economist Ken Meter to assess the regional farm and food economy (Meter 2013). Meter found that much of the food purchased in the area was imported from elsewhere, that 65% of farms were operating at a loss, and most farmers relied on off-farm income. A follow-up report in 2014 noted that local farms and food businesses were being held back by lack of knowledge and policies to support infrastructure (warehouses, processing plants, packing sheds, transportation routes). A cohort of local farms began discussing the possibility of forming a food hub. Around that same time, a local food policy council formed and held community conversations on strengthening the local food system.

> "We import most of the food we eat locally," Joel [Williamson] said. "We export most of the food we grow, but it's on the commodity market, so it leaves for pennies on the dollar . . . Something like $1.4 billion dollars per year is leaving the community" (City of Spokane 2019).

Working with partners at Gonzaga University Dining, WSU Spokane County Extension, and the Spokane Conservation District, Robinette and Williamson held a number of large meetings with regional farmers to assess interest in forming a food hub. From these discussions, a group of eight farmers emerged who were ready to move forward on the development of a food hub. Robinette and Williamson founded LINC Foods in 2014, and the mission statement was developed by the original eight farmers. Over the next two to four years, six of the initial eight farmers remained involved.

Figure 1. Joel Williamson and Beth Robinette founded LINC Foods in 2014. (Photo credit: LINC Foods.)

The company had a modest start, renting out a beverage cooler in a local hotel and running produce deliveries in Williamson's personal vehicle. A food bank, Second Harvest Inland Northwest, allowed LINC to use their facility for the twice-weekly aggregation and distribution of the LINC Box, the multi-farm CSA shares. Second Harvest Inland Northwest also provided LINC with pallet space (three in the cooler and two each in dry storage and freezer). Eventually, a second-hand delivery truck was purchased for $5,000.

In the early days of development, LINC operated without paid staff. Farmers would meet at Second Harvest Inland Northwest to aggregate and pack orders on delivery days. Robinette and Williamson donated time toward administration, coordination, bookkeeping, and buyer outreach.

LINC launched its wholesale business in 2014 (Figure 2), with progressive institutional buyers at Gonzaga University, led by Chuck Faulkinberry and Dan Harris. Students and school administrators alike had been clamoring for local foods to be served in cafés and dining halls. Eventually Gonzaga's food service buyers asked existing distributors (Charlie's Produce and Sysco) to provide them with locally sourced foods to meet this demand.

David Blaine, chef and owner of the Spokane restaurant Central Food, was another key supporter and purchaser early on. LINC found that supplying at this scale was a manageable way to start. Soon, they were ready to supply local school districts including Spokane, Central Valley, Mead, West Valley, East Valley, Freeman, and Cheney. LINC's early experience with Gonzaga helped them get a foot in the door with neighboring Washington State University, which surpassed Gonzaga in sales in 2018.

LINC persisted in professionalizing their operations as they found resources and built relationships. They used a multi-stakeholder approach to develop articles of incorporation and bylaws, with help from the Northwest Cooperative Development Center and the Northwest Agricultural Business Center. LINC sought help on governance from the Democracy at Work Institute, the nonprofit arm of the US Federation of Worker Cooperatives. Securing a USDA Specialty Crop Block Grant in 2015 allowed LINC to hire tomato grower Dan Jackson as their full-time sales director. Jackson's sales expertise, along with time dedicated to building sales relationships, was critical in growing the business.

Adaptation and business innovation were, and continue to be, prevalent themes in LINC's development. Challenges to business viability during the early years included the logistical difficulty of matching the inventories of over 50 small farmers with the needs of wholesale and LINC Box customers. These challenges were compounded by the perishable and seasonal nature of produce as a primary product line. The cooperative needed more stable, year-round revenue sources at that time. In response, LINC worker- and farmer-members identified opportunity in the region's abundant cereal crops and an increasing demand for malted grains among craft brewers and distillers. In 2016, LINC launched their craft malting arm, and in 2017 both LINC Malt and LINC Foods moved into a dedicated warehouse in Spokane.

LINC continues to serve its triple bottom line mission as evidenced by its adoption of a self-management model (described below), support for sustainable growing practices, finding markets for foods that would otherwise go to waste, and supplying product to area food assistance programs.

Figure 2. LINC delivers produce to schools, institutions, and restaurants in the Spokane region. (Photo credit: LINC Foods.)

Description of LINC

Organizational Structure

For taxation purposes, LINC is recognized as a for-profit cooperative marketing association as defined by Washington Administrative Code 458-20-214. Legally, the worker- and farmer-owned cooperative is organized pursuant to Revised Code of Washington (RCW23.78) as an "Employee Owned Cooperative" and incorporated as recognized by the Washington Secretary of State.

"[G]iving employees and farmers ownership over the company is absolutely one of the biggest reasons that we're successful," she (Beth Robinette) said. "It's a different way of thinking about business that focuses on community and shared success" (City of Spokane 2019).

LINC's bylaws and articles of incorporation provide guidance on co-op governance. This includes defining the role and functions of its board of directors. The board composition ranges from five to eleven members, and must include at least two worker-members, two farmer-members, and one to two board-appointed community representatives. As of December 2020, there were eleven board members: nine worker/farmer members and two community representatives.

The board is elected during a yearly all-member meeting. Immediately following this meeting, the board meets to elect officers: president, vice president, secretary, and treasurer. Board-level decisions are made by consensus

minus one; a quorum is needed to act. A majority vote is required for decisions made by members.

The board is empowered to make decisions about business matters and to guide LINC's strategic direction. Changes to bylaws or organizational structure require a majority vote from the membership. The board is currently finalizing a five-year strategic plan.

Decision-Making Process

The board works closely with the general manager, who plays a vital role in making day-to-day decisions regarding hub operations to help achieve the strategic direction laid out by the board. Previously, it was standard practice for staff to seek board approval on decisions regarding hub operations. As the hub grew and operations became more complex, this process became too cumbersome for timely decision-making. Thus, in a deliberate but organic transition, the board stepped back to allow warehouse staff to make autonomous decisions regarding day-to-day operations. In a 2018 retreat, the board formally agreed to focus on higher-level policy decisions, and let staff handle decisions regarding daily operations.

LINC recently developed a decision matrix (based on a concept developed by Equal Exchange), that delineates decision-making authority for the board and staff in the areas of finance, personnel, corporate organization, and hub operations. The decision matrix specifies which groups (board, staff, members) are required to give input on and ratify decisions. For example:

- The board determines staff salary levels, with input from staff and members
- Staff make hiring decisions with board input
- Members must provide input and ratify any changes the board proposes to the bylaws or articles of incorporation

With a more focused role, the board can accomplish much of the work it formerly assigned to committees during its monthly meeting. For this reason, the board currently has no committees.

Insurance and Policies

As LINC began working with large institutional buyers, it acquired liability insurance and food safety certification as required by each buyer. LINC extended its liability insurance coverage to products being stored or transported by LINC and began offering food safety certification for farmer-members.

LINC's bylaws set forth rules and procedures governing corporate affairs, internal corporate accounts, organizational structure, and decision-making processes for the board of directors and hub members. The recently accepted LINC Governance Matrix delineates which decisions are within the board's purview and which are to be made by staff, as well as which groups must provide input and ratification.

In January 2021, LINC's staff began implementing the collective self-management model Holacracy for day-to-day operations. Unlike a traditional hierarchical model where workers labor under the oversight of a manager, Holacracy grants workers more autonomy to facilitate creative problem-solving within teams (Figure 3). Each worker has one or more assigned roles with corresponding duties and responsibilities. Any given team participates in two types of regular meetings: a tactical meeting used to synchronize the team and remove any barriers to getting work done, and a governance meeting that occurs when a change is needed in the team's structure or team member roles. Holacracy emphasizes transparency, clarity, and consistent communication within and between teams.

Figure 3. Having flexible, cross-trained staff enabled LINC to institute a one-week-on, two-weeks-at-home rotation at warehouse and delivery, which kept workers and customers safe during the pandemic. (Photo credit: LINC Foods.)

Selling with LINC: Farmer and Rancher Guide (LINC, n.d.) covers policies related to implementation of the Holacracy model. The guide also contains policies on growing practices and food safety standards for members and vendors, and, along with the bylaws, contains rules and procedures governing membership.

To be eligible, LINC farmer-members must be local in geographic proximity, defined by LINC as being "within a three-hour drive distance or 250 miles from Spokane, WA, whichever is farther" (Figure 4).

According to LINC's farmer and rancher guide (LINC, n.d.), members must practice sustainable strategies and participate in fair and direct trade (Figure 5). They must follow USDA marketing guidelines and implement quality production standards according to their size and scale, and farmers must meet or exceed all quality requirements and adhere to collaboration and participation standards of the cooperative. Members pay an annual $100 equity investment, which is held by LINC in a specific farm account but always belongs to the farmer.

Membership applications from farmers that are submitted by October 31 are screened for board consideration the following January. A site visit from LINC staff is part of the review process. Approved applicants receive "trialing" status for the following growing seasons, during which LINC sells as much of their product as possible after giving current member products priority. After the trial growing season, farmers can transition to full membership by mutual consent of the trial member and the board.

Farmers are responsible for updating their inventory through the online sales platform Local Food Marketplace (LFM) at the start of each sales cycle. Farmer-members must submit proof of business license and any associated certification and licensures (Organic Certification, Good Agricultural Practices, Good Handling Practices, etc.) that apply to their business and product type.

LINC carries $5 million in product liability insurance and has a robust food safety program in place, with safety inspections occurring twice a year. In turn, farmer-members are required to provide LINC with proof of insurance coverage and name LINC as an additional insured. Additionally, members must have a basic food safety program in place and agree not to use pesticides, herbicides, conventional chemical fertilizers, or genetically modified organisms. Direct vendors are required to have Good Handling Practices certification.

Members are required to attend the annual meeting, the purpose of which is to: (a) give all members a chance to understand how the business fared in the last year, (b) highlight any issues or opportunities to be addressed in the coming year, and (c) give members a direct opportunity to participate in the governance of the cooperative. At the annual meeting, board members and officers for the following year are elected, and any changes to the cooperative's governing documents are proposed and voted on.

Farmer-members can lose their membership if they stop farming, fail to pay annual fees, or violate LINC policies.

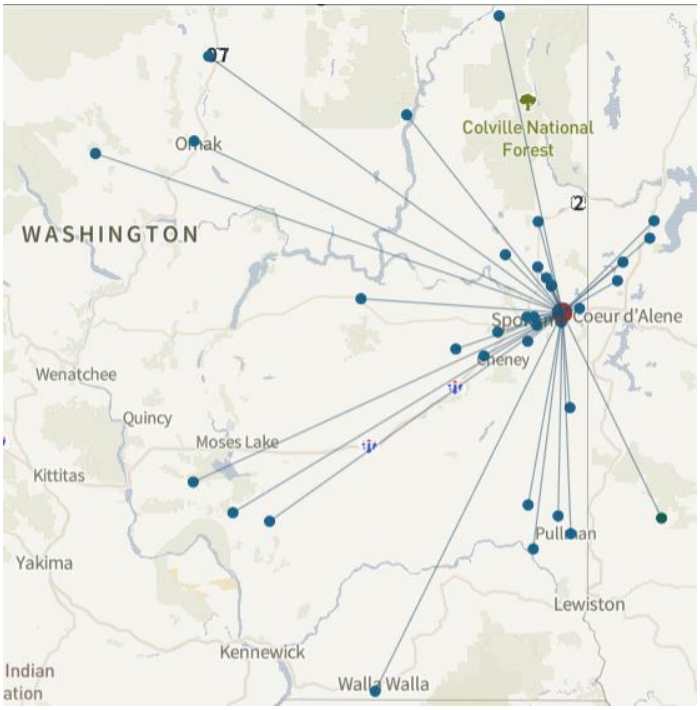

Figure 4. LINC member farms span an area from Washington's northern borders to its southern borders, and from the Cascade Mountains to Idaho's western border. (Map by Northwest Food Hub Network.)

Figure 5. For LINC members Dan and Lauri Sproule at Full Bushel Farm, farming is a family affair. (Photo credit: Full Bushel Farm.)

Food Hub Operations

Facilities and Equipment

LINC currently operates out of two 10,000 square foot rented warehouses in the Spokane Business and Industrial Park (Figure 6). Malting continues to be an important source of business and occupies 60% of the warehouse. About 30% of the warehouse is used for produce, some of which occupied by an 800 square foot walk-in cooler ("…always exploding at the gills," according to LINC staff). The LINC office takes up the remaining 10% of warehouse space. To supplement freezer storage, LINC rents approximately eight pallets of space from Empire Cold Storage.

Figure 6. Janel Davisson packs food assistance boxes in the warehouse. (Photo credit: LINC Foods.)

The proximity of Organically Grown Company (OGC), a trust-owned distributor of organic produce that is co-located in the Spokane Business and Industrial Park warehouse, has facilitated collaboration between OGC and the hub. OGC supplies product to Mission Mountain Food Enterprise Center and to Puget Sound Food Hub Cooperative and sometimes helps LINC transport goods from their common warehouse location to those customers. The two organizations work well together, as they have similar values but serve different markets. OGC markets to chain retail grocery, while LINC markets to institutional customers and, increasingly, direct-to-consumer. Additionally, OGC works with larger certified organic farms while LINC works with smaller farms.

LINC owns two four-ton batch-malting units that generate about four tons of malt per week (which takes up a lot of the warehouse space) and also owns a couple of forklifts. To provide lightly processed foods to their institutional customers, LINC sends raw product to Duncan Produce Inc. and Mission Mountain Food Enterprise Center for contract processing.

Purchase and Sale Logistics

LINC offers twice-weekly ordering to increase product availability for customers and minimize driving for growers. The farmer and rancher guide (LINC, n.d.) specifies the timeline for each step in the sales cycle (Figure 7) and delineates the required product intake procedures for producers. The cycle starts with producers updating product availability, either by entering it into the online sales platform (LFM) or communicating directly with LINC staff. A "fresh sheet" that lists product currently available that week is created from this information and is subsequently sent to institutional buyers, who must place their orders within a specified timeframe.

LINC also purchases from the weekly fresh sheet, selecting items to include in its LINC Box. LINC purchases slightly more fresh produce than they need and lists the overstock quantities on that week's à la carte offerings, along with a curated list of select items from the warehouse. As LINC "owns" the overstock produce, this carries some risk as to whether perishable goods will sell, akin to the risk of selling at farmers markets. Individual customers can place à la carte orders online using LFM, which currently requires a $25 minimum order. The average à la carte order is $67.

After the cutoff for institutional customer orders, farmers check or are sent orders from LFM to develop their picklist for that sales cycle. If a late order occurs, LINC staff communicate directly with the farmer via text or email. If the farmer cannot fulfill the order, they must inform LINC staff in a timely manner so that an alternative source can be identified.

Before delivering to the warehouse, producers must ensure that products meet LINC's quality standards, which include packaging in clean, food-grade waxed or unwaxed cardboard boxes and labelling accurately. To ensure adherence to these requirements, all farmer-members are required to have an accurate scale that is calibrated regularly, phone and internet service, and a printer for printing labels.

LINC sometimes purchases bulk products like storage crops, dry or frozen goods, and the like. These are stored in the cooler and dry storage at the warehouse, along with value-added stock. For products that are not shelf or freezer stable, the producer provides an estimated shelf life so LINC can estimate the amount needed based on

customer demand. Producers can make bulk deliveries at any time, and not just on intake days.

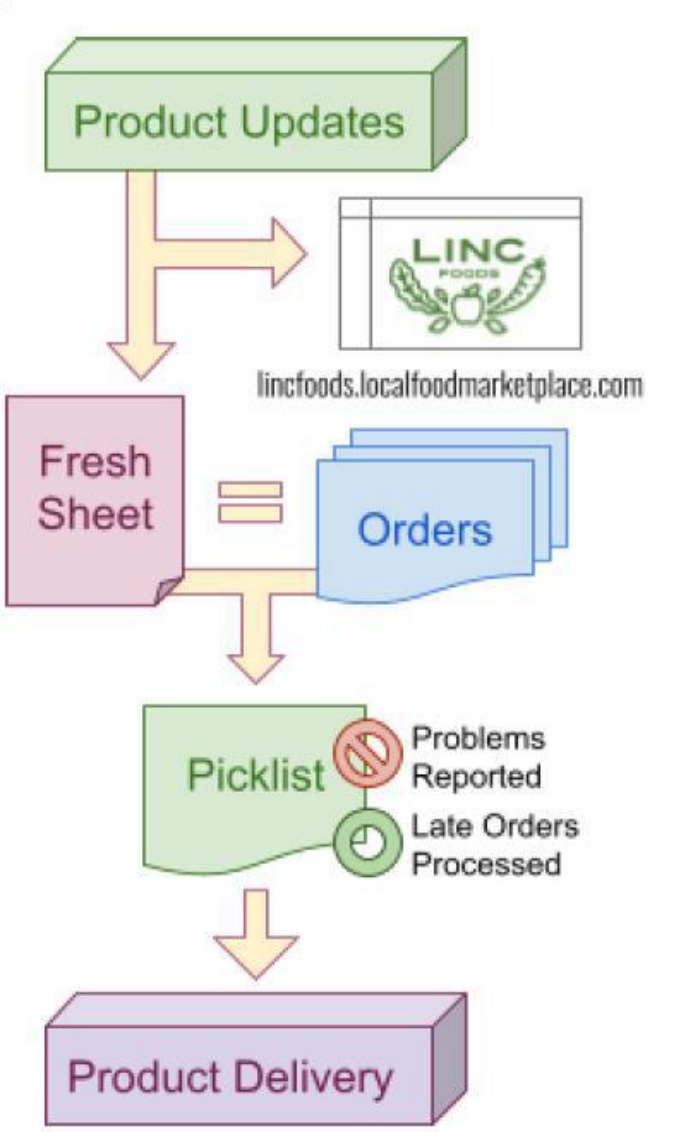

Figure 7. LINC sales cycle. (Image credit: LINC Foods.)

Selling with LINC: Farmer and Rancher Guide (LINC, n.d.) advises farmer-members to communicate with LINC staff in a timely fashion throughout the season regarding unexpected product surplus or shortages. This ensures that LINC can meet its commitments during the sale and delivery cycle. The guide includes examples of effective communication with LINC staff by text, email, and phone.

Staffing

Currently, there are six full-time equivalent positions. Some staff work part-time, and all have job duties in a variety of areas. Two other full-time positions are devoted to malt sales and production.

At the time of writing, LINC employment positions were organized as follows: one full-time position handles procurement and the food security box program, while another full-time person conducts LINC Box and LINC Market coordination and customer service (Figure 8). A full-time position is devoted to LINC administration, accounts receivable/payable, bookkeeping, and financial reporting. One full-time staff covers warehouse management, box packing, and fleet management. Two additional warehouse positions cover receiving, packing, and delivery.

Roles at LINC, like many food hubs, evolve rapidly. In particular, this is true of "founder positions," which, during start-up periods, tend to cover broader areas of work. For example, co-founder Beth Robinette for several years handled promotion, sales, and customer service. Due to growth in the direct-to-consumer business (à la carte and box subscription), this position expanded to full-time. Customer service responsibilities were shifted to other staff to allow Robinette to focus on outreach.

Similarly, LINC's first sales manager, Dan Jackson, worked full-time managing procurement and grower relations. Additionally, Jackson coordinated logistics, delivery, packing, and distribution of food assistance boxes. This role was and remains complicated due to the challenges of aligning supply with demand and managing purchase and delivery logistics for a large number of growers and customers. As a former farmer, Jackson is well-suited to juggling these tasks.

Figure 8. LINC staff. *Left to right*: Brian Estes, Dan Jackson, Michelle Youngblom, Emily Himmelright, Beth Robinette, Janel Davisson, and additional team members. (Photo credit: LINC Foods.)

Employee clusters and teams like these evolve as food hubs develop. Jackson and Robinette's collaboration is a good example, as they coordinated their efforts to ensure the right products were purchased from farmer-members to fill weekly box orders and supply food aid programs.

More generally, day-to-day operations are overseen by LINC worker-owners and workers who use the Holacracy model of self-management. They are also responsible for administering the policies of the cooperative as set forth by the board. All workers may have job duties in a variety of areas. Workers take direction from the associated Role Lead in the course of their duties.

Producers and Suppliers

The LINC producer team is comprised of 56 farmer-members farming in an area bordered by the Cascade Mountains to the west, Canada to the north, the Rocky Mountains to the east, and the Wallowa Foothills to the south and southeast. Food hub sellers are predominately produce growers, with the remaining products fairly evenly distributed by type (Table 3). Some growers supply multiple items. In 2020 the top three producers were responsible for 27% of sales, and the top ten were responsible for 55%; the bottom half contributed 6%. LINC also has 25 nonmembers who supply artisan items like kombucha, beer, fish, and other value-added goods.

Products and Services

Products

Produce accounted for the largest proportion of LINC's sales in both 2018 and 2020 (Figure 9). Vegetables typically include the brassica, root crops, squash, salad mixes, and greens, as well as mushrooms, microgreens, fresh herbs, springtime asparagus, and summer vegetables, like tomatoes, peppers, beans cucumbers, and zucchini. LINC also offers unique, seasonal, wild-harvested edibles like lilac, nettles, dandelion, spruce tips, and dock greens. LINC has developed a line of lightly processed foods for the institutional market, featuring items such as frozen cubed butternut squash, frozen blueberries, and fresh shredded cabbage-carrot mix. Frozen foods are popular with schools and are a good product line for LINC as they can buy them from growers during the growing season and then process, freeze, and sell year-round.

Dairy products included eggs, cheeses, butter, and kefir, and meats included beef, lamb, and pork (including sausages and bacon). Both categories accounted for a larger share of sales in 2020 compared to 2018. Grains and legumes, while constituting a small proportion of sales, did increase from 2018 to 2020.

Resale items consisted of value-added products, such as beverages (coffees, ales, and shrubs), along with baked goods, flours, and pancake mixes. Other value-added products included apple chips, canned tuna, and powdered chili peppers. The percentage that resale items contributed to sales overall decreased in 2020, from 26% to 13%.

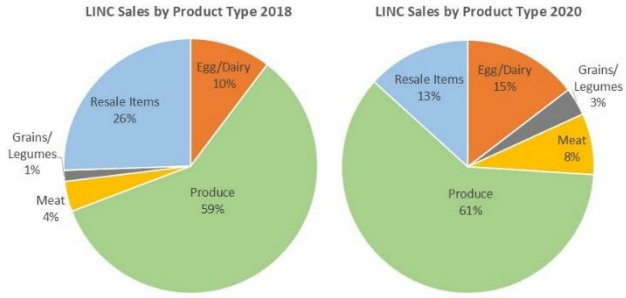

Figure 9. LINC sales by product category, 2018 and 2020.

Production Planning

Many food hubs struggle with production planning. To address this, LINC uses spreadsheets, though this is not an approach without drawbacks. Newly available software can help with preplanning. Production planning for the LINC Box program is fairly easy; however, it is harder to predict what new and long-standing institutional buyers will purchase. Additionally, institutional buyers do not always follow through on stated intentions to buy certain volumes or items.

In December or January, LINC procurement staff lets growers know what they need to purchase for their food box programs, factoring in extra for à la carte customers. Growers inform LINC of their production plans, and LINC records varieties and volumes for each producer.

To supply the box programs, box orders are grouped into subsets. One grower might have enough of an item to supply all subsets, while another grower may only be able to supply product to two subsets. In that case, LINC can mix and match that item from other growers to fill demand for the remaining subsets. LINC staff know they can be somewhat flexible regarding LINC Box contents, as customers have come to trust the hub to curate fresh and high-quality food from the region for them.

The LINC Box and food assistance box programs represent a secure commitment to purchase a specific volume of produce for a specific length of time. LINC acts as the buyer for these programs, which gives them control over purchasing and better facilitates the process of matching grower supply with box program demand. The arrangement also allows LINC to mix and match low-cost items from large growers with high-cost items from small

growers, allowing them to spread the benefit among growers while balancing the average weekly box price.

Services

LINC's facilities, infrastructure, and staffing enable them to offer marketing, an online ordering system, centralized intake of product from multiple producers, cold and dry storage for value-added and bulk product, and delivery as far away as Moscow/Pullman region of eastern Washington and Coeur d'Alene, Idaho. For wholesale buyers, LINC offers the convenience of one-stop shopping for a wide array of high quality, fresh products from multiple growers, and in the necessary quantities. For producers, LINC facilitates broad geographic access to institutional buyers, food assistance box programs, and individual customers through LINC Box and à la carte sales. LINC maintains hub licensing and insurance, and takes care of the accounting, invoicing, producer payments, and cooperative business management.

Food Hub Economics

Budget: Income, Costs, Expenses, and Profit

Following standard business accounting practices, the LINC annual budget calculates the gross profit for the year by first adding income from hub sales, storage rental fees, member dues, and other sources. Next, it tabulates costs that vary with the amount of goods sold (Table 3), and these total costs are subtracted from total income, resulting in the variable margin. Total fixed expenses are then subtracted from the variable margin to estimate net income. The net income is adjusted, adding additional income and subtracting additional expenses, to calculate baseline earnings before interest, depreciation, and amortization.

Cost Coverage

Starting in 2015, LINC applied for and received a Specialty Crop Block Grant and Value-Added Producer Grant to cover initial start-up costs. Revenue from the malting facility helps subsidize the food hub, and the food sales portion of the business is also self-funded through LINC Box sales.

Regarding revenue generation, on average a 25% markup was applied to most wholesale accounts in 2018. However, this varied according to item. Meats were marked up 20%, while cheese, dairy, and eggs were marked up 15%. The target margin is now 40%, with markup on some à la carte items nearing 50%.

Membership fees and dues provide equity capital for LINC. Worker-owners purchase shares at a one-time cost of $1,000. Farmers pay a $100 equity investment annually. These ownership contributions from members are deposited in each owner's individual capital account. Upon leaving the co-op, owners are paid out the balance of their individual capital account. Profits and losses are also assigned to individual capital accounts. Annual profits are dispersed in the first quarter of the following year after taxes are paid.

Table 3. 2020 LINC budget.

LINC Expense and Revenue Summary 2020	
Income	
Food Hub	$1,225,030
Reimbursements	$3,473
Total Income	**$1,228,502**
Variable Costs	
Merchant Account Fees	$19,796
Revenue to Farms	$791,083
Products Purchased	$0
Packaging Material Expenses	$18,894
Variable Labor	$235,138
Freight & Delivery Costs	$25,027
Other Operating	$2,652
Total Variable Costs	**$1,092,591**
Variable Margin	**$135,912**
Fixed Costs	
Total Equipment Costs	$5,572
Total Facility Costs	$55,544
Total Selling and Marketing Costs	$1,825
Total General/Administrative Costs	$115,702
Unforeseen Expenses and Bad Debt	$0
Total Fixed Costs	**$178,643**
Net Income	**($42,731)**
Other Income	$121,301
Other Expenses	$0
Baseline EBIDA*	**$78,570**

*Earnings before interest, depreciation, and amortization.

Accounting and Books

LINC personnel use Wave accounting software for general accounting. Local Food Marketplace (LFM) software is used to track inventory and sales for wholesale and à la carte orders. Behind the scenes, LFM is used to facilitate grower purchase orders for "internal" customers (LINC Box and food assistance boxes). Bulk orders are processed through Wave, and Farmigo is used to track payments for LINC Box subscriptions.

LFM allows LINC to process payments to growers. LINC pays producers that fulfill orders for "just in time" delivery

twice monthly and pays those that deliver bulk product for future sale according to agreed-upon terms.

Sales Revenue

LINC's first two seasons included sales into seven school districts: in year one those sales reached $40,000; in year two they increased to $120,000. In 2020 LINC's sales to schools reached $900,000.

Figure 10 shows trends in sales over time. From its modest beginnings in 2014, sales increased each year, with three distinct periods of growth. From 2014 to 2016, sales jumped from $28,800 to $273,941. The period 2016 to 2018 generated the sharpest rate of growth, as sales nearly doubled each year. Overall, sales increased at a slightly lower rate from 2018 to 2020, with little growth between 2018 and 2019.

Sales Focus (Market Channels) and Pandemic Adaptation at LINC

LINC customers over the first two years (2014 and 2015) included Gonzaga University and seven school districts. Schools tended to plan a year in advance and made irregular, large purchases of items like rainbow carrots, which required LINC to source from multiple growers. When LINC later developed a relationship with WSU buyers in Pullman, they began to focus on ten products, working to match production with demand. In July 2018 LINC reported that their top accounts were with Gonzaga University, WSU Pullman, and the LINC Box program. By 2019, 35% of LINC sales went to restaurants and 40% to institutions. Among institutional customers, WSU Pullman sales outpaced those of Gonzaga University. Additionally, LINC acquired small accounts with a hospital and a few non-chain stores and cooperatives. Interest from grocery stores was generally modest, representing 21% of LINC's buyers in 2018 and dropping to 0% during the pandemic in 2020.

Figure 10. LINC sales, 2012–2020 ($1,000s).

As with many in the agricultural industry during the COVID-19 pandemic, LINC farmer and worker members adapted dramatically to a transformed sales landscape in early 2020. The pandemic lockdown, closed cafeterias, remote learning, and sharp declines in restaurant purchasing forced a complete overhaul in LINC's mix of customers from 2018 to 2020.

For example, during the twelve-month period from April 2018 to March 2019, direct-to-consumer (DTC) sales from LINC Box subscriptions represented 1% of total sales (Figure 11). Two years later (April 2020 to March 2021), LINC Box sales rose to 24% of total sales, and online à la carte orders contributed another 14%, for a combined contribution of 38% from DTC sales. Restaurant sales declined from 46% to 9% (a 37% reduction) and institutional sales from 32% to 4% (a 28% reduction). Whereas these two market outlets initially comprised 78% of total sales, two years later they made up no more than 13%. In contrast, the LINC food assistance box program grew from zero percent to 49% of hub sales, with recipients including Blue Mountain Action Council in Walla Walla, the Nez Perce Tribe, the Colfax Council on Aging, Northwest Harvest, and the Inland Northwest Farmers Market Association.

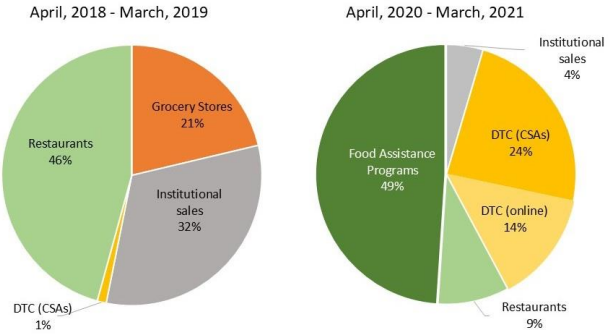

Figure 11. LINC sales by market channel, 2018 (left) and 2020 (right).

Marketing

Branding and Value Proposition

LINC's initial focus was on helping university and school food service buyers appreciate the value of the local foods, from the perspective of the farmers who grow the food to students who consume it. Early marketing efforts also highlighted the food's freshness and nutritional quality, along with the convenience of being able to buy a variety of items grown by multiple producers in a single order with only one invoice to pay. Another selling point was the local multiplier effect: buying local food not only provided revenue to local farms but also supported local businesses that sell goods and services to farmers.

Figure 12. An innovative drop site in the Perry District improves food access. (Photo credit: LINC Foods.)

With the uptick in direct-to-consumer purchases, branding now emphasizes connecting individual consumers with local, sustainable agricultural products from multiple producers (Figure 12). This message is conveyed on LINC's website, along with the hub's mission and values, photos of staff, and member farms. This narrative seems to be particularly effective with LINC Box customers, where LINC has more control over messaging. Restaurant and institutional buyers have been less consistent in communicating the value of hub products to the end consumer.

Key Buyers

As noted above, Gonzaga and Washington State University were early partners for LINC in developing a wholesale distribution model. Over time, but particularly in response to the pandemic, LINC personnel acknowledged a mismatch between the farmer-member "base" in the food hub, and the scale and price point of their key wholesale buyers. This led to increased emphasis in LINC's sales strategy on direct-to-consumer avenues. In this new model, business drop sites help LINC reach customers (i.e., a new set of "key buyers" frequenting popular local businesses) through existing customer bases and social media, while drop site hosts benefit from increased foot traffic on pickup days.

Reflections: Post-Pandemic and Beyond

Beginning in 2014, LINC's initial business strategy was to build a cooperative distribution business through large institutional accounts, with supplemental revenue from malting and DTC sales (LINC Box) to grow the business through breakeven.

The COVID-19 pandemic undermined this strategy by disrupting institutional food purchasing, food distribution, farming, and consumer purchasing behaviors. These disruptions, while painful, reinforced LINC's emerging conviction that wholesale accounts, with their small profit margins, were not a viable pathway to breakeven. Worker and farmer owners recognized that building a viable wholesale-based business would require 20 accounts like Gonzaga University and Washington State University, yet the number of large institutional customers to choose from in the Spokane region is limited. Further, a potential market for hub distribution to local grocery stores was perceived as saturated due to the small number of Spokane retailers interested in purchasing regionally grown food.

Additionally, LINC has realized that even if a sufficient number of large wholesale buyers could be found, the number of wholesale-scale growers, including those who could potentially scale operations, was too limiting. Considering the small profit margin, limited number of potential grocery and institutional customers, and farmer capacity to rapidly increase their output, LINC decided that emphasizing wholesale was not a feasible pathway to breaking even. Instead, increasing focus on consumer-direct sales would provide a larger profit margin and would be scalable at a rate that aligns with farmer-member capacity. LINC plans to reinstate its wholesale accounts when they are able to do so, but acknowledges that wholesale accounts are unlikely to be the primary driver of sales in volumes sufficient to reach the break-even point.

Looking Forward

Among other goals, LINC is exploring the feasibility of developing a food hub network across the Pacific Northwest. In this node-network based supply chain, food hubs would access product from other network hubs to meet the needs of their own customers or would supply product to help fill the orders of other hubs. There are logistics to figure out, but food hub networks are forming in other parts of the country. LINC sees this as a means of re-engaging in wholesale channels, while maintaining sustainable growth. Wholesale through a food hub network would "be the only way it will work," said Joel Williamson. "Some constraints go away or are shifted. That is a big learning element for the whole food hub world. The work with small farms is important and needs to shift by doing this work together somehow"(Sitaker, 2021, personal communications).

Conclusions

Justification for the Effort

- Between 2014 and 2016 LINC worked to establish itself as a food hub serving local institutional markets, and during that time built a governance structure, a board of directors, and hired a general manager. During this period of time, LINC also hired a sales manager, and sales increased nearly ten-fold, from $28,800 to $273,941. Sales continued to grow at a dramatic pace, with a pause in growth from 2018 to 2019.
- Despite impressive growth, LINC has not yet reached a break-even point at the time of this writing. Like other hubs, this underscores the amount of time needed to secure enough customers to generate sales to cover operational expenses, which are higher for a hub with wholesale compared to direct-to-consumer sales (Matson et al. 2018).
- LINC expected continued growth in sales from 2020 onward, through a combination of larger orders from existing institutional buyers and sales to new customers. The expectation was that this growth would lead to an increase in overall expenses, but at a slower pace than the increase in sales, with margins that would remain stable.
- Grocery stores and supermarkets represented a modest share of LINC's sales prior to the pandemic. This is due to the need such retail outlets have for a stable, year-round supply of products. Further, big box stores such as Walmart need produce suppliers capable of interacting with a vendor-managed inventory geared toward just-in-time supply of products.
- As described below, in 2020 LINC decided to shift their primary emphasis to consumer-direct box programs, which provided them with continued sales growth. As of this writing, it is unknown how current projections using the new sales approach compare with the previous ones based primarily on institutional sales, or how this changes LINC's timeline to achieve the break-even point.

Market Position

- The COVID-19 pandemic presented an abrupt shock to local markets as restaurants and university cafeterias, who were LINC's primary sales source, shuttered their businesses. Like other local food enterprises, LINC found new opportunities from government-funded food assistance box programs and increased demand for LINC Box.
- The COVID-induced pause in institutional sales also led to a recognition that in the Spokane area there are a finite number of restaurant and institutional buyers, which is a limit to growth. Reliance on institutional sales alone might make it difficult to reach break-even.
- Based on successful pandemic sales from their produce box programs, LINC determined that a hybrid approach, with stronger emphasis on direct-to-consumer sales, would provide a more secure path to growth. Going forward, LINC will continue to cultivate new direct-sales customers for its box programs, while maintaining existing institutional accounts.

Notable Findings

The distinguishing features of this hub include its (1) community-driven origins, (2) skills in attracting champions and building partnerships, (3) focus on triple bottom line, and (4) innovation.

- Like other hubs in the case study series, LINC benefitted from being at the right place at the right time. For example, Gonzaga University was in need of a response to demands from staff and students to provide local foods in campus cafeterias, and other food distributors had toyed with the idea of starting a local food hub.
- LINC was successful in attracting key helpers, champions, and supportive buyers in the community.
- Other Washington hub initiatives have been led by technical assistance providers such as WSU Extension and NABC, in response to keen farmer need and interest. LINC's origination was driven by two energetic entrepreneurs whose business education, agricultural experience and personalities led them to dream big and take effective action.
- Most hubs have mission statements that reflect values. LINC seems to have a very pronounced vision regarding the value of a cooperative business model, and mission that references a triple bottom line.
- Adding the malting arm of the business early on allowed LINC to create stable cash flow throughout the year.
- By acting as the buyer for the food assistance and LINC Box programs, LINC has been able to match grower supply with box program demand.
- LINC selects a combination of lower-cost items from large growers with high-cost items from small growers, thus keeping within a predetermined weekly box price while ensuring each member-grower gets a fair chance to sell their product.

Limitations

Most case studies include a range of stakeholder perspectives. Conducting conversations with LINC's producer-members and wholesale customers would have provided a richer, more nuanced picture for this study.

However, due to time constraints for producer-owners, and time and budget constraints for the researchers, primary data collection was limited to conversations with LINC staff. Nevertheless, researchers achieved their primary aim, which was to gather information to help inform development of other Washington food hubs, (e.g., Southwest Washington Food Hub) as part of a three-part food hub series. Additionally, some gaps in more current financial data remain, but it is hoped an illustration of adaptation and change within a food hub is instructive to others.

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